National Institute for Health and Care Excellence

Final

Workplace health: long-term sickness absence and capability to work

[C] Evidence review for facilitating the return to work of employees on long-term sickness absence and reducing risk of recurrence

NICE guideline NG146

Evidence reviews

November 2019

Final

These evidence reviews were developed by the Public Health Internal Guideline Development team

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ISBN: 978-1-4731-3597-0

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Facilitating the return to work of employees on long-term sickness absence and reducing risk of recurrence

Review question

3a. What interventions, programmes, policies or strategies are effective and cost-effective in:

- Helping employees on long-term sickness absence to return to work?
- Reducing the recurrence of long-term sickness absence following a return to work?

3b. Are the interventions, programmes, policies or strategies acceptable to employees, employers and other key stakeholders, and what are the barriers and facilitators to their successful delivery?

Introduction

There is substantial evidence that work is beneficial for physical and mental health, whereas unemployment and long-term sickness absence often have a harmful impact (Marmot and Bell 2012). Data have shown that those who had been unemployed for more than six months had lower wellbeing than those who had been unemployed for less time (DH 2008). Reducing the extent of sickness absence in the UK, and in particular long-term sickness absence (defined as a period of four weeks or more) is an established UK policy priority.

PICO table

The following table summarises the protocol for this review.

Table 1: PICO inclusion criteria for interventions to help employees on long-term sickness absence return to work and prevent recurrence

Population	Adult employees (≥16 years; full- or part-time; paid or unpaid) who • are currently absent from work for 4 or more consecutive weeks due to sickness *or* • have returned to work in the past 6 months after an episode of long-term sickness absence (lasting 4 or more consecutive weeks) Organisation level All employers in the public, private and 'not-for-profit' sectors
Interventions	Any interventions, programmes, policies or strategies that aim to increase the return to work of employees who experience an episode of long-term sickness absence (≥4 consecutive weeks) and / or prevent the recurrence of long-term absence Where interventions are not delivered in a workplace or primary care setting, there should be some element of employer or primary care involvement in the design, content, implementation or funding of the intervention.
Comparator	• No work-related intervention (includes 'usual care' or usual sickness absence practice / guidance) • Any other active comparator for managing sickness absence or return to work
Outcomes	Effectiveness studies (review question 3a)

Primary outcomes

- Return to work (full / partial). Measured as any of:
  - Proportion returning to work
  - Proportion assessed as capable of returning to work – physical or functional assessments using validated or self-report measure, clinical indicators or clinical opinion
  - Time taken to return to work
  - Hours worked per week / month
  - Proportion who take ill-health retirement

- Long-term sickness absence (following the return to work, for those on long-term sickness at baseline) - as reported by the authors, including:
  - Proportion with any long-term sickness absence (4 or more weeks duration)
  - Number of episodes of long-term sickness absence (per participant)
  - Number of days sick leave per episode
  - Total number of days sickness absence

Secondary outcomes

- Health-related quality of life - using validated patient-report measures, for example EQ-5D
- Psychological and/or social functioning - using any patient-report measure
- Adverse / unintended effects:
  - Self-reported 'presenteeism' or work performance (individual-level studies);
  - Job satisfaction (individual or organisational-level)
  - Rate of staff turnover (organisational-level studies)
  - Number of grievances (organisational-level studies)

Qualitative studies (review question 3b)

Participant views on:

- Intervention acceptability (including preferences for content, frequency, location, etc.)
- Barriers and facilitators to successful intervention delivery

Methods and process

This evidence review was developed using the methods and process described in Developing NICE guidelines: the manual. Methods specific to this review question are described in the review protocol in appendix A.

Declarations of interest were recorded according to NICE's 2018 conflicts of interest policy.

Identification of public health evidence

Included studies

See PRISMA diagram in review question A, appendix C.

No systematic reviews directly matched the review criteria but those identified as relevant to the topic area (based on title and abstract) were retrieved and cross-checked to ensure inclusion of all relevant primary studies.

Table 2 presents a summary of the included effectiveness studies.

Table 3 presents a summary of the included qualitative studies,

See appendix D for full evidence tables of included studies.

Excluded studies

See review question A, appendix G for a full list of excluded studies and reasons for their exclusion from the overall search for this guideline update.

Expert testimony

In addition to the evidence from the reviews, the committee considered testimony from four experts. This was provided to supplement and provide additional context to areas with limited published evidence. The process of identifying the experts and gathering and using their testimony, is described in the methods chapter. Summaries of the testimonies provided can be found in Appendix I of this review.

Table 2: Summary of effectiveness studies included in the evidence review

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
Study populations with musculoskeletal disorders					
Anema (2007) [The Netherlands] Cluster RCT	Occupational health services and physiotherapy centres serving approx. 100,000 company employees Follow up 12months	Employees on between 2-6 weeks full or partial sick leave due to nonspecific LBP N=196	Initially workplace intervention, then clinical intervention (graded activity) after 8 weeks if worker still absent	Usual OP care for LBP	• Time to full return to work
Bultmann (2009) [Denmark] RCT	Four Danish municipalities (population approx. 150,000) Follow up 12months	Employees absent from work for 4-12 weeks, receiving sickness benefits due to LBP or other MSK disorder N=113	Multidisciplinary disability assessment and tailored work rehabilitation coordinated by caseworker	Usual care (municipal case management as per Danish sickness benefit system)	• Return to work • Sickness absence
Hlobil (2005) [The Netherlands] RCT	Physiotherapy practice based at Schiphol Airport, Amsterdam Follow up 12months	Non-specific lower back pain for at least 4 weeks. N=134	Graded activity intervention, delivered by OHS physiotherapists, with OP as case manager	Usual OP care (+ usual GP care)	• Time to return to work • Recurrences of sick leave • Total days sick leave
Lambeek (2010)	Primary care (12 settings), secondary care (5 settings) Follow up 12months	Patients with low back pain who had visited an outpatient clinic, low back pain for more than 12 weeks	Integrated care protocol: - Care management by OP - Workplace intervention - Graded activity	Usual OP care	• Time to full return to work (sustained for 4 or more weeks) • Adverse events

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
[The Netherlands] RCT		N=134			
Lindh (1997) [Sweden] RCT	Social insurance offices (Gothenburg) Follow up 5years	In receipt of sickness benefit for continuous full-time sick leave for 90 days, non-specific pain diagnosis, no on-going rehabilitation N=464	Multidisciplinary rehabilitation model delivered in outpatient setting, programme duration and content determined on an individual basis	Usual care (GP)	• Full or part time return to work incidence rate • Prevalence of full or part time working
Lindstrom (1992) [Sweden] RCT	Car company (population 10,000, Gothenburg) Follow up2years	With non-specific low back pain, sick listed for 6 weeks N=103	Graded activity programme (+ usual care)	Usual care (from company OP or own GP)	• Return to work • Time to return to work • Recurrence of sickness absence • Sickness absence duration
Loisel (1997) [Canada] Cluster RCT	One hospital back pain clinic (recruited from 31 workplaces)(approx. 20000) Follow up 1year	Thoracic or lumbar back pain incurred at work, absence from work or assignment to light duties for more than 4 weeks and less than 3 months N=130	Occupational intervention, clinical intervention (graded activity) after 8 weeks if worker still absent	Usual care (undefined)	• Return to work
Marhold (2001) [Sweden]	Psychology department of a university – group sessions with psychologist on outpatient basis Follow up 6months	Employed women with diagnosis of musculoskeletal pain, on sick leave either 2-6	Cognitive-behavioural return to work programme	Treatment as usual	• No days on sick leave over 2-month periods

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
RCT		months ('short-term') or >12 months ('long-term') N=72			
Meijer (2006) [The Netherlands] RCT	Bank employees (population 160000) and 2 universities Follow up 1year	Sick leave due to non-specific upper extremity MSK disorders for over 50% of hours, between 4 and 20 weeks N=38	Multidisciplinary treatment programme	Usual care (coordinated by OP)	• Return to work • Physical functioning
Moll (2018) [Denmark] RCT	One hospital spinal clinic Follow up 1year	Pain in the neck, shoulders or upper thoracic region, 4 to 16 weeks sick leave N=168	Multidisciplinary intervention with case worker	Brief multidisciplinary intervention	• Return to work • Time to return to work
Myhre (2014) [Norway] RCT	Two hospital outpatient neck and back clinics Follow up 1year	Neck and back clinic referrals, sick listed between 4 weeks and 12 months N=405	Work-focused intervention (usual MDT and case worker)	Usual MDT model of care	• Return to work • Time to return to work
Scheel (2002) [Norway] Cluster RCT	65 municipalities within 19 counties throughout Norway selected to reflect industrial and demographic variation in the population Follow up 1year	Employees with back pain on full-time absence from work ≥16 days N=6,179	1. Proactive promotion of active sick leave (ASL) including GP education & trained local facilitator 2. Passive promotion of ASL	Usual care (no intervention to promote ASL)	• Return-to-work status • Sickness absence duration • Recurrence of sickness absence • Health-related QoL

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
van den Hout (2003) [The Netherlands] RCT	One rehabilitation centre Follow up 12months	Low back pain for more than 6 weeks, on sick leave for no longer than 20 weeks, no more than 120 days in the last year N=84	Graded activity plus problem-solving therapy and group education	Graded activity plus group education	• Return to work • Days of sick leave
Study populations with mental health disorders					
Arends (2014) [The Netherlands] Cluster RCT	Recruited by participating Ops Follow up 12months	CMD, sickness absence of 2 or more weeks, planned return to work within 2 weeks N=158	SHARP – at work intervention (structured OP treatment after return to work)	Usual care (OP delivered)	• Recurrent sickness absence • Time to first recurrent sickness absence
Bakker (2007) [The Netherlands] Cluster RCT	Primary care attenders who consulted one of the participating primary care physicians Follow up 1year	Self-reported stress-related mental disorder, sick leave of no longer than 3 months N=433	Training intervention for primary care physicians on minimal intervention for stress related mental disorders with sick leave (MISS)	Usual care from primary care physicians	• Time to full return to work
Brouwers (2007) [The Netherlands] RCT	Recruited by 70 GPs in one city Follow up 18months	Minor mental disorders, on sick leave fir a maximum of 3 months N=194	Activating intervention delivered in primary care by social workers	Routine GP care	• Time to full return to work • QoL
Finnes 2017 [Sweden]	Social insurance agency register, local newspaper adverts	Anxiety disorder, depression, stress-related ill-health, sickness	3 interventions: • Acceptance and commitment therapy (ACT)	Treatment as usual	• Sick leave days

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
RCT	Follow up 12months	absence between 25% and 100%, 1 to 12 months N=352	• Workplace dialogue intervention (WDI) • Combined ACT and WDI		
Glasscock 2018 [Denmark] RCT	One hospital department of Occupational Medicine Follow up 10months	Full or partially sick-listed with work-related stress or adjustment disorder for <4 months N=137	Psychologist-delivered work-focused CBT, plus offer of psychologist attendance at meeting with employer	Treatment as usual	• Time to return to work
Hees 2013 [The Netherlands] RCT	One outpatient university clinic Follow up 18months	Major depressive disorder for 3 or more months, sickness absence of 8 or more weeks N=117	Occupational therapist-delivered work reintegration programme + CBT treatment-as-usual	CBT treatment-as-usual	• Time to return to work • Return to work over study period • Sickness absence • QoL
Kenning 2018 [UK] RCT	Provider of OH services for large commercial organisations (approx. 250000 clients) and a non-profit 'Fit for Work' organisation providing OH services Follow up 12weeks	Off work for 4 or more weeks up to 12 months, Minimum baseline distress score N=16 (pilot feasibility trial)	Collaborative case management by specially trained case managers	Usual care (GP and/or OH)	• Return to work
Netterstrom (2013) [Denmark] RCT	One hospital outpatient stress clinic (referred by GPs in the capital region) Follow up 3months	Significant symptoms of work related stress for months, on full or part time sick leave N=198	Multidisciplinary stress treatment programme	2 comparators: • Treatment as usual control • Wait-list control	• Work status at end of study period

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
Noordik (2013) [The Netherlands] Cluster RCT	OH services throughout the Netherlands (56 randomised) Follow up 12months	CMD, sick leave for 2 or more and less than 8 weeks N=160	Return to work exposure intervention (RTW-E) plus care as usual	Usual care (OP)	• Time to full return to work • Time to partial return to work • Recurrence of sick leave
Rebergen (2009) [The Netherlands] RCT	Two police departments (approx. 2500 workers), same OHS provider Follow up 12months	Mental health problems, continued absence from work N=240	Guideline-based OP care	Usual care (minimal OP care with approved referral to secondary care psychologist)	• Time to return to work • Return to work over 12 months • Sickness absence • Sickness recurrence
Salomonsson (2017) [Sweden] RCT	4 primary healthcare centres Follow up 1year	Mild to moderate mental disorders, sick leave between 1 and 6 months N=211	2 interventions: • Return to work intervention (basic CBT and graded exposure to workplace) • Return to work intervention plus CBT	CBT alone	• Time to return to work • Work status at follow up
Schene (2007) [The Netherlands] RCT	One hospital outpatient psychiatry department Follow up 4years	Major depressive disorder without psychotic features, working less than 50% of hours for between 10 weeks and 2 years N=62	Occupational therapist-delivered work reintegration programme + CBT treatment-as-usual (usual outpatient treatment for depression)	CBT treatment-as-usual (usual outpatient treatment for depression)	• Time to return to work • Work status at follow up
van der Feltz-Cornelis (2010)	2 occupational health services (together cover almost half the working population)	Positive screen on depression questionnaire	Consultation with trained psychiatrist to guide and support care delivered by OP	Usual care (OP)	• Full return to work • Time to return to work

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
[The Netherlands] Cluster RCT	Follow up 6months	N=60			
van der Klink (2003) [The Netherlands] Cluster RCT	OHS of 1 large private postal and telecoms organisation (approx. 100000 employees) Follow up 1year	Recent (<3months) identifiable psychosocial stressor plus distress symptoms, first sickness leave because of adjustment disorder N=192	Activating intervention	Usual care (OP)	• Return to work • Time to return to work • Sickness absence • Recurrence of sickness absence
Vlasveld (2013) [The Netherlands] RCT	One large occupational health provider Follow up 1year	Mental disorders, sickness absence between 4 and 12 weeks N=126	Collaborative care intervention (OP care manager)	Usual care (OP)	• Time to return to work • Work status at follow up • QoL
Volker (2015) [The Netherlands] Cluster RCT	One large OHS serving employees of small to medium sized companies in 12 regions Follow up 1year	Positive screen on depression scale, sickness absence between 4 and 26 weeks N=220	A guided eHealth intervention and OP collaborative care	Usual care (OP)	• Return to work • Time to return to work • Sickness absence
Mixed condition study populations					
Fleten (2006) [Norway]	From national sickness benefit register, 2 cities in the north Follow up 1year	MSK or mental health disorder, sick for 14 or more days	Minimal awareness-raising postal intervention plus usual care	No postal intervention (usual GP care)	• Return to work • Sickness absence

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
RCT		N=1000			• Risk of receiving benefits
Osteras (2010) [Norway] Cluster RCT	Primary care practices in the south-eastern part of Norway Follow up 1year	Employees on long-term sick leave (any reason) consulting a study GP during the intervention period N=2,170 patients consulting n=52 participating GPs during intervention period	1-day training workshop for GPs in undertaking structured functional assessments and reports for patients on long-term sick leave; implementation required in 10 consecutive consultations with patients on long-term sickness absence	Usual GP care (no GP training) - including usual methods of assessing functioning	• Sickness absence duration
Purdon (2006) [UK] RCT	6 pilot areas and 4 service providers, recruitment via GPs, employers, general advertising Follow up 42weeks	Off work sick between 6 and 26 weeks (MSK 33%, mental and behavioural 30%) N=2845	3 interventions: • Workplace intervention • Health intervention • Combined intervention (workplace and health)	Treatment as usual	• Return to work • Work status at reference period • QoL
Smedley (2013) [UK] Before and after study with control group	Two NHS hospital trusts in the South of England Follow up 26weeks	All hospital employees with a continued sickness absence ≥4 weeks (any reason) Approximate total employee population N=12-13,000 across both sites over study period	Return2Health (R2H), joint working initiative between OH and HR departments	A neighbouring hospital trust with a similar style of OH service at baseline (no intervention)	Organisational-level comparison of pre-post changes in: • Rates of 4-week absence continuing beyond 8 weeks and 26 weeks • Sickness absence days beyond 4 weeks

Study [Country], design	Setting	Population	Intervention(s)	Comparator(s)	Outcome(s)
					• Rates of ill-health retirements

RCT – randomised controlled trial; MSK – musculoskeletal; LBP – low back pain; OP – occupational physician; GP – general practitioner; OHS – occupational health service; CMD – common mental disorders; QoL – quality of life; CBT – cognitive-behavioural therapy; MDT – multidisciplinary treatment

Table 3: Summary of qualitative studies included in the evidence review

Author [Year] Country	Setting	Population(s)	Method	Subject	Themes
Bajorek 2016 UK	Not reported	Human resource professionals	In-depth telephone interviews N=10	Employee Assistance Programmes	General management of long-term sickness absence: - Employee Assistance Programmes
Coole 2015 UK	GP practices	GPs	Mixed methods study – interviews and analyses of completed fit notes N=11 GP practices	Investigation completion of fit notes by GPs	GP role and fit note completion; - Additional pressures - Workplace adaptations Impact on relationships between employers, employees and GPs (concerns). GP role and fit note completion.
Higgins 2015 UK	Health and social care trusts	Policy makers, GPs, HR professionals, managers, OH, trade union representatives	Semi-structured interviews (one aspect of a mixed method study) N=61	Investigation of organisational context and long-term sickness absence	Early intervention and regular contact between employer and employee. Workplace policies. Impact of making adjustments to support return to work.
Kotze 2014 UK	Industries/ sectors of varying size (detail not reported)	Employer representatives: human resource professionals, line managers, payroll officer	Face-to-face semi-structured interviews N=21	Employers views on fit note	Impact of the fit note on negotiation and communication. Impact on relationships between employers, employees and GPs (concerns).

Author [Year] Country	Setting	Population(s)	Method	Subject	Themes
					GP role and fit note completion; - Medical/health information - Workplace adaptations Impact of the fit note on workplace adaptations.
Lalani 2012 UK	A range of public, private and third sector organisations of varying size	Employer representatives with overview of absence management and line managers, employees	Semi-structured interviews conducted either face-to-face or by telephone. N=185	Employer and employee perspective son using the fit note	Impact of the fit note on negotiation and communication. Impact of the focus of the fit note. Impact on relationships between employers, employees and GPs (concerns). GP role and fit note completion; - Additional pressures - Medical/health information Impact of the fit note on workplace adaptations. General management of long-term sickness: Early intervention and regular contact between employer and employee. Impact of making adjustments to support return to work.
Pittam 2010 UK	GP practices in the east of England	Clients with mental health issues referred to an employment advice service, GPs, practice managers, employment advisors	Realist evaluation using in-depth semi-structured interviews and focus groups N=22	To evaluate what assists RTW and or retaining employment	Returning to work, mental health conditions
Sallis and Birkin 2014	A multi-agency national public sector organisation	Employees with depression	Interpretive phenomenological analysis	To develop an understanding of the type of support to	Returning to work, mental health conditions

Author [Year] Country	Setting	Population(s)	Method	Subject	Themes
UK	offices located throughout the UK		N=7	assist retaining employment	
Wainwright 2011 UK	GP practices in south west England	General practitioners	In-depth semi-structured interviews N=13	To explore GP views on the fit note	Impact of the focus of the fit note. Impact on relationships between employers, employees and GPs (concerns). GP role and fit note completion; - Additional pressures - Impact of the fit note on workplace adaptations
Wainwright 2013 UK	Various	Those who had discussed sick-listing for chronic pain, employers	Semi-structured interviews N=26	To investigate employers and employees experiences of RTW and to explore efficacy of the fit note	Impact of the fit note on negotiation and communication. Early intervention and regular contact between employer and employee. Impact of making adjustments to support return to work.
Wainwright 2015 UK	Various	Employees /unemployed individuals with chronic pain, GPs	Face-to-face interviews with GPs and telephone interviews with employees N=43	To understand GP and patients experiences of work absences and the fit note	Impact of the focus of the fit note.
Welsh 2012 UK	GP practices and GP homes throughout the UK	GPs	Semi-structured telephone interviews N=15	To evaluate GP views of the fit note	Impact of the focus of the fit note. Impact on relationships between employers, employees and GPs (concerns). GP role and fit note completion; - Additional pressures - Impact of the fit note on workplace adaptations

Author [Year] Country	Setting	Population(s)	Method	Subject	Themes
Wynne-Jones et al 2011	Local authority and NHS Trust in Wales	Employees with musculoskeletal pain, managers	One-to-one interviews (one component of a mixed methods study) N=38	To identify themes relating to absenteeism and presentism	Early intervention and regular contact between employer and employee. Workplace policies. Impact of making adjustments to support return to work.

GP - general practitioner; HR – human resources; OH – occupational health; RTW – return to work

Synthesis and appraisal of public health evidence

Please find the methods for data synthesis of the effectiveness evidence in the workplace health: managing sickness absence and capacity for work methods section.

See appendix E and appendix F for forest plots of analyses and GRADE and CERQual tables by outcome or key themes.

Economic evidence

See separate review of economic studies and modelling report by York Health Economics Consortium (YHEC)

Evidence statements

Effectiveness evidence, question 3a

The evidence for effectiveness is summarised below by intervention category (individual-focused, workplace-focused or combined), population (musculoskeletal conditions, mental health disorders or mixed) and outcome.

Individual-focused interventions

Population: long-term sickness absence due to musculoskeletal conditions

- ***ER3.1 Full return-to-work (RTW) in the short-term (around 3 months)***

There is moderate quality evidence from 2 RCTs (Lindstrom 1992, Meijer 2006) conducted in Sweden and The Netherlands respectively, with a total of 136 participants. The interventions consisted of graded activity, and multidisciplinary outpatient treatment with a biopsychosocial focus. An increase in full return to work favouring the intervention compared with controls was found (Pooled RR 1.37; 95%CI 1.06 to 1.78). [Figure 1.]

- ***ER3.2 Full return-to-work (RTW) in the medium-term (around 12 months)***

There is moderate quality evidence from 4 RCTs (Hlobil 2005, Lindstrom 1992, Meijer 2006, van den Hout 2003) with 3 studies conducted in the Netherlands and 1 in Sweden, and with a total of 346 participants. The interventions consisted of graded activity, problem-solving therapy, and multidisciplinary outpatient treatment with a biopsychosocial focus. No difference was found in full return to work compared with controls (Pooled RR 1.08; 95%CI 0.98 to 1.2). [Figure 4]

- ***ER3.3 Sickness absence over short-term (around 3 months)***

There is very low quality evidence from 1 RCT (Marhold 2001) conducted in Sweden, with 36 females with short-term sickness absence of 2-6 months and 36 females with absence of more than 12 months. The intervention consisted of an outpatient CBT-based RTW programme conducted as group sessions. No difference was found in sickness absence over 3 months compared with controls for short and long-term absent groups (MD -4.68days; 95%CI -13.07days to +3.70days). [Figure 2]

- ***ER3.4 Sickness absence over medium-term (around 12 months)***

There is low quality evidence from 1 RCT (van den Hout 2003), conducted in The Netherlands, with 83 participants. The intervention consisted of group-based problem-solving therapy plus graded activity and group education. A decrease was found in sickness absence over the medium-term favouring the intervention compared with controls. The controls received graded activity plus group education but no problem-solving therapy (MD -19.4 days; 95%CI -38.5 to -0.4 days). [Figure 5].

- ***ER3.5 Time to return to work over medium-term (around 12 months)***

There is very low quality evidence from 3 RCTs (Hlobil 2005, Anema 2007, Loisel 1997) with 2 studies conducted in the Netherlands and 1 in Canada, with a total of 303 participants. The interventions consisted of graded activity / work hardening, and education. No difference was found in time to return to work over the medium-term compared with controls (HR 0.95; 95%CI 0.43 to 2.07). [Figure 6].

- ***ER3.6 Recurrence of sickness absence over medium-term (around 12 months)***

There is low quality evidence from 1 RCT (Hlobil 2005), conducted in The Netherlands with134 participants. The intervention consisted of graded activity and education. No difference was found in the incidence of recurrent sickness absence per person-year compared with controls (IRR 0.68; 95%CI 0.04 to 1.32).

Population: long-term sickness absence due to mental health disorders

- ***ER3.7 Full return-to-work (RTW) in the medium-term (around 12 months)***

There is low quality evidence from 1 RCT (Volker 2015) conducted in The Netherlands, with 216 participants. The intervention consisted of a guided e-health RTW intervention, (which included problem-solving, cognitive restructuring, pain and fatigue management), and occupational physician collaborative care. No difference was found in full return to work in the medium-term compared with controls (RR 1.05; 95%CI 0.94 to 1.17). [Figure 4].

- ***ER3.8 Sickness absence over short-term (around 3 months)***

There is low quality evidence from 1 RCT (Finnes 2017), conducted in Sweden with 177 participants. The intervention consisted of acceptance and commitment therapy. No difference was found in sickness absence over 3 months compared with controls (MD +0.3 days; 95%CI -10.03 days to +10.63 days). [Figure 2].

- ***ER3.9 Sickness absence over medium-term (around 12 months)***

There is very low quality evidence from 2 RCTs (Brouwers 2007, Volker 2015) conducted in The Netherlands and Sweden, with a total of 413 participants. The interventions consisted of an activating and problem-solving intervention delivered by social workers in primary care, a guided e-Health RTW intervention (which included problem-solving, cognitive restructuring, pain and

fatigue management) and occupational physician collaborative care. No difference was found in sickness absence over 12 months compared with controls (MD -16.36 days; 95%CI -39.59 days to +6.87 days). [Figure 5].

- ***ER3.10 Time to return to work over medium-term (around 12 months)***

There is very low quality evidence from 2 RCTs (Bakker 2007 and Volker 2015), conducted in The Netherlands, with a total of 591 participants. The interventions consisted of a training intervention for GPs on managing stress-related sick leave and RTW, a guided e-Health RTW intervention (which included problem-solving, cognitive restructuring, pain and fatigue management) and occupational physician collaborative care. No difference was found in time to return to work over the medium-term compared with controls (HR 1.11; 95%CI 0.94 to 1.32). [Figure 6].

There is low quality evidence from 1 RCT (Schene 2007) conducted in The Netherlands, with a total of 50 participants. The intervention consisted of occupational therapy delivered over 50 weeks, including diagnosing workplace issues, planning for reintegration, weekly group sessions and individual sessions on coping with workplace pressures, followed by individual visits. Time to return to work was quicker in the intervention group compared to controls (HR 2.71; 95% CI 1.16 to 6.29).

Population: long-term sickness absence - mixed health conditions

- ***ER3.11 Full return-to-work (RTW) in the medium-term (around 12 months, 42 weeks)***

There is very low quality evidence from 1 RCT (Purdon 2006), conducted in the UK2161 participants. The intervention consisted of a tailored treatment intervention for health problems. A reduction was found in return to work for at least a 13 week spell of full time work, with health only interventions 255/587 (43.5%) in the intervention group returning versus 205/458 (44.7%) in the control group.

- ***ER3.12 Quality of life (42 weeks)***

There is very low quality evidence from 1 RCT (Purdon 2006), conducted in the UK, with a total of 1,114 participants. The intervention consisted of a tailored treatment intervention for health problems. At 42 weeks follow-up, differences were found favouring the intervention group in SF36 scores on the energy/fatigue subscale (SMD 0.14; 95%CI 0.02 to 0.26), on the mental health subscale (SMD 0.16; 95%CI 0.05 to 0.28) and on general health (SMD 0.14; 95%CI 0.02 to 0.25). No differences were found between the intervention and control participants on any other SF36 domains.

Work-focused interventions

Population: long-term sickness absence due to musculoskeletal conditions

- ***ER3.13 Full return-to-work (RTW) in the short-term (around 3 months)***

There is moderate quality evidence from 1 RCT (Bultmann 2009), conducted in Denmark, with a total of 113 participants. The intervention consisted of a multidisciplinary assessment and tailored work rehabilitation coordinated by a

caseworker. No difference was found in full return to work over the short-term compared with controls (RR 1.26; 95%CI 0.79 to 2.00).

- ***ER3.14 Full return-to-work (RTW) in the medium-term (around 12 months)***

There is moderate quality evidence from 1 RCT (Bultmann 2009), conducted in Denmark, with a total of 113 participants. The intervention consisted of a multidisciplinary assessment and tailored work rehabilitation coordinated by a caseworker and early guideline-based occupational physician management of employees. This included identifying barriers to returning to work, implementing adaptions (to work or hours) and advising supervisors. No difference was found in full return to work over the medium-term compared with controls (RR 1.25; 95%CI 0.97 to 1.62).

There is low quality evidence from 1 RCT (Scheel 2002), conducted in Norway, with a total of 6,179 participants absent from work with back pain. The intervention consisted of (1) a passive awareness-raising intervention to promote GPs use of 'active sick leave' (that is, a return to modified duties in the workplace) as an option for sickness certification among employees and (2) a proactive intervention to promote use of 'active sick leave'. No difference was found compared with a 'no intervention' control group in full return to work within 12 months, associated with either the passive intervention (RR 1.01; 95%CI 0.98 to 1.04) or the proactive intervention (RR 1.00; 95%CI 0.97 to 1.03).

- ***ER3.15 Sickness absence over medium-term (around 12 months)***

There is low quality evidence from 1 RCT (Scheel 2002), conducted in Norway, with a total of 6,179 participants absent from work with back pain. The intervention consisted of (1) a passive awareness-raising intervention to promote GPs use of 'active sick leave' (that is, a return to modified duties in the workplace) as an option for sickness certification among employees and (2) a proactive intervention to promote the use of active sick leave. No difference was found at population level associated with either the passive intervention or the proactive intervention compared with a 'no intervention' control group. This applied to total days of absence due to the index condition (back pain), or for any reason over the 12 months follow-up. (Back pain episode-related sick days: (1) passive intervention: MD -3.1 days; 95%CI -10.3 days to +4.1 days; (2) proactive intervention: MD -1.0 day; 95%CI -8.1 days to +6.1 days; All sickness absence days (any reason): (1) passive intervention: MD -3.7 days; 95%CI -11.3 days to +3.9 days; (2) proactive intervention: MD -0.8 day; 95%CI -8.3 days to +6.7 days).

- ***ER3.16 Time to return to work over medium-term (around 12 months)***

There is moderate quality evidence from 2 RCTs (Anema 2007 and Loisel 1997), conducted in The Netherlands and Canada, with a total of 244 participants. The interventions consisted of a participatory worksite assessment, and agreement and implementation of a participatory ergonomics intervention or other job modifications. A reduction was found in the time to return to work favouring the intervention compared with controls (HR 1.68; 95% CI 1.25 to 2.28). [Figure 7].

- ***ER3.17 Recurrence of sickness absence (12 months)***

There is low quality evidence from 1 RCT (Scheel 2002), conducted in Norway, with a total of 6,179 participants. The intervention consisted of (1) a passive awareness-raising intervention to promote GPs use of 'active sick leave' (that is, a return to modified duties in the workplace) as an option for sickness certification among employees and (2) a proactive intervention to promote use of active sick leave. No difference was found associated with either the passive intervention (RR 1.03; 0.83 to 1.28) or the proactive intervention (RR 1.05; 95%CI 0.85 to 1.29) in recurrence of sickness absence for back pain over follow-up.

Population: long-term sickness absence due to mental health conditions

- ***ER3.18 Full return-to-work (RTW) in the medium-term (around 12 months)***

There is moderate quality evidence from 1 RCT (Salomomsson 2017), conducted in Sweden, with a total of 211 participants. The intervention consisted of a return to work intervention (which included basic CBT and graded exposure to the workplace) and a return to work intervention plus CBT. No difference was found in full return to work over the medium-term compared with controls (RR 1.04; 95%CI 0.9 to 1.22).

- ***ER3.19 Sickness absence over short-term (around 3 months)***

There is low quality evidence from 1 RCT (Finnes 2017), conducted in a total of 175 participants. The intervention consisted of a workplace dialogue intervention to agree a return-to-work plan including any facilitating modifications. No difference was found in the number of sickness absence days over the short-term compared with controls (MD +2.4 days; 95%CI -7.78 days to +12.58 days).

There is low quality evidence from 1 RCT (Arends 2014), conducted in a total of 147 participants in The Netherlands. The intervention consisted of a 3-month structured, occupational therapist led problem-solving process, including consultation between the employee and supervisor, started within 2 weeks of return to work. No difference was found in the number of people with recurrent sickness absence episodes (defined as ≥30% decrease in working hours per week) over the short term compared with controls (RR 0.49; 95% CI 0.23 to 1.06).

- ***ER3.20 Sickness absence over short- to medium-term (around 6 months)***

There is moderate quality evidence from 1 RCT (Arends 2014), conducted in a total of 147 participants in The Netherlands. The intervention consisted of a 3-month structured, occupational therapist led problem-solving process, including consultation between the employee and supervisor, started within 2 weeks of return to work. Fewer people given the intervention had a sickness absence episode (defined as ≥30% decrease in working hours per week) at 6 months compared with controls (RR 0.58; 95% CI 0.32 to 0.92).

- ***ER3.21 Sickness absence over medium-term (around 12 months)***

There is moderate quality evidence from 1 RCT (Salomomsson 2017), conducted in Sweden, with a total of 131 participants. The intervention consisted of a return to work intervention (which included basic CBT and graded exposure to the workplace) and a return to work intervention plus CBT. No difference was found in the number of days sickness absence days over the medium-term compared with controls (MD -23 days; 95%CI -62.41 to +16.41).

There is low quality evidence from 1 RCT (Arends 2014), conducted in a total of 147 participants in The Netherlands. The intervention consisted of a 3-month structured, occupational therapist led problem-solving process, including consultation between the employee and supervisor, started within 2 weeks of return to work. No difference was found in the number of people with recurrent sickness absence episodes (defined as ≥30% decrease in working hours per week) over the medium term compared with controls (RR 0.71; 95% CI 0.48 to 1.07).

- ***ER3.22 Time to first recurrent sickness absence***

There is moderate quality evidence from 1 RCT (Arends 2014), conducted in a total of 147 participants in The Netherlands. The intervention consisted of a 3-month structured, occupational therapist led problem-solving process, including consultation between the employee and supervisor, started within 2 weeks of return to work. The time to first recurrent sickness absence, (defined as ≥30% decrease in working hours per week) and measured over 12 months was longer in people given the intervention compared with controls (adjusted HR 0.53; 95% CI 0.33 to 0.86).

Population: long-term sickness absence - mixed health conditions

- ***ER3.23 Full return-to-work (RTW) in the medium-term (around 12 months)***

There is very low quality evidence from 1 RCT (Purdon 2006), conducted in the UK, with a total of 1003 participants. The intervention consisted of addressing issues in the workplace, typically through ergonomic assessment and employer liaison or mediation. Return to full work (lasting ≥13 weeks) 246/545 (45.1%) vs 205/458 (44.7%)

- ***ER3.24 Sickness absence over medium-term (around 12 months)***

There is very low quality evidence from 1 RCT (Fleten 2006), conducted in Norway, with a total of 990 participants. The intervention consisted of a minimal awareness-raising postal intervention. No difference was found between the intervention and control groups in number of sickness absence days over 12 months follow-up (MD -8.6 days; 95%CI -5.6 days to +22.8 days).

There is low quality evidence from 1 RCT (Osteras 2010), conducted in Norway, with a total of 2,170 participants. The intervention consisted of a 1-day training workshop for GPs in undertaking structured functional assessments with patients on long-term sick leave. No difference was found in total sickness absence days between sick-listed patients consulting GPs during the study period who had received the training, compared with those who consulted

control group GPs who were not trained in structured functional assessments (HR 0.89; 95% CI 0.79 to 1.01).

- ***ER3.25 Time to return to work over medium-term (around 12 months)***

There is very low quality evidence from 1 RCT (Fleten 2006), conducted in Norway with a total of 990 participants. The intervention consisted of a minimal awareness-raising postal intervention. No difference was found between intervention and control groups in time to return to work over 12 months (HR 1.09; 95%CI 0.95 to 1.25) [Figure 7].

- ***ER3.26 Quality of life***

There is low quality evidence from 1 RCT (Purdon 2006), conducted in the UK, with a total of 1,074 participants. The intervention consisted of addressing issues in the workplace, typically through ergonomic assessment and employer liaison or mediation. At 42 weeks follow-up, no differences were found on any SF36 subscale scores between intervention group and controls.

Combined (individual and work-focused) interventions

Population: long-term sickness absence due to musculoskeletal conditions

- ***ER3.27 Full return-to-work (RTW) in the medium-term (around 12 months)***

There is moderate quality evidence from 3 RCTs (Lindh 1997, Moll 2018 and Myhre 2014), conducted in Sweden, Denmark and Norway, with a total of 1037 participants. The interventions consisted of an outpatient multidisciplinary rehabilitation with workplace contact and vocational support of a caseworker. No difference was found in full return to work over the medium-term compared with controls (RR 0.95; 95%CI 0.87 to 1.05). [Figure 8].

- ***ER3.28 Time to return to work over medium-term (around 12 months)***

There is moderate quality evidence from 5 RCTs (Anema 2007, Lambeek 2010, Loisel 1997, Moll 2018, Myhre 2014), conducted in The Netherlands, Sweden, Denmark and Norway, with a total of 869 participants. The interventions consisted of a participatory worksite assessment, agreement and implementation of a participatory ergonomics intervention or other job modifications plus graded activity, an outpatient multidisciplinary rehabilitation within a biopsychosocial framework plus workplace contact, and vocational support of caseworker. No difference was found between the intervention and control groups in time to return to work over a medium timeframe (HR 1.14; 95%CI 0.82 to 1.60). [Figure 10].

Population: long-term sickness absence due to mental health conditions

- ***ER3.29 Full return to work over short-term (around 3 months)***

There is low quality evidence from 4 RCTs (Kenning 2018, Netterstrom 2013, van der Feltz-Cornelis 2010 and van der Klink 2003), with 1 study conducted in the UK, 1 in Denmark and 2 in The Netherlands, with a total of 424 participants. The interventions consisted of: case management with low intensity psychological interventions, a self-help handbook and workplace facilitation, a multidisciplinary stress treatment with gradual work exposure plus workplace dialogue, a return to work consultation with a psychiatrist plus occupational physician-delivered CBT and workplace modifications, and occupational physician delivered activating and problem-solving intervention, plus contacts with workplace. No difference was found in full return to work over the short-term compared with controls (RR 1.41; 95%CI 0.92 to 2.17). [Figure 3].

There is low quality evidence from 1 RCT (Hees 2013), conducted in The Netherlands, with a total of 117 participants. The intervention consisted of an occupational therapist-delivered work reintegration programme plus CBT treatment. No difference was found in return to work (in good health) between 1-6 months compared with controls (RR 0.63; 95% CI 0.18 to 2.20).

- ***ER3.30 Full return to work over medium-term (around 12 months)***

There is very low quality evidence from 3 RCTs (Rebergen 2009, van der Klink 2003 and Vlasveld 2013), all conducted in The Netherlands, with a total of 558 participants. The interventions consisted of an occupational physician-delivered CBT-based stress inoculation and gradual return to work with facilitating modifications; an occupational physician-delivered activating and problem-solving intervention plus contacts with the workplace; collaborative stepped-care (including problem-solving therapy and guided self-help) plus a workplace dialogue intervention to agree a return-to-work plan coordinated by an occupational physician-care manager. No difference was found in full return to work over the medium-term compared with controls (RR 0.91 95% CI 0.46 to 1.79). [Figure 8].

There is low quality evidence from 1 RCT (Hees 2013), conducted in the Netherlands, with a total of 117 participants. The intervention consisted of an occupational therapist-delivered work reintegration programme plus CBT treatment. No difference was found in return to work (in good health) between 7-12 months compared with controls (RR 1.50; 95% CI 0.78 to 2.87).

- ***ER3.31 Sickness absence over short-term (around 3 months)***

There is low quality evidence from 1 RCT (Finnes 2017), conducted in Sweden, with a total of 176 participants. The intervention consisted of acceptance and commitment therapy, plus a workplace convergence dialogue intervention to agree a return-to-work plan including any facilitating modifications. No difference was found in the number of sickness absence days over the short-term compared with controls (MD +8.4 days; 95%CI -1.7 days to +18.5 days).

- ***ER3.32 Sickness absence over medium-term (around 3 months)***

There is moderate quality evidence from 3 RCTs (Salomonsson 2017, van der Feltz-Cornelis 2010 and Vlasveld 2013), with 1 study conducted in Sweden and

2 in The Netherlands, with a total of 321 participants. Interventions consisted of CBT-based return to work interventions delivered by psychologists (including gradual exposure, psychoeducation, problem-solving and agreement of return to work plans with the employer, plus CBT treatment), a return to work consultation with a psychiatrist plus occupational physician-delivered CBT and workplace modifications, and a collaborative stepped-plus workplace dialogue intervention to agree a return-to-work plan coordinated by an occupational physician care manager. No difference was found in the number of sickness absence days over the medium-term compared with controls (MD -24.2 days; 95%CI -50.6 days to +2.2 days). [Figure 9]

- ***ER3.33 Time to return to work over medium-term (around 12 months)***

There is very low quality evidence from 3 RCTs (Noordik 2013, Rebergen 2009 and van der Klink 2003), all conducted in the Netherlands with a total of 575 participants. The interventions consisted of stress treatment with gradual work exposure, coping skills plus workplace contact to agree a return to work plan and any facilitating modifications, occupational physician-delivered CBT-based stress inoculation and gradual return to work with facilitating modifications, an occupational physician-delivered activating and problem-solving intervention plus contacts with workplace, and a psychologist-delivered work-focused CBT for stress, plus the offer of participation in meeting with workplace. No difference was found in time to return to work over the medium-term compared with controls (HR 0.94; 95%CI 0.60 to 1.49). [Figure 10].

There is low quality evidence from 1 RCT (Glasscock 2018), conducted in Denmark, with a total of 134 participants. The intervention consisted of psychologist-delivered individual CBT and the offer of attendance by the psychologist at a meeting with employers. No difference was found in time to return to work over the medium-term compared with controls (HR 0.81; 95%CI 0.55 to 1.19).

- ***ER3.34 Time to return to work over long-term (more than 12 months)***

There is low quality evidence from 1 RCT (Hees 2013), conducted in The Netherlands with a total of 117 participants. The intervention consisted of an occupational therapist-delivered work reintegration programme, plus CBT treatment. No difference was found in time to return to work over the long-term compared with controls (HR 0.93 (0.57 to 1.52).

- ***ER3.35 Recurrence of sickness absence (12 months)***

There is moderate quality evidence from 1 RCT (Rebergen 2009), conducted in The Netherlands with a total of 240 participants. The intervention consisted of occupational physician-delivered CBT-based stress inoculation and gradual return-to-work with facilitating modifications. No difference was found between intervention and control groups in the mean number of recurrences of sickness absence episodes following return-to-work (MD +0.3; 95%CI -0.13 to 0.73), nor in the average duration of recurrent absence episodes (MD +0.8 days; 95%CI -9.1 days to +10.7 days).

Population: long-term sickness absence - mixed health conditions

- ***ER3.36 Full return to work over medium-term (around 12 months)***

There is very low quality evidence from 1 RCT (Purdon 2006), conducted in the UK, with a total of 724 participants. The intervention consisted of a tailored health treatment intervention plus an intervention addressing issues in the workplace, typically through ergonomic assessment and employer liaison or mediation. There was no difference in return to work (lasting ≥13 weeks) 254/571 (44.4%) vs 205 (44.7%).

- ***ER3.37 Long-term sickness absence (26 weeks)***

There is very low quality evidence from 1 observational before and after study with a control group (Smedley 2013), conducted in the UK, with all employees of two NHS hospital trusts with a continued sickness absence of 4 or more weeks for any reason (approximately 12000 – 13000 participants). The intervention consisted of a new multidisciplinary case management return to work service for employees on long-term sickness absence, delivered jointly by the Human Resource and Occupational Health services. A reduction was found (from baseline to one year following the implementation of the intervention) in the percentage of 4-week absences continuing beyond 8 weeks, compared with the control site (5.8% reduction; 95%CI 0.5% to 11.1%). However no difference was found in the overall reduction of mean days lost beyond 4 weeks, for all long-term sickness absence (1.6% reduction; 95%CI -7.2% to 10.3%).

Qualitative evidence, RQ 3b

The qualitative evidence statements below reflect the themes identified in the secondary analysis of the included qualitative studies.

Assessment of fitness for work (fit note)

There is evidence from 7 UK based studies relating to the use of the fit note. The studies included:

- interviews with GPs (Wainwright 2011; Welsh 2012)
- interviews with GPs and document analysis (Coole 2015)
- interviews with GPs and patients (Wainwright 2015)
- interviews with employers and employees (Lalani 2012; Wainwright 2015)
- interviews with employers (Kotze 2014)

- ***QR3.1 Impact of fit note on negotiation and communication:***
  - enable return to work conversations and work place adjustments for employers (Kotze 2014; Lalani 2012; Wainwright 2013);
  - empower RTW negotiations generally and in relation to making adjustments for employees (Lalani 2012; Wainwright 2013);
  - enable detailed discussions for employees with GPs (Wainwight 2013)

  Moderate quality evidence

Example quote:

I think the fit note has assisted that cultural change in... giving them [line managers] a bit of reassurance that they have got something to base this discussion on so they perhaps feel more confident about having those discussions.' [Employer] (Lalani 2012)

- ***QR3.2 Impact of the focus of the fit note:***
  - the focus on capacity and what patients can do is viewed as positive by GPs (Wainwright 2011; Welsh 2012) and by employees (Wainwright 2015);
  - GPs noted concerns about possible pressure on them if sick-listing rates do not reduce (Wainwright 2011), while some employees noted concerns about the possible impact of the political motivation to cut welfare costs (Wainwright 2015);
  - Employers noted that the use of fit notes may be more influential in smaller organisations where there may be less formal RTW policies and procedures (Lalani 2012)

  Moderate quality evidence

Example quotes:

As regards qualifying the ability of someone to return to work, then I feel it's been a step forward and … I'm happier signing sick notes now than I was in the olden days ...feel that the note has a different role. It can now act as a sort of "Let's try you back at work and see", erm, whereas I think both myself or GPs and patients regarded it as a "You're off or you're fully back". [GP] (Welsh 2012)

I think psychologically it makes a difference, because you feel like you're getting somewhere. I mean, with the old sick note, wasn't it just you're sick and can't go to work, or not sick and can go to work? That's pretty categorical, and doesn't appreciate the grey areas. I don't think it's as simple as that. And I think for me, it was nice to see on the back of that note, "fit for work" because it felt like a little bit of a victory, because I'd been unfit for such a long time and that kind of spurred me on to get back to work [Employee] (Wainwright 2015)

- ***QR3.3 Impact of fit note on relationships between employers, employees and GPs:***
  - GPs discussed a possible effect where patients want to challenge the content of the fit note (Coole 2015), may need discussion with patients who may not want to RTW (Wainwright 2011);
  - GPs and employers found a mixed relationship, GPs consider some employers supportive and others not (Wainwright 2011). There was some GP concern that employers undermine the fit note (Welsh 2012). Some concern that GPs follow what employees want (Lalani 2012);
  - Employers and employees, employees noted a risk of conflict if employers feel they cannot accommodate GP advice (Kotze, 2014)

  Low quality evidence

Example quote:

I have this instant reminder that I should maybe challenge the patient's assumption that they need to be off sick. [GP] (Welsh 2012)

- ***QR3.4 GP role and fit note completion - additional pressures:***
  - GPs noted other time and work pressures that have impacted fit note use and time to access training (Wainwright 2011; Welsh 2012; Coole 2015);
  - GPs and employers – noted the possible negative effect of lack of GP occupational health expertise (Lalani 2012; Wainwright 2011);
  - GPs consider that it is likely that there is inconsistency in the completion of fit notes by GPs (Coole 2015)

  Moderate to low quality evidence

Example quotes:

'The government's asking GPs, who have no OH training and who have no knowledge of the person's workplace, to make judgements about occupational fitness and I'm not sure that we're necessarily the best people for that.' [GP] (Wainwright 2011)

'I hadn't got time to do that [read supporting documentation]…we're just bombarded with things to do all the time.' [GP] (Wainwright 2011)

- ***QR3.5 GP role and fit note completion – medical / health information:***
  - Information was considered helpful to employers that GPs completed on medical conditions (Kotze2014; Lalani 2012). Employers can find the use of vague terms by GPs to describe capabilities unhelpful (Kotze 2014), there is a concern that a lack of GP insight into an employee's role can make them risk averse (Lalani 2012)

  Low quality evidence

Example quote:

Doctors write on them 'possibly fit for work with adaptations', but they don't actually tell you what they think those should be. Then the employer is left to kind of read between the lines…So the easiest route is just say actually we can't make any adaptations, so you're off sick, which is wrong because the employee doesn't want to be off sick. [Employer] (Lalani 2012)

- ***QR3.6 GP role and fit note completion – workplace adaptations:***
  - GPs and employers have some queries about whether that have sufficient knowledge of workplaces to make adaptation suggestions (Coole 2015; Kotze 2014). Employers have noted that changes may not have been made due to lack of information from GPs (Lalani 2012)

  Moderate quality evidence

Example quote:

> *I don't see how anybody can say a person is fit for work unless they know what the demands of the work are and that should be at least a two-way conversation between the employer, the employee, the GP or the consultant…'* [Employer] (Lalani 2012)

- ***QR3.7 Impact of fit note on workplace adaptations:***
  - Employers and GPs noted that in some workplaces or for smaller companies it can be difficult to provide the adjustments that may be needed to enable RTW (Kotze 2014; Wainwirght 2011).
  - GPs considered that for many companies where adjustments can be made that that is already in place (Welsh 2012)
  - Employees have found that adjustments had not been made as they expected from the information in the fit note (Lalani 2012)

  Low quality evidence

> Example quote:
>
> *[Patients] come back saying "Well, they [employers] took one look at the sick note, 'phased return' and said "Well, no you can't really. When you're back, you're back." That's what I'm told by my patient anyway* [GP] (Welsh 2012)

General management of long term sickness absence

There is evidence from 5 UK based studies relating to the general management of long term sickness. The studies included:

- interviews with employers (Bajorek 2016)
- interviews with employers and employees (Lalani 2012; Wainwright 2013; Wynne-Jones 2011; Higgins 2015)

- ***QR3.8 Employee assistance programmes (EAPs)***
  - EAPs were reported by employers as enabling employees to raise issues in a service that is easily accessible and distinct from management and occupational health. There can be some concerns about confidentiality, lack of awareness of the service, and possible stigma in using it (Bajorek, 2016)

  Low quality evidence

> Example quotes:
>
> *As a good employer it is important to provide such a service.'* [Employer] (Bajorek 2016)
>
> *One problem [with the EAP] is that the employees are worried about what information the organisation would receive, so if they call and speak to a counsellor I think that they are probably concerned about whether the EAP are going to feed anything back to the organisation.'* [Employer] (Bajorek 2016)

- ***QR3.9 Early intervention and regular contact between employer and employee:***
  - Regular contact that is respectful and 2-way, with a flexible approach, can help employees feel valued and more confident in their RTW (Higgins 2015; Wainwright 2013).
  - Employers view keeping in touch positively and helpful for planning, can help enable making adjustments that work (Wainwright 2013; Wynne-Jones 2011; Lanani 2012)
  - Employees find regular contact can be negative if it is viewed as intrusive or considered punitive (Higgins 2015)
  - Existing relationships with managers can influence how regular contact is viewed (Wainwright 2013; Wynne-Jones 2011)

  Low quality evidence

Example quotes:

Unfortunately, historically early intervention by occupational health has been seen as a stick to sort of hit staff with …it's the misconception of what it's there for' Employee] (Higgins 2015)

I believe early intervention does have an overwhelming benefit for both the individual and the department they work in.' [Employee] (Higgins 2015)

- ***QR3.10 Workplace policies***
  - RTW policies are considered by employers and employees to help reduce uncertainty (Higgins 2015; Wynne-Jones 2011)
  - There is concern from employees about policies not being implemented properly (Wynne-Jones 2011)

  Moderate quality evidence

Example quotes:

'You can create the best policies but unless managers are prepared to implement them it doesn't work' [Employer] (Higgins 2015)

The sickness policy itself does dictate that there should be two way contact in the event of absences without it becoming, you know, where you're pestering people to come back to work'. [Employer] (Wynne-Jones 2011)

- ***QR3.11 Impact of making adjustments***
  - Making adjustments that are appropriate to the needs of the employee is viewed positively, both by employers and employees, who see it as providing support and enabling people to feel more confident about returning to the workplace following sickness absence (Higgins 2015; Wainwright, 2013)

- There may be a need for colleagues to make work adjustments. Colleagues are often supportive, though there may be some resentment of the changes (Wynne-Jones 2011; Lalani 2012; Higgins 2015)
- Employers are willing to consider a range of adjustments, adjusting hours is the easiest to implement (Lalani 2012; Wainwright 2013)
- Where there have been workplace changes in their absence employers consider that RTW can be difficult for employees (Wynne-Jones 2011)

Moderate quality evidence

Example quotes:

…if it gets someone back I don't see the problem…it's daunting coming back so if you can get someone to come back for a day and then two days, it will build them up rather than landing them back for a whole week… I don't see it as anything counterproductive actually I see it as productive.' [Employer] (Higgins 2015)

I've got a different chair … and I don't have to twist and turn at all … they [the company] just agreed without question, which really helped me feel valued, and that's really made a huge difference' [Employee] (Wainwright 2013)

Mental health

There is evidence from 2 UK based studies relating to those with mental health conditions returning to work. The studies included:

- interviews with employees (Sallis & Birkin 2014)
- interviews with employment advisers and employees (Pittam 2012)

- ***QR3.12 RTW for those with mental health conditions:***
  - RTW was supported by practical work focussed support, and strategies and scripts for negotiating with employers (Pittam, 2010)
  - Line manager and policy support (or lack of) impacts on decisions about work (Sallis & Birkin, 2014)
  - Possible adjustments to work role encouraged return to work (Sallis & Birken, 2014)

Moderate quality evidence

Example quotes:

We had a reasonable conversation, I think that helped me in going back in a way, in that he was being quite reasonable and we had a conversation about what I could do and maybe work at home more and not have to go to [office location] all the time and stuff like that for just a while and that you know that made me feel that 'okay he's not gonna dump me in it'.' [Employee] (Sallis & Birkin 2014)

I did tell my manager probably 2 months before I was off that if it carried on I would have to leave because I couldn't put up with it, but it carried on, nobody listened.' [Employee] (Pittam 2012)

Evidence from expert testimony

Full details of the expert testimony considered by the committee can be found in Appendix I.

- **ET1 Top level commitment to health and wellbeing**

Testimony provided by two experts identified that a commitment to employee health and wellbeing, proactively and strategically led from the top levels of management, should underpin sickness absence and return-to-work policies.

ET I.1, ET I.3

- **ET2 Providing early access to interventions**

Testimony provided by one expert noted that within their organisation there has been a reduction in the proportion of sick leave that has been considered to be related to 'back problems'. The expert considered that this is in part due to increasing the provision of fast track physiotherapy, targeting areas with higher prevalence of cases and a general increase in education and assessment.

ET I.1

- **ET3 Collecting data to enable the sickness absence profile and changing trends to be monitored**

Testimony provided by one expert highlighted the use of data and insights to target areas with high or increasing sickness absence and respond to emerging trends. The expert considered that this data can help the organisation target specific interventions and resources where they are most needed.

ET I.1

- **ET4 Involving an impartial party to agree workplace adjustments**

Testimony from two experts indicated that if relationships between an employee and their line manager are difficult, or workplace adjustments to facilitate return to work are complex, it can be helpful to involve an impartial party to help reach an agreement.

ET I.1, ET I.2

- **ET5 Increasing awareness of the availability of support services**

Testimony from one expert noted the need to educate employees about the availability of, access to and remit of support services, tools and resources.

These include services such as employee assistance programmes, occupational health advice and services such as fast track physiotherapy and counselling.

ET I.1

- **ET6 Structured support plans for those returning to work after absence due to a mental health condition**

Testimony from one expert described the use of individual support plans and supportive monitoring to facilitate return to work among employees who have either been absent due to a mental health condition or who are struggling to remain in work because of their condition. The intervention involved the development of an individual support plan with a vocational rehabilitation consultant, 6-months of support (with fortnightly telephone reviews) and 3-months of supportive monitoring.

ET I.2

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee agreed that a full return to the regular work and hours worked by the individual, subsequently sustained for four or more consecutive weeks, is the most important outcome for decision-making. Consideration of the time it takes for employees to make a full return to work is also important.

The committee agreed to focus on full return to work (RTW) (to the hours worked by that individual) as the optimum outcome for the development of recommendations. They noted that partial RTW is often not defined with any consistency. Furthermore, in many studies, a gradual increase in working hours was, in fact, an integral component of the intervention process and could not therefore be considered a discrete outcome.

The committee discussed that achieving a full, sustained RTW (to the hours worked by that individual) needs to be balanced against evidence of any potential adverse or unintended intervention effects, such as indicators of presenteeism or a recurrence of sickness absence. Such outcomes may indicate that the employee has felt pressure to return to work too soon in their recovery or has not been sufficiently accommodated and supported on their return to the workplace.

This review question is focused on interventions to help people on long-term sickness absence return to the workplace. The committee considered that any impact these interventions and RTW may have on health-related quality of life is also of importance for decision-making. Though they did discuss some concerns with the validity of these outcomes as even in the absence of a specific intervention, health-related quality of life is likely to improve if the condition that is causing the absence abates.

Effectiveness studies were identified in this review that reported on the primary outcomes of return to work and long-term sickness absence. These studies did not report the secondary outcomes of psychological or social functioning or adverse/unintended effects, one study did report of quality of life.

The acceptability and preferences of both employees and employers are likely to impact on the success or otherwise of the interventions. There will also be workplace and management factors that may facilitate delivery of interventions. The committee considered these as important outcome areas to explore and include in any development of recommendations. The included qualitative studies explored these areas.

The quality of the evidence

Effectiveness review

The majority of evidence considered for this review question related to populations where the reason for long-term sickness absence was attributable either to musculoskeletal or mental health conditions. Two further RCTs were included in which the study populations were mixed in terms of the primary reason for sick leave but again, the majority were musculoskeletal or mental health in nature (although outcomes were not reported separately by health condition in either study). The view of expert testimony and the committee was that these two populations represent the most consequential groups of those who have recurrent short term or long-term sickness absence. There was further discussion around the increasing proportion of absences that relate to mental health conditions, and that this may not be a sign of an increasing incidence but an increasing awareness of workplaces and decreasing stigma for those with these conditions in feeling able to attribute their absence from work to them.

The committee agreed it was not appropriate to statistically pool data across the two categories of health condition. The committee considered that it is likely that the content of interventions and the personnel delivering them would differ depending on whether the primary reason for sickness absence was musculoskeletal or mental health, and this may impact on resource and training issues relating to any recommendations made. The committee further noted that there may be different general recovery trajectories, where musculoskeletal problems are likely to resolve over a shorter timeframe than mental health conditions, which in turn would impact on RTW outcomes.

The committee discussed and agreed the categorisation of interventions into: (i) interventions focused on the individual employee; (ii) interventions focused on the workplace environment or situation, and (iii) interventions combining elements of both approaches. There were several studies that included outcomes that occurred in more than one of these categories. The committee considered that these categories would be representative of how interventions could be applied in practice.

The committee discussed some of the challenges of undertaking research in workplace health interventions, including potential study biases such as blinding of study participants and personnel, including those making decisions about fitness to resume work. The committee discussed that this could substantially affect their ability to confidently recommend interventions used in these studies and agreed the risks of the biases identified and the downgrading of the evidence that is reported in the GRADE tables.

The committee noted that only two of the included studies had been completed in the UK. Other studies came from The Netherlands, Sweden, Denmark, Norway, Switzerland and Canada. These countries differ from the UK in terms of sickness absence certification and management procedures, including the degree to which occupational health services are involved. There is also variation between countries in the systems for compensating sick workers, including who the payer is, when they assume responsibility, what proportion of employees' wages is replaced and the duration of their eligibility.

The committee discussed and agreed that while these studies do provide evidence relating to the effectiveness of the interventions they considered, they cannot be considered directly applicable to the UK context. The committee agreed the downgrading in the GRADE tables for the indirectness of much of the evidence identified.

Furthermore, in the committee's opinion, the models of usual care forming the comparator condition in the majority of these non-UK studies are more active (in the context of managing sickness absence and facilitating a return to work) than the usual care generally experienced by UK employees on sick leave. Many of the studies also made reference to difficulties with recruitment and had considerable attrition rates throughout the study; the committee noted this and considered that it may have affected the representativeness of those who completed the studies. The committee agreed the reflection of this in the risk of bias of the studies. This raises further questions about the effect sizes that may have been generated as the contrast between the two treatment conditions may have been relatively small.

The committee discussed and agreed for most of the included outcomes the evidence was low or very low quality; for a small number of outcomes there was moderate quality evidence. The committee agreed that they could develop recommendations, however considering the acknowledged limitations and quality assessment of the evidence, the committee agreed that they would not make strong recommendations.

Musculoskeletal conditions:

The committee noted that throughout there were few interventions that showed any evidence of effectiveness. For the individual-focused interventions in those with musculoskeletal conditions there was some evidence of the effectiveness in the return to work at 3months and in the reduction in sickness absence at 12months. The committee discussed the analysis of two studies that showed significant increases in return to work at around 3months (graded activity, multidisciplinary outpatient treatment with biopsychosocial focus) and the study that showed a decrease in sickness absence at around 12months with graded activity and group education. The committee also discussed that there was a study identified in the workplace based interventions that used a participatory worksite assessment, agreement and implementation of a participatory ergonomics intervention or other job modifications., This study showed a significant reduction in the time to return to work over 12 months. The committee noted that none of the combined intervention studies showed evidence of effectiveness in musculoskeletal studies.

As in the overall discussion of the evidence the committee noted that the evidence review had identified low or very low quality evidence and that the studies had limitations in the direct applicability to the current UK context and the committee agreed they should be treated with caution. The evidence suggested that interventions such as those that aimed to strengthen individuals' physical and mental health resources, and those focused on reducing potential barriers at the level of the

workplace could help facilitate return to work. Accepting the limitations, the committee did note the potential effectiveness of interventions similar to this and agreed a recommendation to consider the use of interventions of this type in those who are absent from work with musculoskeletal conditions.

No improvements in return-to-work outcomes were associated with combined interventions. The committee therefore felt that the observed lack of effectiveness of combined interventions was likely due to population and comparison group heterogeneity, given that individual- and workplace-focused interventions had separately demonstrated some benefits in musculoskeletal populations.

Mental health conditions:

Across the included evidence there were no effects found favouring individual-focused or workplace focussed interventions in mental health populations. One study of a combined intervention of occupational therapist-delivered work reintegration programme and CBT found some evidence of increased return to work between 7-12months (34% compared with 23% in the control group). The committee discussed and agreed that overall the interventions included in the studies identified did not show evidence of effectiveness in those with mental health conditions. They discussed that it was unclear to what degree this reflected a failure of the interventions studied, or a failure of their implementation. The committee discussed the variability in the interventions and the contribution that was likely to have made to the heterogeneity identified in the pooling of the data in studies with participants whose absence from work was linked to mental health conditions. The committee agreed that with only 3 studies where heterogeneity was greater than 75%, any further subgroup analysis would not provide any further information. They considered the individual findings in the studies in these analyses and noted that these did not show evidence for the effectiveness of the included interventions. They considered that the differences in these studies was likely to have been due to the variability in both the interventions and controls used and the differing populations in the studies. The committee did discuss one study that considered employees who had already resumed work following absence for mental health conditions. It consisted of a structured problem-solving and supportive monitoring intervention, delivered by the employee's occupational physician. This significantly reduced the probability of a recurrence of sickness absence over 12 months though this effect had not been found at 3 or 6months. The committee noted the limitations of this study, such as that they had not been able to recruit the intended sample size, that there were differences in the baseline populations of the intervention and control groups. While the committee considered that this study did indicate that this intervention may be effective, they considered that this small study with considerable limitations did not provide enough evidence to recommend this specific intervention.

The committee also heard from an expert who supports people with mental health conditions that have resulted in them being absent from work or struggling to remain in work. Their testimony described the use of individual support plans and supportive monitoring (see Appendix I). Based on this evidence and their expertise, the committee noted that such interventions are considered to be good practice for people with long-term absence due to common mental health conditions.

Mixed health condition populations:

The three RCT studies undertaken in mixed health populations examined effects of very different interventions so results could not be pooled. One individual level intervention study found no evidence of an increased return to work associated with a

minimal postal intervention. A second individual level intervention found no change in return to work with a GP based intervention. Additionally, no differences were found in rates of return to work after 42 weeks in a large UK four-arm trial which compared an individual, a workplace and a combined intervention with a usual care control group. Though there were small positive associations with some quality of life domains, the committee agreed that multiple hypothesis testing could explain these significant findings. The UK based observational study that considered a case management service did show a reduction in the percentage of 4week absences continuing beyond 8weeks, though the committee noted that it did not identify any overall reduction in mean days lost to all long-term sickness absence. The committee considered that this provided some low quality evidence for considering the importance of early intervention, where possible, and reflected this in their development of the recommendations in this area.

Summary

Overall the committee discussed that there was greater variation in terms of content, intensity and mode of delivery in the studies involving those with mental health conditions than was observed in the individual-focused RTW interventions evaluated in populations with musculoskeletal conditions. This can be seen in that most mental health studies included in the review consisted of combined interventions. There was a large amount of heterogeneity in terms of both interventions and comparators studied and no significant effects were found on any outcome. The committee discussed the low-quality assessment of most of the included studies, the lack of evidence of effectiveness and the variety in the interventions included. Nonetheless the committee considered it important to provide guidance for returning to work after long-term absence relating to mental health conditions. Specifically, the committee discussed the overall importance of facilitating the most effective return to work for those who have been on long-term sickness absence. They noted that continuing long-term absence from the workplace can have a serious detrimental impact on individuals' long-term health, financial security and social inclusion.

Mental health issues increasingly account for a significant proportion of long-term sickness absence from work. This is reflected by the availability of more new evidence from studies in mental health populations since the original guideline was published in 2009. The committee discussed the lack of any clear evidence of effectiveness of any RTW interventions in these studies. They discussed the possibility that to some degree this could be due to greater heterogeneity both in interventions and comparators than was the case for studies in musculoskeletal populations. Recruitment difficulties are frequently experienced in mental health research. Lack of target numbers of participants combined with wider variability in the outcomes of interest may differentially impact on the precision of effect estimates generated in mental health compared with musculoskeletal studies in this area.

The committee considered one large UK based study that had considered before and after a joint working initiative between OH and HR departments. This study was of a mixed population of employees of two NHS hospital trusts. It identified a reduction in baseline of 4-week absences but no overall reduction in days beyond 4weeks for all long-term sickness absence. The committee noted that this UK based observational study was the only non RCT evidence included and that it had additional limitations, such as that there were differences between sites in the workforces, proportions of full and part time employees and rates of long term sickness attributable to mental health disorders. Nonetheless they considered that it provided support for importance

of wider management support to enable the facilitation of return to work initiatives and the need to evaluate implemented programmes.

Considering the low quality of the evidence identified and presented in the evidence reviews and the committee concern that most of the evidence reported on settings that are very different from the UK workplace context, it was agreed to seek further views from UK expert organisations.

The committee discussed the testimony provided by experts and noted the importance of culture of the employing organisation in the successful implementation of return to work policies and procedures, that these will enable the return to work process. The committee further discussed the importance of ensuring that these policies and procedures are reviewed to ensure that they are implemented consistently and fairly and are fit for purpose. An expert in occupational health also highlighted the utility to those within organisations, and in the wider context, who are planning and developing services to assist with return to work in having accurate, recent and non-identifiable data that can help to describe trends and changes in absence profiles. The committee considered that the data that would be most helpful to those reviewing absence profiles and changing trends would include the duration and frequency of absence, cause of absence (and whether work related), and other factors that may be associated with absence.

The expert testimony provided further support to the importance of considering early appropriate referral to others' services such as occupational health. Experts and the committee discussed the importance of the person taking sickness absence feeling that they can discuss this with someone in their workplace; this may be their line manager, but it may also be important to ensure the availability of another independent person.

The committee agreed the recommendation should include options for employers with occupational health access to arrange provision of a therapeutic programme of graded activity or psychological problem-solving for the absent employee, as there is some, albeit limited evidence that these interventions increase return to work and may reduce subsequent recurrence of sickness absence among employees absent due to musculoskeletal conditions. Employers may also wish to consider how the workplace environment might temporarily adapt to meet the health needs of the absent employee. There is some evidence, though again limited, that time to return to work is reduced when flexible modifications are agreed between employee and employer as part of a planned return to work process. The committee agreed that where possible, this should be facilitated by an independent person.

Qualitative review

The committee considered the qualitative studies included and agreed that these UK based studies provided appropriate evidence that could be used to develop recommendations to support the facilitation of returning to work for those who have experienced long-term sickness absence. The committee agreed the moderate to low quality assessment of this evidence, noting there was often lack a of detail on the content and development of topic areas and overall lack of analytical detail.

The committee further noted that these studies did not report if and how subjects were supported, and their health monitored following work resumption.

Workplace policies

The committee agreed that there is evidence from qualitative studies that workplace policies on sickness absence and return to work help reduce uncertainty for both employees and employers but only if properly implemented. Therefore, the committee agreed to make recommendations aiming to encourage successful implementation of workplace policies, including implementing a commitment from the top level of management and including workplace policies for managing sickness absence in the induction process for new employees. There is also evidence that funding access to early intervention opportunities through an occupational health provider or Employee Assistance Programme is seen as beneficial and may help to reduce sickness absence rates and facilitate more sustainable return to work.

The committee agreed that it is important for all sizes of organisation to clearly communicate their policies and procedures to staff so that employees and their managers know what is expected of one another during an episode of sickness absence and when a person returns to work. The committee discussed that it cannot be assumed that policies are currently in place and being appropriately implemented. They further discussed that smaller organisations, in particular, may not have such policies in place and that it is important that all employees are aware of the procedures for reporting and managing sickness. They noted it is also important that micro-, small- and medium sized organisations are supported so they can support their employees.

The committee noted that focus of the guideline is on managing sickness absence among all employees, regardless of whether they have a disability or long-term condition covered by the Equality Act 2010. Although they were aware that organisations should also have policies and procedures in place for managing disability leave, this area is not included within the scope of the guideline. The committee noted that there are legislative requirements about health and disability for employers and that the recommendations in the guideline should be considered alongside those requirements.

Statement of fitness for work and making workplace adjustments

There was evidence that fit notes can provide employers with useful information to support communication with absent employees and plan workplace adjustments to ensure a safe and sustainable return to work. The committee noted the evidence that the fit note can help in enabling negotiation and communication. They noted it is important to discuss adjustments with the returning employee and noted some evidence that suggests that being able to have such a conversation may depend on a good relationship between an employee and their line manager.

There was some evidence that employers have concerns about employee expectations and potential conflict where adjustments cannot be accommodated, and this may lead to GPs and employees feeling undermined if suggestions cannot be acted upon. The committee agreed that recommendations should be made on what employers should do if adjustments cannot be agreed. They agreed that the reasons why an adjustment could not be made, should be explained clearly in writing to the employee in order to prevent conflict. They also agreed that with the employee's informed consent, a copy should be sent to the certifying healthcare professional. This is because the evidence suggests that the healthcare professional may not always be aware of the feasibility of making the suggested adjustments in a particular

workplace. The committee felt that could be helpful to the healthcare professional in the future.

There is a small amount of low-quality UK evidence to suggest that some colleagues may resent adjustments being made to the returning person's role or workload. However, other similarly limited evidence noted that other staff members can be understanding about workplace and role adjustments and help with supporting their colleagues' return to work. The committee noted that to maintain relationships and productivity in the wider team it may be helpful to explain the reasons for the adjustments and give colleagues the opportunity to raise any concerns. It is important that this is only done after discussion with the returning person and with their informed consent.

The committee agreed that it is important to keep a written record of the adjustments that have been agreed in a written return-to-work plan. This should be based on the individual employee's needs and their role in the organisation and as such there will need to be some flexibility in terms of what the plan covers. The committee agreed it is important to regularly review the return-to-work plan to ensure that it continues to meet the person's needs as their recovery progresses and to amend them if necessary. It can also be helpful, when reviewing how the adjustments are working, to remind the person of any other interventions the employer may provide, if these are available.

The committee's recommendations on making adjustments to support people to return to work focus on all employees. But they noted that if someone has a chronic or progressive illness or disability covered by the Equality Act 2010, the employer has a legal obligation to make reasonable adjustments in the workplace. This legal obligation applies to all employees with an illness or disability covered by the Act, not just those returning from sickness absence. However, the committee noted that particular consideration may need to be given to adjustments when an employee with a disability or condition covered by the Act is returning from sickness leave, to provide them with the best possible support.

Keeping in touch

The committee agreed that the evidence suggested that keeping in touch with those who are on sickness absence helps employees feel valued and more confident in their return to work. Evidence also suggested that keeping in touch arrangements were helpful for employers for workforce planning and understanding what return to work adjustments could be made.

The committee were aware from the evidence that the manner and the content of communication impacted the employees' decisions around returning to work. The committee discussed the evidence that there may be concerns from employers about contacting employees. The committee considered that is important that those who are on long term sickness absence are kept in touch with and that there is a need for sensitivity and discretion balanced with a need for open, empathetic and non-judgemental communication. The committee noted that it is important to reassure people that anything they share about their health will remain confidential. However, they acknowledged that in circumstances when there are serious concerns for the wellbeing of the employee or others, information may have to be disclosed in order to meet an employers' duty of care, or to meet professional or legal obligations. These considerations should enable the provision of the best support and facilitate appropriate workplace adjustments.

There was evidence that relationships with line managers can influence how regular contact is viewed, and the committee agreed based on this evidence that the line manager may not always be the best person to make contact. The committee discussed that it may be important for employees to have an option of communicating with other representatives of their employer.

Early intervention

There was a small amount of low quality evidence from UK studies, and the committee agreed, that providing access to an employee assistance programme or occupational health is seen as good practice. In the case of employee assistance programmes, evidence suggested that employees are often unaware of their availability or what they can offer; some employees also expressed concerns around confidentiality and stigma. The committee agreed that it is important that employees know how to access employee assistance programmes independently and without needing to ask their employer.

There was some limited evidence that access to early intervention opportunities via an occupational health provider is seen as beneficial and may help to reduce sickness absence rates and support sustainable return to work. The evidence suggested that the referral process can, at times, be misconstrued as punitive by employees, the committee noted the importance of both considering early referral and ensuring that the potential benefits and reasons for the referral are clearly discussed with the employee.

Assessing and certifying fitness for work

The committee discussed evidence that GPs find sickness certification time-consuming and some may feel they do not have the occupational health experience or knowledge of the individual's workplace to make suggestions for workplace adjustments. There was also some evidence to suggest that certifying sickness absence may conflict with their role as patient advocate. The committee noted that other medical practitioners were also likely to experience the same challenges. The committee agreed that the most appropriate person to complete a fit note is the practitioner with the most relevant recent knowledge of the person's reason for sickness absence. In many cases this will be a GP, but it could also be a person's specialist in secondary care. The specialist may be able to provide more information than the GP on the anticipated effects of treatment, timeframes for rehabilitation and return to work adjustments.

The committee were aware that the government is considering changes to allow other healthcare professionals to complete fit notes in addition to medical practitioners (see Improving lives: the future of work, health and disability). Fit notes are currently only completed by medical practitioners and the recommendation reflects the situation at the time of publication (November 2019).

There was some evidence that the fit note can be used to support the employee by making suggestions for workplace adjustments that will prompt the organisation to deal with these issues. There was also evidence that some employers can find fit notes unsatisfactory, as there may not be sufficient information on the functional effects of the health condition, making the employer concerned about possible risks of the employee returning to work if not fully recovered. The committee therefore agreed to make a recommendation encouraging fit notes to clearly state how the

employee's health condition or treatment might affect them in their work so appropriate support and adjustments can be provided.

There was also some evidence from a small number of UK studies that showed it is important to avoid people becoming disconnected from work during their absence. Keeping in touch regularly with the workplace is important for building the person's confidence to return, monitoring their recovery and maintaining a focus on the goal of returning to work

The committee noted that although there are substantial limitations in the evidence, particularly the lack of UK-based studies, it is important to not discourage use of what is considered to be good practice due to lack of clear evidence of effectiveness.

Benefits and harms

Except for a few studies that measured recurrent sickness absence following RTW, adverse events associated with interventions (for example, presenteeism) were either not reported or were reported as not having been experienced by study participants. The committee was unable to draw clear conclusions regarding potential harms associated with RTW interventions. The effectiveness review did not provide evidence as the studies did not report on any adverse events that may have occurred. The qualitative evidence provided some evidence on the potential harms around keeping in touch with employees and how that may be viewed.

The committee noted the important contextual information provided by the qualitative studies and that as these were all UK studies this could be considered directly relevant evidence.

In reviewing the effectiveness of interventions, a study of people returning to the workplace following an absence for mental health reasons was identified. Those who received a structured monitoring intervention from their occupational physician (which included problem-solving strategies), were significantly less likely to experience recurrent sickness absence within 12 months compared with controls. The committee agreed that it is good practice for employees, in their first few months at work after a long-term absence due to a common mental health condition, to be encouraged to identify problems they encounter and to be offered regular, structured support to help overcome these and maintain their health and wellbeing.

In the committee's opinion, there was an overall trend in analyses of RTW outcomes in musculoskeletal populations for point estimates to favour both individual- and workplace-focused interventions, but for reasons previously outlined, many of these effects failed to reach statistical significance. The committee discussed the lack of evidence on any possible harms of the interventions. Noting this, they discussed the importance of regular review and communication between employees and employers, including the possibility of raising any concerns with an impartial person. This was reflected on during the development of recommendations which include these aspects.

The evidence was less clear for all types of intervention in populations absent from work due to mental health conditions. As with the studies in those with musculoskeletal conditions these studies did also not report on possible adverse effects of the interventions. The committee considered that not making recommendations for those whose absence form work is related to mental health conditions would not be appropriate as it is important that those returning to work have appropriate support to do so. Following discussion of the evidence, using their

experience and expertise, the committee felt confident recommending that people resuming work after long-term absence for a common mental health condition are offered appropriate structured support and monitoring to help alleviate any recurrent problems.

The committee discussed that senior leadership should ensure that workplace policies are implemented with fairness and consistency across the organisation. The committee noted that the evidence suggests that a positive workplace commitment to employee health and wellbeing should underpin development of sickness absence and return to work policies; organisations should take account of NICE guidance on Workplace health: management practices.

Cost effectiveness and resource use

The committee noted the lack of health economic literature directly applicable to the UK. And even though it was mixed, they were mindful that overall it suggested interventions for people on sick leave due to musculoskeletal disorders including back pain or common mental health conditions to support them to return to work could be cost effective. Therefore, a new health economic model was developed to determine how cost-effective an intervention will be in helping employees on sickness absence to return to work.

Because the committee were concerned that interventions and size and type of organisation vary greatly and a myriad of factors can impact sickness absence and return to work the model adopted a generalised approach. Multiple sensitivity analyses were carried out which showed the results varied greatly by key model inputs such as the cost and effectiveness of the intervention, reduction in absenteeism and baseline rate of absenteeism.

The committee noted that the results of the model reinforced the findings of the cost effectiveness review - that interventions for people on sick leave due to musculoskeletal disorders or common mental health conditions could be cost effective. However, they were mindful that these results are influenced by multiple factors some of which are specific to the local conditions and that these may explain the mixed findings reported earlier.

The committee also noted that the analysis showed in general a company with high turnover costs or costs of absenteeism will likely benefit from an intervention to reduce sickness absence, particularly if the intervention is effective and less expensive than the overall costs of absenteeism or replacing a worker. The committee were aware that the reverse is also true. For example, an organisation with low baseline turnover costs or low levels of absenteeism will find it more difficult to realise cost savings by implementing an intervention aimed at reducing sickness absence, though this does not mean that other factors could not also benefit the organisation. The committee appreciated employers may be interested in factors other than pure cost savings for example if the organisation is willing to pay for an intervention that will benefit the workers and the organisation itself.

The committee noted that the results were influenced by multiple factors that are highly dependent on factors specific to each organisation as well as external factors such as the individual's personal life, labour market and culture of the workplace. They also noted that some identified benefits could not be quantified suggesting that the overall benefits might be greater than those reported by the model. So the

committee concluded that such interventions could offer good value for money dependent on local circumstances.

The committee discussed that the resource implications are likely to be greater for micro-, small- and medium-sized organisations in setting up and successfully managing return to work processes.

Other factors the committee took into account

The committee was also concerned to note that observed failure of interventions may in fact reflect failure in the implementation of interventions. The real and perceived stigma and discrimination associated with having a mental health condition can negatively impact on an individual's willingness and motivation to engage with their employer in return to work process, particularly if work is a contributing factor to the employee's mental health issues. In some of the included mental health studies it was evident that participants did not engage fully in particular with workplace-focused interventions.

There are a myriad of motivating and contextual factors that determine sickness absence behaviour. Although some studies attempt to control analyses of RTW outcomes for individual motivating factors such as job satisfaction, control, perceived quality of relationships with managers and co-workers and so on, sickness absence behaviour is also shaped by socio-cultural, political and economic contexts with links to legislation, policies, procedures and practices. It is therefore difficult to compare studies undertaken in different countries; findings cannot be assumed to generalise to other contexts. The committee concluded that significantly more UK research is needed in this area and therefore made a series of recommendations for further research.

Experts further noted that, within the UK, there has not been robust evaluation of workplace programmes. While they noted that this has improved, it remains very important to have robust data. The committee further discussed this and agreed that it was important to include in recommendations the need to evaluate. This is also reflected in the research recommendations that the committee have proposed.

In addition to the evidence from reviews, expert testimony from four topic experts was provided to supplement and provide additional context to areas with limited published evidence. The process of identifying the experts and gathering and using their testimony, is described in the methods chapter. Summaries of the testimonies provided can be found in Appendix I of this review.

In formulating the recommendations, the committee also drew on good practice. For example, they agreed that when an employer receives a fit note, they should start a confidential record that notes the reason for, and the anticipated length of, absence and any comments from the medical practitioner about how the person's condition may affect their capability to work. They agreed that it would be good practice to do this for every absence for which a fit note is received, because it may not be immediately clear when an absence may become long term. In addition, keeping such records may also help to identify recurrent sickness absence. Likewise, the committee were aware that it is a legal requirement for employers to carry out risk assessments to ensure a healthy and safe environment in the workplace and that

guidance on these is available from the Health and Safety Executive[1]. They discussed and agreed that it is good management practice to undertake an additional risk assessment for a person returning from sick leave and before making workplace adjustments.

The committee also drew on their knowledge and experience of the field when developing the recommendations. For example, they were aware that there are various potential sources of expert advice available to help managers understand the effects of particular health conditions or treatments if the employing organisation does not have its own occupational health adviser. This may include online information and resources that give vocational advice and specific advice relevant to the employee's particular condition. Likewise, they were aware that there are various online resources to support employers in communicating with absent employees. Although conscious they had not reviewed individual resources and that these may change over time, the committee noted in their recommendations that information from organisations such as Public Health England, and some voluntary sector organisations may be helpful.

The committee considered equality issues throughout the guideline development process. For example, they noted that where people are absent for reasons that relate to an illness or disability that is covered by the Equality Act, managers may feel additional concern about the appropriateness of contacting them. The committee noted that these concerns may lead to those who have an illness or disability covered by the Act, being disadvantaged compared to others and agreed that policies on keeping in touch should be followed with everyone who takes sickness absence. Full details of the committee's equity considerations are in the Equality Impact Assessment.

Potential resource impact was also considered by the committee when developing recommendations. For example, in making their recommendations on assessing and certifying fitness for work, the committee agreed that the GP is well placed to explore the potentially complex reasons for sickness absence. They also agreed that they may be particularly well placed to refer people to rehabilitation and support services. However, although they noted from the evidence that it is important to avoid people becoming disconnected from work during their absence and recommended keeping in touch with the workplace, they did not specifically recommend keeping in touch regularly with the GP. This was because this may have a resource impact that had not been assessed.

Committee discussion and agreement also informed the development of some recommendations. For example, when keeping in touch with absent employees, the committee agreed it would be helpful to provide a timeframe for making initial contact. Through discussion, they agreed that the timing of initial contact should take into account the personal circumstances of the employee and their reason for, and anticipated length of absence. They agreed the aim was to provide support and to help prevent a short-term absence becoming a long-term absence. However, they also considered the need for flexibility, particularly where sickness absences may be planned or where recovery will clearly take longer than 4 weeks. For example, for recovery from surgery or cancer treatments.

[1] See Regulation 3 of the Health and Safety Executive's Management of Health and Safety at Work Regulations 1999.

Rationale for research recommendations

There is a dearth of UK randomised controlled trials and controlled observational studies of the effectiveness and cost effectiveness of interventions to reduce long-term sickness absence, to reduce recurring short- term sickness absence and to support people to return to work following sickness absence.

The majority of published research in this area is not UK based and frequently involves interventions that are based in systems for managing sickness absence that are different to those in the UK. Alternatively, those that may appear effective in a different system, may be used in the UK, where their effectiveness may differ because what would be considered the 'usual care' in the system that they work in, to which they are compared, differs from that available in the UK. The committee considered the evidence presented to be relevant and that they could use this with expert testimony and their expertise to develop recommendations. Nonetheless they had concerns about the direct applicability of the evidence to the UK setting and considered that UK research in this area could contribute substantially to ensuring that the most effective support is available to those returning to work. In addition, they highlighted the importance of evaluating newly implemented approaches to supporting people to return to work following sickness absence, to inform future practice in this area.

The committee viewed that interventions for those with common mental health conditions should be a research priority. This group may experience recurrent and long-term sickness and there is a lack of evidence on supporting their return to work. The committee recognised that reasons why a person may take sickness absence may be complex. Consequently, they agreed that research studies should aim to capture the context of the sickness absence and the preferences of participants in supporting them to return to work, alongside data on whether they have been able to return to work.

The committee further discussed that it may be likely that those in lower paid sectors and those working in the gig economy, may be less likely to have access to interventions which may help to reduce sickness absence and support them in returning to work. The committee therefore wanted to ensure that these future studies also include possible subgroup analysis to consider interventions in those that may be harder to reach.

The committee were conscious that their recommendations may be more difficult to implement and have more potential resource implications for smaller organisations. This is because they may not have access to an occupational health provider or some of the other services such as employee assistance programmes which larger organisations may provide. The committee also considered that a substantial proportion of the research and publications within this area are based in large and/or public sector organisations. They were aware that around 43% of employees in the UK are employed by small- or medium-sized organisations. Therefore, the committee noted the importance of future research in these settings. UK based, randomised controlled trials or controlled observational studies of interventions that are effective and cost effective in supporting people who work in these settings to return to work, after sickness absence is needed. In addition, qualitative studies of the challenges and potential solutions faced particularly by employers and employees in smaller organisations is needed.

They also noted that many research studies tend to take place in large public sector organisations and in organisations in which employees are centrally located rather than ‘out in the field’. They noted from expert testimony that although there are some examples of good practice among smaller organisations and those with employees largely located in the field, they face different challenges in implementing interventions. In addition, they noted employees based in rural settings may not be able to access interventions as easily as those based in more urban settings.

The committee considered that it is important to explore how interventions may or may not work within smaller organisations and those who are not centrally located, where processes and access to services may be different to larger organisations.

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Appendices

Appendix A – Review protocols

Review protocol [C] for facilitating return to work of employees on long-term sickness absence and reducing risk of recurrence

Field (based on PRISMA-P)	Content
Review question	3a. What interventions, programmes, policies or strategies are effective and cost effective in: • helping employees on long-term sickness absence to return to work? • reducing the recurrence of long-term sickness absence following a return to work? 3b. Are the interventions, programmes, policies or strategies acceptable to employees, employers and other key stakeholders, and what are the barriers and facilitators to their successful delivery?
Type of review question	Mixed methods (intervention and qualitative)
Objective of the review	To identify which interventions, programmes, policies or strategies are effective and cost-effective for helping employees return to work following an episode of long-term sickness absence, and for reducing the risk of a recurrent episode of long-term absence. The review question will also examine whether effectiveness (and cost effectiveness and acceptability, where appropriate) varies according to a range of factors, including how the intervention is delivered and by whom, the population receiving the intervention and any particular subgroups in whom the effects of an intervention might be expected to differ (e.g. gender, age, presence of a long-term health condition or disability).
Eligibility criteria – population	Individual level Adults over the age of 16 in full- or part-time employment, both paid and unpaid, who: • are currently absent from work for 4 or more consecutive weeks due to sickness or • have returned to work in the past 6 months after an episode of long-term sickness absence (lasting 4 or more consecutive weeks) Organisational level All employers in the public, private and 'not-for-profit' sectors
Eligibility criteria – intervention(s)	Any interventions, programmes, policies or strategies that aim to increase the return to work of employees who experience an

Field (based on PRISMA-P)	Content
	episode of long-term sickness absence (≥4 consecutive weeks) and / or prevent the recurrence of long-term absence. Examples may include: ○ risk assessments, modifications and reasonable adjustments to the physical and organisational work environment ○ training for line managers in handling and monitoring sickness absence ○ linking line managers' performance to the way they deal with long-term sickness absence ○ training for general practitioners in handling sickness absence ○ early referral of employees on long-term sickness absence to occupational health professionals, GPs or organisations offering employee assistance programmes ○ coordinated return to work programmes (this may include occupational therapy, workplace ergonomics, physical and psychological therapy) ○ information (including mental health support) and training for employers ○ information and support networks (including mental health support) for employees ○ physical conditioning and exercise programmes (that simulate work or functional activities in a safe and supervised environment). ○ flexible working and work-life balance policies for employees (including carer's and special leave when families have problems) ○ therapy (such as cognitive behavioural therapy) or stress counselling. <u>Setting</u> ○ any workplace, primary care or community setting where interventions can be delivered (including employees' own homes) ○ any setting to which an employer, workplace occupational health service or primary care practitioner could refer an employee who is experiencing sickness absence (for example, a physiotherapy service or a counselling service) ○ any other setting where an employer or primary care is involved in planning, commissioning, delivering, managing or funding an intervention to enable someone to return to or remain in work. <u>Delivered by:</u> ○ any workplace, primary care or other voluntary, private or statutory sector provider(s) ○ any mode, duration and frequency of contact, including face-to-face (individual or group-based), telephone, DVD or other digital media (e.g. online programs or mobile apps), and/or use of written materials.

Field (based on PRISMA-P)	Content
Eligibility criteria – comparator(s)	Any of: • other active comparator (intervention, programme, policy or strategy) for facilitating return to work and preventing recurrence of long-term sickness absence • no work-related intervention, programme, policy or strategy • usual workplace sickness guidance (usual care)[1] • time (before and after studies) [1] where the study comparator is 'usual workplace sickness guidance (usual care)', specific details will be extracted into evidence tables, where reported, to enable the committee to determine generalisability of the comparison to the UK context

Outcomes and prioritisation	**Quantitative outcomes (3a)**
	Effectiveness and cost effectiveness outcomes will be examined cumulatively (over the duration of the study), and separately for three different time periods: short-term (up to 3 months), medium-term (between 3 months to 1 year) and long-term (more than 1 year), where evidence allows.
	
	<u>Primary outcomes</u>
	• Return to work (paid or unpaid)[1]. Measured as any of:
	  ○ Proportion returning to work
	  ○ Proportion assessed as capable of returning to work – physical or functional assessments using validated or self-report measure, clinical indicators or clinical opinion
	  ○ Time taken to return to work
	  ○ Hours worked per week / month
	  ○ Proportion who take ill-health retirement
	• Long-term sickness absence (following the return to work, for those on long-term sickness at baseline) - as reported by the authors, including:
	  ○ Proportion with any long-term sickness absence (4 or more weeks duration)
	  ○ Number of episodes of long-term sickness absence (per participant)
	  ○ Number of days sick leave per episode
	  ○ Total number of days sickness absence
	
	<u>Note on outcomes:</u>
	
	'Sustained RTW' is a frequently reported outcome in studies, usually defined as a return to the employee's original role and working hours sustained over a given timeframe. As these timeframes differ between studies, RTW outcomes will be categorised, where possible, according to the typology shown in the footnote (below) and sensitivity analyses conducted across short-, medium- and long-term timepoints to establish if effects differ between studies where the reported outcome is 'sustained RTW' vs. 'RTW in any (or a modified) capacity'

Field (based on PRISMA-P)	Content
	[1] Where available, return to work data will be categorised as follows: ▪ original role with same hours ▪ original role with reduced hours ▪ alternative role with same hours ▪ alternative role with different hours. Secondary outcomes • Health-related quality of life (using validated patient-report measures, for example EQ-5D) • Psychological and/or social functioning (using any patient-report measure of, for example, depression / anxiety; job stress; self-efficacy; self-esteem) • Adverse or unintended (positive or negative) effects: *Individual level studies* ○ self-reported 'presenteeism' or work performance; ○ job satisfaction *Organisational level studies* ○ job satisfaction ○ rate of staff turnover ○ number of grievances **Qualitative outcomes (3b)** For types of intervention where there is published, quantitative evidence relating to RTW or sickness absence outcomes, qualitative evidence relating to the following will be examined where available: Participant views on: • The acceptability of the intervention / policy / programme / strategy (including preferences for content, frequency, location, etc.) • Barriers to and facilitators of successful delivery of the intervention / policy / programme / strategy **Cost/resource use associated with the intervention / programme / strategy / policy** The following outcomes will be extracted in reviews of the health economic evidence where available: • cost per quality-adjusted life year • cost per unit of effect • net benefit. • net present value • cost/resource impact or use associated with the intervention or its components
Eligibility criteria – study design	**Included studies** In the event of more evidence being identified than is feasible to consider in the time available, priority will be given to: ○ study design (SRs, RCTs, nRCTs)

Field (based on PRISMA-P)	Content
	○ evidence from a UK context (effectiveness evidence and qualitative evidence) Effectiveness studies Comparative studies, including: • Systematic reviews of effectiveness studies • Randomised controlled trials (RCTs), including cluster RCTs • Non-randomised controlled trials Non-comparative studies: • Longitudinal cohort and 'before-and-after' intervention studies (ie where there is at least one follow up measure after baseline) Qualitative studies • Focus groups or interview-based studies of any type of intervention that has been evaluated quantitatively for effects on employee sickness absence outcomes Economic studies • Economic evaluations • Cost-utility (cost per QALY) • Cost benefit (i.e. Net benefit) • Cost-effectiveness (Cost per unit of effect) • Cost minimization • Cost-consequence **Excluded studies** • Cross-sectional surveys • Epidemiological studies • Correlation studies • Qualitative studies of: ○ interventions where there are no published studies of their effects on sickness absence ○ attitudes, barriers and facilitators to workplace sickness absence / return to work and its management more generally (that is, unrelated to a specific type of intervention / programme / policy / strategy)
Other inclusion / exclusion criteria	**Exclusion criteria** Population • self-employed individuals • pregnant women who have taken sickness absence related to their pregnancy • individuals who are not in employment • mixed populations (for example, study samples that include non-employees, with insufficient disaggregation to enable data relevant to this review to be extracted).

Field (based on PRISMA-P)	Content
	Interventions / programmes / policies / strategies that: • aim to promote workforce general health and wellbeing or prevent the first occurrence of sickness absence or injury (primary prevention) • target pregnant women exclusively or focus on illnesses associated with pregnancy, during the course of a pregnancy • tackle workplace absences that are not reported or recorded as sickness absence (for example, carers' leave or maternity leave) • involve the clinical diagnosis, treatment (including pharmacological treatment) or clinical management of conditions where the primary focus is not on helping the employed person to stay in or return to the workplace • look at the effectiveness of private health insurance schemes, the benefit system or the claiming of statutory sick pay • could not feasibly be implemented by the primary audience for whom this guideline is intended (that is, UK-based employers and their representatives, GPs and occupational health professionals) Studies As this is an update of existing guidance (PH19), studies included in the original evidence reviews which support the recommendations that are being updated will be assessed against the updated inclusion / exclusion criteria specified in this protocol. Studies will be excluded if they do not meet the updated inclusion criteria. Systematic reviews (SRs) identified from database searches will be included as a primary source of data only if they meet the following three criteria: • the SR is directly applicable to the review question; • the SR meets the inclusion criteria for this review; • the SR is of high quality (that is, it is unlikely that additional relevant and important data would be identified from the primary studies compared to what is reported in the SR, and it is unlikely that any relevant and important studies have been missed by the SR). In addition to any SRs meeting the above criteria, other primary studies will be included if they were published after the publication date of the SR and meet the protocol inclusion criteria. Where SRs identified from database searches do not meet the above criteria, they will be citation searched to identify any primary studies not already included in the database that meet the inclusion criteria for this review. Full economic analyses and costing studies identified from searches will be included. Costing data will not be used for the purpose of the effectiveness review. However, any studies identified for inclusion in the effectiveness review that also

Field (based on PRISMA-P)	Content
	report economic analyses or costing information will be flagged to colleagues undertaking the health economic reviews and economic modelling. Only papers published in the English language will be included. Only studies carried out in OECD countries will be included.

Proposed sensitivity/sub-group analysis, or meta-regression	Where sufficient data are available, subgroup analyses or meta-regression will be conducted to address the following review questions:
	
	3.1 What is the frequency, content, length and duration of an effective or cost-effective intervention, programme, policy or strategy?
	
	3.2 Does the effectiveness and cost effectiveness of interventions, programmes, policies or strategies vary for different groups? (For example groups may include: men and women, people of different ages, those with a disability or long-term physical or mental health condition, people with differing levels of socio-economic deprivation or from different ethnic groups)
	
	3.3 Does the effectiveness of an intervention, programme, policy or strategy depend on the person leading it? (What skills, competencies and characteristics are needed?)
	
	The following population subgroups are of interest:
	• gender
	• age: <50 yrs vs. ≥50 yrs
	• long-term physical or mental health condition, comorbidity or disability
	• ethnic group
	• socio-economic deprivation
	• occupational group (e.g. manual vs. non-manual)
	• full-time vs. part-time employed
	• full- vs. partial sickness absence at baseline
	• size of employer organisation: small (<50 employees) vs. medium (50-250 employees) vs. large (≥250 employees)
	
	The following process and structural factors will be of interest in any meta-regression analyses:
	
	• intervention delivery:
	  ○ by [whom]? (skills / competencies / characteristics)
	  ○ [in what] setting?
	  ○ frequency, length and duration
	  ○ timing of start of intervention

Field (based on PRISMA-P)	Content

	• intervention content:
	  ○ use of policies and procedures to monitor / address sickness absence
	  ○ use of risk assessments, modifications and reasonable adjustment to the physical and organisation work environment
	  ○ provision of training for line managers in handling and monitoring sickness absence
	  ○ use of return-to-work interviews
	  ○ use of phased return to work

Selection process – duplicate screening/selection/analysis	The review will use the priority screening function within the EPPI-reviewer systematic reviewing software (see Appendix B for more details). 10% of the abstracts will be blind-screened for inclusion by a second reviewer, with any disagreements resolved by discussion or, if necessary, escalation to a third independent reviewer. If the initial level of agreement is below 90%, a second round of blind-screening will be considered. Only 10% of the search results will be checked as this is an intervention review and there is confidence that RCTs or controlled studies are unlikely to be missed at the sifting stage. The study inclusion and exclusion lists will be checked with members of the PHAC to ensure no studies are excluded inappropriately. 10% of data extraction and critical appraisal will be checked by a second reviewer, with any disagreements resolved by discussion or, if necessary, escalation to a third independent reviewer if agreement cannot be reached.
Data management (software)	EPPI Reviewer will be used: • to store lists of citations • to sift studies based on title and abstract • to record decisions about full text papers • to order freely available papers via retrieval function • to request papers via NICE guideline Information Services • to store extracted data If meta-analysis is undertaken, Cochrane Review Manager 5 / Eppi Reviewer (TBC) will be used to perform the analyses. Any meta-regression analyses will be undertaken using the RStudio software package. Qualitative data will be analysed using the EPPI Reviewer qualitative functionality and summarised using an appropriate qualitative synthesis approach, such as secondary thematic analysis.

Field (based on PRISMA-P)	Content
Information sources – databases and dates	**Database searches** A search for evidence will be carried out in the following databases: • Medline (including in-process records and epubs ahead-of-print) • Embase • PsycINFO • PEDro (Physiotherapy Evidence Database) • Cochrane Database of Systematic Reviews • CENTRAL • Epistemonikos • AMED (Allied and Complementary Medicine Database) • HMIC (Health Management Information Consortium) In addition the following databases will be used to find economic evaluations: • HTA database • NHS EED • Econlit The Medline search strategy is given in appendix B. This will be adapted for use in other databases. The search strategy will not be used for the PEDro database. Instead all systematic reviews and primary studies tagged with *"reduced work tolerance"* in the *problem* field will be retrieved. In the Cochrane Database of Systematic Reviews all published reviews filed under the topic *Health and Safety at Work* or produced by the Cochrane Work group will be browsed for potential inclusion, in addition to using the normal strategy. **Citation searching** Backwards-and-forwards citation searching will be carried out on all included studies; relevant systematic reviews and key studies highlighted in the previous NICE surveillance report. Items which are relevant to the topic but which don't meet the exact review criteria (such as policy documents that cite research evidence) may also be used as a basis for additional citation searching at the reviewer's discretion. Results from citation searching will not be considered if they were published prior to 2007. Forwards citation searching will be carried out on all included studies for review questions 1-3 from the previous NICE guideline (PH19). Searches will be date limited to June 2007 as the previous NICE guideline searches were conducted between June and July 2007.

Field (based on PRISMA-P)	Content
	Websites The following websites will be searched for relevant UK reports or publications: • Department for Work and Pensions Research Reports • NIHR Journals library • General search of the gov.uk portal • Work Foundation • Institute for Employment Studies • Centre for Musculoskeletal Health and Work • Health and Safety Executive research publications • Fit for Work **Limits** The following publication types will be removed at source where possible: • non-English language papers • editorials, letters and commentaries • conference abstracts and posters • books and book chapters • theses and dissertations • duplicates • case reports • historical articles • withdrawn studies **Recording the searches** Results will be saved to an EndNote database and de-duplicated. A RIS file suitable for use in EPPI reviewer will be generated from the deduplicated results. Search dates; the number of records found; the number of duplicate records found and the search strategy used for each source will be reported. **Other notes** The same search approach will be used for review questions 1, 2 and 3.
Identify if an update	The review is an update of PH19: Workplace health - managing long-term sickness absence and incapacity to work [Published March 2009]
Author contacts	Please see the guideline development page.
Highlight if amendment to previous protocol	For details please see section 4.5 of Developing NICE guidelines: the manual

Field (based on PRISMA-P)	Content
Search strategy – for one database	For details please see appendix B
Data collection process – forms/duplicate	A standardised evidence table format will be used, and published as appendix D (effectiveness evidence tables).
Data items – define all variables to be collected	For details please see evidence tables in appendix D (effectiveness evidence tables).
Methods for assessing bias at outcome/study level	Standard study checklists will be used to critically appraise individual studies. For details please see section 6.2 of Developing NICE guidelines: the manual Where appropriate, the risk of bias across all available evidence will be evaluated for each outcome using an adaptation of the 'Grading of Recommendations Assessment, Development and Evaluation (GRADE) toolbox' developed by the international GRADE working group When applying GRADE, where RCTs are considered the best available evidence for the question and outcome in question, they will start as high quality evidence. Where RCTs are not the most appropriate study design for a particular question or outcome, GRADE will be modified to allow for the study design considered most appropriate to start as high quality. GRADE-CERQual will be used to assess confidence in the findings from qualitative evidence syntheses.
Criteria for quantitative synthesis	Studies will be grouped according to the type of intervention as appropriate. For details please see section 6.4 of Developing NICE guidelines: the manual Where primary outcomes of interest are reported as continuous data in studies, the committee will discuss and decide how the data should be reported to enable them to make recommendations.
Methods for quantitative analysis – combining studies and exploring (in)consistency	It is anticipated that included studies will be heterogeneous with respect to participants and interventions. Data from different studies will be pooled and meta-analysed if the studies are similar enough in terms of population, interventions, comparators and outcomes. Methods for pooling cluster and individual randomised controlled trials will be considered where appropriate. Where meta-analysis is appropriate, a random effects model will be used to allow for the anticipated heterogeneity. This assumption will be tested with a fixed effects model.

Field (based on PRISMA-P)	Content
	Heterogeneity in pooled analyses that cannot be explained through the subgroup analyses detailed above will be examined where appropriate with a sensitivity analysis to explore the impact of study risk of bias and level of intervention adherence (where reported). If the studies are found to be too heterogeneous to be pooled statistically, a narrative synthesis will be conducted.
Meta-bias assessment – publication bias, selective reporting bias	For details please see section 6.2 of Developing NICE guidelines: the manual.
Confidence in cumulative evidence	For details please see sections 6.4 and 9.1 of Developing NICE guidelines: the manual
Rationale/context – what is known	For details please see the introduction to the evidence review.
Describe contributions of authors and guarantor	A multidisciplinary committee developed the evidence review. The committee was convened by Public Health Internal Guidelines Development (PH-IGD) team and chaired by Paul Lincoln in line with section 3 of Developing NICE guidelines: the manual. Staff from the Public Health Internal Guidelines Development team undertook systematic literature searches, appraised the evidence, conducted meta-analysis and cost-effectiveness analysis where appropriate, and drafted the evidence review in collaboration with the committee. For details please see Developing NICE guidelines: the manual.
Sources of funding/support	PH-IGD is funded and hosted by NICE
Name of sponsor	PH-IGD is funded and hosted by NICE
Roles of sponsor	NICE funds PH-IGD to develop guidelines for those working in the NHS, public health and social care in England.

Appendix B – Literature search strategies

Search summary

Guideline-wide search strategies were undertaken based on the review protocols provided for all review questions. Table 1 below details the sources searched and results retrieved for each database.

Table 1 Database searches and results (March 2018)

Database name	Date searched	Database Platform	Database segment or version	No. of results
Medline with daily update	13th March 2018	Ovid	1946 to date	10768
Medline in-process	14th March 2018	Ovid	13th March 2018	1835
Medline epubs ahead-of-print	14th March 2018	Ovid	13th March 2018	509
Cochrane CENTRAL	16th March 2018	Wiley	Issue 2 of 12, 2018	147 via searching + 10 via browsing
Cochrane Database of Systematic Reviews	16th March 2018	Wiley	Issue 3 of 12, 2018	1829
Embase	14th March 2018	Ovid	1996 to 2018 March 13	17599
PsychInfo	14th March 2018	Ovid	1987 to March Week 1 2018	5259
AMED	14th March 2018	Ovid	1985 to March 2018	1342
HMIC	14th March 2018	Ovid	1979 to January 2018	1578
Epistemonikos	16th March 2018	Native web platform	-	2051
PEDro	9th March 2018	Native web platform	-	311
Forward citation searching from PH19 included refs	5th March 2018	Web of Science	-	1896
Forward citation searching from NICE surveillance includes	5th March 2018	Web of Science	-	377
Backward citation searching from NICE surveillance includes	5th March 2018	Web of Science	-	1075
Website searches	26th March – 6th April 2018 (see below for specifics)	-	-	125
Total				46,711
Final (de-duplicated) results				24,610

Table 2 Database searches and results (November 2018)

Database name	Date searched	Database Platform	Database segment or version	No. of results
Medline with daily update	7th November 2018	Ovid	1946 to date	859
Medline in-process	7th November 2018	Ovid	13th March 2018	525
Medline epubs ahead-of-print	7th November 2018	Ovid	13th March 2018	267
Cochrane CENTRAL	8th November 2018	Wiley	Issue 2 of 12, 2018	6
Cochrane Database of Systematic Reviews	7th November 2018	Wiley	Issue 3 of 12, 2018	2 via searching + 3 via browsing
Embase	7th November 2018	Ovid	1996 to 2018 March 13	1532
PsychInfo	8th November 2018	Ovid	1987 to March Week 1 2018	192
AMED	8th November 2018	Ovid	1985 to March 2018	34
HMIC	8th November 2018	Ovid	1979 to January 2018	9
Epistemonikos	8th November 2018	Native web platform	-	21
PEDro	8th November 2018	Native web platform	-	11
Forward citation searching from PH19 included refs	12th November 2018	Web of Science	-	1849
Forward citation searching from NICE surveillance includes	12th November 2018	Web of Science	-	477
Backward citation searching from NICE surveillance includes	12th November 2018	Web of Science	-	-
Website searches	13th November 2018	-	-	19
Total				5,806
Final (de-duplicated) results				1,805

Websites searched:

- Department for Work and Pensions Research Reports
- NIHR Journals library
- General search of the gov.uk portal
- The Work Foundation
- Institute for Employment Studies
- Centre for Musculoskeletal Health and Work

- Health and Safety Executive research publications
- Fit for Work

The MEDLINE search strategy is presented below. This was translated for use in all of the other databases listed.

MEDLINE search strategy	
1	absenteeism.ti,ab.
2	absenteeism/
3	presenteeism.ti,ab.
4	presenteeism/
5	"sick leave".ti,ab.
6	"sick leave"/
7	"sick list*".ti,ab.
8	"sickness absence*".ti,ab.
9	(return* adj2 work*).ti,ab.
10	"return to work"/
11	(back adj2 work).ti,ab.
12	(fitness adj2 work).ti,ab.
13	"fit for work".ti,ab.
14	"fit note*".ti,ab.
15	"long term sick*".ti,ab.
16	"work readiness".ti,ab.
17	"vocational rehabilitation".ti,ab.
18	"Rehabilitation, Vocational"/
19	or/1-18
20	(200706* or 200707* or 200708* or 200709* or 20071* or 2008* or 2009* or 201*).ed.
21	19 and 20
22	limit 21 to english language
23	limit 22 to (comment or congresses or editorial or letter or case reports or historical article)
24	22 not 23
25	animals/ not (animals/ and humans/)
26	24 not 25
27	(exp child/ or exp infant/) not ((exp child/ or exp infant/) and (adolescent/ or exp adult/))
28	26 not 27

Appendix C – Evidence study selection

PRISMA flow chart for all review questions is in review question A

Appendix D – Evidence tables

D.1 Effectiveness evidence for populations with musculoskeletal (MSK) disorders

D.1.1 Anema 2007

Bibliographic reference	**Anema J , Steenstra I, Bongers P, de Vet H, Knol D, Loisel P, van Mechelen W. (2007) Multidisciplinary rehabilitation for subacute low back pain: Graded activity or workplace intervention or both? A randomized controlled trial. Spine 32: 291-298**
Study type	Cluster RCT
Aim	To assess the effectiveness of workplace intervention and graded activity, separately and combined, for multidisciplinary rehabilitation of low back pain (LBP).
Location & setting	Netherlands. Thirteen Dutch Occupational Health Services (OHS) and 16 physiotherapy centres employing 99 occupational physicians (OPs) plus 25 ergonomists and 47 physiotherapists (PTs). Source population: approximately 100,000 workers served by the participating OPs.
Study dates	Participant recruitment: October 2000 until October 2002
Length of follow-up	12 months
Participant characteristics	**Inclusion criteria**: - employees aged 18-65 years - between 2-6 weeks full or partial sick leave due to nonspecific LBP **Exclusion criteria:** - LBP due to specific causes - coexisting cardiovascular, psychiatric, or juridical contraindications - pregnancy - sick leave due to LBP <1 month before the current episode of sick leave.

Bibliographic reference	**Anema J , Steenstra I, Bongers P, de Vet H, Knol D, Loisel P, van Mechelen W. (2007) Multidisciplinary rehabilitation for subacute low back pain: Graded activity or workplace intervention or both? A randomized controlled trial. Spine 32: 291-298**

Baseline characteristics of study participants:

	(a) Workers on sick leave >2 Weeks and <8 weeks (n=196)	
	Workplace intervention (n=96)	Control (no workplace intervention) (n=100)
Age (years) – mean (SD)	44.0 (8.6)*	41.2 (10.7)*
% male	53*	33*
Job role (%) - Industrial - Office work - Healthcare - Other - Missing	 12 21 58 8 1	 6 17 65 8 4
Sickness absence prior to inclusion (%): - Partial - Full	 21 79	 35 65
Sick leave (days) of current episode of LBP prior to inclusion - median (IQR)	26 (19-36)	24 (18-30)
Functional status (RDQ) - mean (SD)	14.9 (4.2)	13.8 (4.6)
Pain severity – mean (SD)	6.5 (1.7)	6.3 (1.7)
	(b) Workers remaining on sick leave >8 Weeks (n=112)	
	Graded activity intervention (n=55)	Control (no graded activity) (n=57)
Age (years) – mean (SD)	41.3 (9.2)	43.4 (8.3)
% male	35	46
Job role (%) - Industrial	 13	 5

Bibliographic reference	**Anema J , Steenstra I, Bongers P, de Vet H, Knol D, Loisel P, van Mechelen W. (2007) Multidisciplinary rehabilitation for subacute low back pain: Graded activity or workplace intervention or both? A randomized controlled trial. Spine 32: 291-298**

- Office work	16	26
- Healthcare	60	61
- Other	5	7
- Missing	5	0
Sickness absence prior to inclusion (%):		
- Partial	31	21
- Full	66	77
Sick leave (days) of current episode of LBP prior to inclusion - median (IQR)	26 (19-33)	24 (19-32)
Functional status (RDQ) - mean (SD)	14.4 (4.5)	15.8 (3.2)
Pain severity – mean (SD)	6.6 (1.4)	6.7 (1.5)

*p < 0.05

No significant differences between groups at baseline in scores for physically demanding work, job control, job demands, supervisor support, job satisfaction or expectation of return to work (data not extracted).

Number of study subjects	N=196 randomised to workplace intervention or usual care, of whom N=112 subsequently randomised to graded activity intervention or usual care after ≥8 weeks sickness absence.
Intervention details	To reduce risk of contamination, first randomization (to workplace intervention or control) took place at the level of the OP, after pre-stratification by economic sector of the OP's worker population. Workers who were still off sick after 8 weeks were randomized at the patient level to graded activity or control. (a) <u>Workplace intervention</u> Started directly after study inclusion. Fifteen ergonomists involved in delivery. Consisted of: • worksite observation / assessment of injured worker's tasks by an ergonomist (OP) • barriers to return to work ranked independently by worker and supervisor • OP meets with stakeholders to achieve consensus regarding feasible solutions • OP communicates with worker's GP to prevent conflicting advice regarding return-to-work • implementation of agreed work adjustments

Bibliographic reference	**Anema J , Steenstra I, Bongers P, de Vet H, Knol D, Loisel P, van Mechelen W. (2007) Multidisciplinary rehabilitation for subacute low back pain: Graded activity or workplace intervention or both? A randomized controlled trial. Spine 32: 291-298**
	Adherence Ten workers (10%) were allocated but did not receive the workplace intervention: 5 returned to work before an appointment for the intervention was made; 5 workers did not participate due to a work scheduling problem (n=3), a medical reason (n=1), or a work conflict (n=1). None of the workers stopped during the intervention. Average duration of workplace intervention = 24 days (SD, 22 days), starting a median of 26 days (IRQ: 19–36 days) after the start of sick leave. (b) Graded activity intervention Took place at 8 weeks after the start of sick leave. Aim: to return worker to full or equal work. Forty-seven physiotherapists were involved in delivery (16 PT centres). Consisted of: • a gradually increasing exercise program using operant-conditioning behavioural approach • tailor-made programme based on findings from patient history, physical exam, functional capacity evaluation, work demands and the worker's own expectations of time to return to work • two 1-hour sessions a week (maximum 26 sessions) • active role of worker in RTW was promoted, with physiotherapist acting as coach and supervisor • program stopped when a lasting return to own or equal work was established *Adherence* Nineteen workers (35%) were non-compliant due to: interference with other practitioners (n=3), miscommunication (n=2), change of function/job (n=2), contraindications (n=5), not able to follow regimen (n=3), drop out (n=3), distance to training centre (n=1). Average frequency of graded activity: 14.1 sessions (SD 6.8), starting at median 69 days (IRQ, 56–84) after the start of sick leave.
Comparison details	Usual OP care in accordance with the Dutch occupational guideline on LBP
Methods and analysis	**Power calculation:** Sample of 200 workers required to detect a 20% and 30% difference in full return-to-work rate for the workplace and graded activity respectively. **Data collection:**

<table>
<tr><td>Bibliographic reference</td><td>Anema J , Steenstra I, Bongers P, de Vet H, Knol D, Loisel P, van Mechelen W. (2007) Multidisciplinary rehabilitation for subacute low back pain: Graded activity or workplace intervention or both? A randomized controlled trial. Spine 32: 291-298</td></tr>
<tr><td></td><td>Data on prognostic factors for duration of sick leave collected from participants at baseline.
Sick leave data collected continuously during follow-up from automated databases.
Patient-completed measures at 12, 26 and 52 weeks of functional status (Roland-Morris Disability Questionnaire: score range 0 = no disability to 24 = severe disability) and pain intensity (10-point VAS ranging from 0= no pain to 10 = very severe pain).
Analyses:
ITT. Intraclass correlation coefficients among Ops were estimated as >0.01, so individual-level analyses undertaken. Survival analyses used to compare hazard ratio of return-to-work rates between groups. Time-dependent covariates used in multivariate models to adjust for fact that allocation to the workplace and graded activity interventions occurred at different time points. Prognostic factors were potential confounders when there was p<0.10 difference between groups at baseline, or if a known prognostic factors in the literature. Potential confounders added manually and separately; when 2*log likelihood of the model changed significantly (p<0.05) with the factor added, the variable was entered into final model. Interaction was tested between workplace intervention and graded activity, and between these interventions separately and all confounders at baseline or prognostic factors from the literature. Between-group differences in secondary outcomes were assessed using longitudinal random coefficient analyses controlling for baseline values to correct for possible regression to the mean.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Time to full RTW (sustained for at least 4 weeks without full or partial dropout)
<u>Comparison 1</u>: workplace intervention vs. no workplace intervention
<table>
<tr><td>Time to full RTW</td><td>Workplace intervention (n=96)</td><td>Control (no workplace intervention) (n=100)</td></tr>
<tr><td>No. of days – median (IQR)</td><td>77 (56-126)</td><td>104 (56-166)</td></tr>
<tr><td>- Univariate analysis – log rank test (p-value)</td><td colspan="2">p=0.02</td></tr>
<tr><td>- Adjusted hazard ratio [a] (95%CI) [n=196]</td><td colspan="2">1.7 (1.2 to 2.3)</td></tr>
</table>

<u>Comparison 2</u>: graded activity intervention vs. no graded activity
<table>
<tr><td>Time to full RTW</td><td>Graded activity intervention</td><td>Control (no graded activity)</td></tr>
</table></td></tr>
</table>

Bibliographic reference	**Anema J , Steenstra I, Bongers P, de Vet H, Knol D, Loisel P, van Mechelen W. (2007) Multidisciplinary rehabilitation for subacute low back pain: Graded activity or workplace intervention or both? A randomized controlled trial. Spine 32: 291-298**

	(n=55)	**(n=57)**
No. of days – median (IQR)	144 (113-233)	111 (74-153)
- Univariate analysis – log rank test (p-value)	p=0.03	
- Adjusted hazard ratio [b] (95% CI) [n=196]	0.4 (0.3 to 0.6)	

Comparison 3: combined workplace + graded activity intervention vs. no combined intervention

Time to full RTW	**Combined intervention (n=27)**	**Control (no combined intervention) (n=85)**
No. of days – median (IQR)	143 (108-250)	126 (83-171)
- Univariate analysis – log rank test (p-value)	p=0.49	
- Adjusted hazard ratio [c] (95%CI) [n=196]	0.7 (0.3 to 1.2)	

There was no dependency of observations found between OPs. No interaction was found between workplace intervention and graded activity.

[a] Adjusted for effect of graded activity, worker's functional status, and job control.

[b] Adjusted for effect of workplace intervention, worker's functional status and job control.

[c] Adjusted for independent effects of workplace intervention, graded activity, worker's functional status, and job control.

Outcome: Adverse events

Reports no adverse events or side effects for both the workplace intervention and graded activity intervention

Other outcomes reported (data not extracted):

Pain intensity (VAS scale)

Functional status

Source of funding	Supported by the Netherlands Organization for Health Research and Development (ZonMw), Dutch Ministries of Health, Welfare and Sports and of Social Affairs. No commercial funding.

Bibliographic reference	**Anema J , Steenstra I, Bongers P, de Vet H, Knol D, Loisel P, van Mechelen W. (2007) Multidisciplinary rehabilitation for subacute low back pain: Graded activity or workplace intervention or both? A randomized controlled trial. Spine 32: 291-298**		
Related publications	Study protocol Steenstra I, Anema J, Bongers P, et al. (2003) Cost effectiveness of a multi-stage return-to-work program for workers on sick leave due to low back pain, design of a population based controlled trial. BMC Musculoskelet Disord 4:26. Economic evaluation Steenstra I, Anema J, van Tulder M, Bongers P, de Vet HCW, van Mechelen W. (2006) Economic evaluation of a multi-stage return to work program for workers on sick-leave due to low back pain. J Occup Rehabil, 16:557–578.		
Comments	**Limitations noted by authors:** ○ Randomisation was conducted at the OP level, whereas analyses were conducted at the worker's level. ○ Workplace intervention was applied earlier than graded activity so it is not possible to do a direct comparison of the effectiveness of the two interventions **Limitations noted by reviewer:** ○ Potential selection bias in workplace intervention comparison (see comments on allocation concealment below)		
Quality assessment	Criterion	Judgement	Comments
	Random sequence generation	Low	"An independent examiner prepared the envelopes for randomization by coding them according to a list of random numbers."
	Allocation concealment	Unclear	First randomisation at level of OPs: potential for selection bias as OPs are not blind to group allocation and have a role in patient recruitment. For second randomisation at patient-level, report refers to envelopes but not whether these were sequentially numbered, opaque and sealed.
	Blinding of participants and personnel	High	OP and participant not blinded to group assignment. However blinding not possible within context of study.
	Blinding of outcome assessment:	Low	Data on return to work were obtained from automated databases to prevent bias caused by a lack of blinding of participants.

Bibliographic reference	**Anema J , Steenstra I, Bongers P, de Vet H, Knol D, Loisel P, van Mechelen W. (2007) Multidisciplinary rehabilitation for subacute low back pain: Graded activity or workplace intervention or both? A randomized controlled trial. Spine 32: 291-298**		
	Incomplete outcome data	Low	Sick leave data were collected for all 196 (100%) included workers.
	Selective outcome reporting	Low	Outcome reported as pre-specified in published protocol (Steenstra et al. 2003)
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.1.2 Bultmann 2009

Bibliographic reference	**Bultmann U, Sherson D, Olsen J, Hansen C, Lund T, Kilsgaard J (2009) Coordinated and tailored work rehabilitation: a randomized controlled trial with economic evaluation undertaken with workers on sick leave due to musculoskeletal disorders. Journal of Occupational Rehabilitation 19: 81-93.**
Study type	RCT
Aim	To compare the effects of coordinated and tailored rehabilitation (CTWR) with conventional case management (CCM) on return-to-work of workers on sick leave due to musculoskeletal (MSK) disorders
Location & setting	Denmark Four municipalities (total population of about n = 150,000)
Study dates	Participants recruited between April 2004 and April 2005.
Length of follow-up	12 months
Participant characteristics	Workers on sick leave for at least 4 weeks were invited to an information meeting. **Inclusion criteria:** - workers aged 18-65 years and absent from work for 4–12 weeks - reimbursement request indicating low back pain (LBP) or MSK disorder as main cause of sick leave **Exclusion criteria:** - workers with mental health disorders, alcohol or drug addiction - pregnancy

Bibliographic reference	**Bultmann U, Sherson D, Olsen J, Hansen C, Lund T, Kilsgaard J (2009) Coordinated and tailored work rehabilitation: a randomized controlled trial with economic evaluation undertaken with workers on sick leave due to musculoskeletal disorders. Journal of Occupational Rehabilitation 19: 81-93.**

- workers who had quit their job or had been fired before randomisation.

Baseline characteristics of study participants:

	Intervention n=66	**Control n=47**
Age (years) – mean (SD)	44.2 (10.8)	42.9 (11.9)
% male	51.5	36.2
Sickness absence (days) prior to inclusion:		
- mean (SD)	38.1 (18.7)	41.0 (23.9)
- median	35.5	33
Education – %		
- ≤ 7 years	4.5	12.8
- 8–9 years	39.4	36.2
- 10 years	24.2	36.2
- >10 years	30.3	14.9
- Under education	1.5	0
BMI – mean (SD)	26.6 (6.3)	26.2 (4.9)
Job group – %		
- White collar	51.5	42.6
- Blue collar, skilled	18.2	14.9
- Blue collar, unskilled	21.2	38.3
- Self-employed	7.6	2.1
- Other	1.5	2.1
Job satisfaction (0-10) – mean (SD)	7.5 (3.1)	7.4 (2.6)
Pain sites (self-reported) - %		
- Neck	12.1	27.7
- Back (upper)	15.2	8.5
- Shoulder	28.8	34.0
- Back (lower)	84.8	85.1

Bibliographic reference	**Bultmann U, Sherson D, Olsen J, Hansen C, Lund T, Kilsgaard J (2009) Coordinated and tailored work rehabilitation: a randomized controlled trial with economic evaluation undertaken with workers on sick leave due to musculoskeletal disorders. Journal of Occupational Rehabilitation 19: 81-93.**
	<table><tr><td>- Lower extremities</td><td>43.9</td><td>51.1</td></tr><tr><td>- Lower extremities (under knee)</td><td>34.8</td><td>27.7</td></tr><tr><td>Pain intensity (0-10) – mean (SD)</td><td></td><td></td></tr><tr><td>- Last week</td><td>5.8 (2.8)</td><td>6.0 (2.0)</td></tr><tr><td>- Last month</td><td>6.6 (2.0)</td><td>7.0 (1.9)</td></tr><tr><td>Functional disability (0-100) – mean (SD)</td><td>65.9 (14.8)</td><td>66.2 (14.7)</td></tr></table> No between-group significant differences on baseline variables except for proportion reporting neck pain ($p<0.05$)
Number of study subjects	N=119 randomised; 113 analysed Dropouts: 6 (CTWR n = 2; control n = 4) withdrew consent because of misunderstanding the project, pregnancy, moving out of the municipality, perceived language barriers or being included in another program.
Intervention details	Coordinated and tailored work rehabilitation (CTWR) intervention beginning after 4–12 weeks of sick leave, consisting of: • Work disability screening ○ Systematic, multidisciplinary assessment of disability, functioning and barriers for RTW undertaken by occupational physician (medical assessment), chiropractor (biomechanical assessment), occupational physiotherapist (work-related assessment), and psychologist (psychological assessment). ○ Screening takes 2.5h per discipline, followed by 30min interdisciplinary team conference with a case worker (a social worker) responsible for maintaining contact with the workplace and the municipal case manager. • Implementation of a coordinated, tailored and action-oriented work rehabilitation plan ○ Developed by the interdisciplinary team based on screening and identified barriers to RTW. ○ Implementation uses a feedback-guided approach - evaluations and interventions periodically re-adjusted as new information is fed-back among sick-listed worker, interdisciplinary team, the workplace, and other major stakeholders. Duration of CTWR is no longer than 3 months.
Comparison details	Usual care (municipal case management as per Danish sickness benefit system).

<table>
<tr><td>Bibliographic reference</td><td>Bultmann U, Sherson D, Olsen J, Hansen C, Lund T, Kilsgaard J (2009) Coordinated and tailored work rehabilitation: a randomized controlled trial with economic evaluation undertaken with workers on sick leave due to musculoskeletal disorders. Journal of Occupational Rehabilitation 19: 81-93.</td></tr>
<tr><td></td><td>Controls received same study information and questionnaires as the CTWR participants but were not offered any additional assessment or action.</td></tr>
<tr><td>Methods and analysis</td><td>Power calculation:
A sample of 200 workers (100 per group) was required to detect a 20% difference in cumulative sickness absence hours.
Data collection:
All participants completed baseline questionnaire prior to randomisation.
Sickness absence hours and work status data (i.e., RTW, full-time sick leave or part-time sick leave) at 3, 6, and 12 months were obtained from the Danish National Health Insurance Service Registry without knowledge of workers' study group allocation.
Pain intensity (two items scored on a 10-point numerical rating scale (0 = no pain to 10 = worst possible pain).and functional disability (Oswestry Low Back Pain Disability Questionnaire; 0=best to 100 = worst) were measured by self-report questionnaire at 3 and 12 months follow-up.
Analyses:
Conducted on an intention-to-treat basis. Mann Whitney U to test differences between groups on primary outcome (cumulative sickness absence hours) as data not normally distributed.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: sickness absence (in hours)

<table>
<tr><th>Cumulative sickness absence (hours) over time period</th><th>Intervention (n=66)</th><th>Control (n=47)</th></tr>
<tr><td>• 0-3 months
- Mean (SD)
- Median</td><td>
278.3 (165.9)
262</td><td>
331.1 (152.9)
335</td></tr>
<tr><td>- p-value</td><td colspan="2">p=0.06</td></tr>
<tr><td>• 0-12 months
- Mean (SD)
- Median</td><td>
656.6 (565.2)
476</td><td>
997.3 (668.8)
892</td></tr>
</table>
</td></tr>
</table>

Bibliographic reference	**Bultmann U, Sherson D, Olsen J, Hansen C, Lund T, Kilsgaard J (2009) Coordinated and tailored work rehabilitation: a randomized controlled trial with economic evaluation undertaken with workers on sick leave due to musculoskeletal disorders. Journal of Occupational Rehabilitation 19: 81-93.**

- p-value	p=0.006

Outcome: Work status (RTW, part-time sick leave, full-time sick leave) over follow-up

Work status at follow-up time point	**Intervention (n=66)**	**Control (n=47)**
3 months – n (%)		
- RTW	30 (45.5)	17 (37.4)
- Part-time sick leave	14 (22)	8 (17.0)
- Full-time sick leave	22 (33)	22 (46)
12 months – n (%)		
- RTW	51 (78)	29 (62)
- Part-time sick leave	6 (9)	3 (7)
- Full-time sick leave	9 (14)	15 (31)

Other outcomes reported (data not extracted):

- Cumulative sickness absence (hours) 3-6 months; 6-12 months; 0-6 months
- Pain intensity
- Functional disability

Source of funding	Funded by grants from the Danish National Labor Market Authority, Vejle County, and the Danish Chiropractic Research Fund.
Related publications	None
Comments	**Limitations noted by authors:** ○ Recruitment issues: for first 6 months included workers with LBP but had to widen criteria to include other MSK disorders to obtain a sufficient number of subjects; failed to recruit the required sample size of 100 workers per group during the one-year inclusion period. **Limitations noted by reviewer:**

Bibliographic reference	**Bultmann U, Sherson D, Olsen J, Hansen C, Lund T, Kilsgaard J (2009) Coordinated and tailored work rehabilitation: a randomized controlled trial with economic evaluation undertaken with workers on sick leave due to musculoskeletal disorders. Journal of Occupational Rehabilitation 19: 81-93.**		
	○ Differences identified between intervention and control group in the number of non-responders (more non-responders in control group); non-responders at 3-month follow-up in the intervention group tended to have less vocational education and more sickness absence hours compared with non-responders in the control group ○ Significantly more people in intervention group had self-reported neck pain at baseline compared with people in the control group		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	"A randomization protocol without stratification was computer-generated prior to the start of the study and was undertaken by an independent IT assistant."
	Allocation concealment	High	Not reported
	Blinding of participants and personnel	High	"It was not possible to ''blind'' participants and interdisciplinary team members for the allocated intervention" p.91
	Blinding of outcome assessment	Low	"Administrative data on cumulative sickness absence hours was obtained from the Danish National Health Insurance Service Registry and provided by Vejle County without knowledge of workers allocation to CTWR or CCM"
	Incomplete outcome data	Low	Administrative sickness absence data were available for all participants.
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.1.3 Hlobil 2005

<table>
<tr><td>Bibliographic reference</td><td>Hlobil H, Staal JB, Twisk J, Koke A, Ariens G, Smid T, van Mechelen W. (2005) The effects of a graded activity intervention for low back pain in occupational health on sick leave, functional status and pain: 12-month results of a randomized controlled trial. Journal of Occupational Rehabilitation,15: p.569-580.</td></tr>
<tr><td>Study type</td><td>RCT</td></tr>
<tr><td>Aim</td><td>To determine the effectiveness of a behaviour-oriented graded activity program compared with usual care for workers on sick leave with non-specific low back pain.</td></tr>
<tr><td>Location & setting</td><td>Netherlands
Occupational health services department of the Royal Dutch Airlines (KLM) at Schiphol Airport. Source population: approx.. 25,000 workers.</td></tr>
<tr><td>Study dates</td><td>Recruitment between 1 April 1999 and 1 January 2001</td></tr>
<tr><td>Length of follow-up</td><td>12 months</td></tr>
<tr><td>Participant characteristics</td><td>Inclusion criteria:
Full- or partial sick leave for ≥4 weeks prior to study inclusion because of non-specific low back pain (LBP)

Exclusion criteria:
- LBP attributable to fractures, tumours or infections;
- LBP with radiation below the knee with signs of nerve-root compression;
- cardiovascular contraindications for physical activity;
- any conflict between worker and employer with legal involvement;
- pregnancy

Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (n=67)</th><th>Control (n=67)</th></tr>
<tr><td>Age (years) - mean</td><td>39 (9)</td><td>37 (8)</td></tr>
<tr><td>% male</td><td>96%</td><td>93%</td></tr>
<tr><td>Job role (%)
- baggage & aircraft turnaround services
- engineering & maintenance
- cargo
- cabin & cockpit</td><td>
52
24
7.5
7.5</td><td>
48
28
7.5
7.5</td></tr>
</table></td></tr>
</table>

Bibliographic reference	**Hlobil H, Staal JB, Twisk J, Koke A, Ariens G, Smid T, van Mechelen W. (2005) The effects of a graded activity intervention for low back pain in occupational health on sick leave, functional status and pain: 12-month results of a randomized controlled trial. Journal of Occupational Rehabilitation,15: p.569-580.**
	- passenger services: 9 / 9 Sickness absence at study inclusion (%) - Partial: 51 / 46 - Full: 49 / 54 Sick leave (days) of current episode of LBP prior to inclusion - median (IQR): 43 (31-68) / 41 (25-65) Functional status (RDQ)[a] - mean (SD): 13.3 (4.6) / 13.0 (4.9) Pain severity – mean (SD): 6.7 (1.8) / 6.4 (1.7) [a] Measured using Roland-Morris Disability Questionnaire No significant between-group differences on measured baseline variables
Number of study subjects	N=134
Intervention details	Graded activity intervention delivered by 3 physiotherapists in OHS department within the workplace, with OP as case manager, consisting: • medical history, brief physical examination, explanation of benign nature and good prognosis of nonspecific LBP • determining a set of suitable physical exercises and assessing maximal performance in each over first 3 sessions • worker proposed a date for full return to regular work after third session (date serving as end-point of intervention period) • gradual increase in quota for each exercise (regardless of pain levels), starting from fourth session at approximately 70% of average performance level (as assessed during previous three sessions) • worker may return to work partially or with modified duties before returning to full regular work • twice-weekly 60 minute sessions until full return to regular work is achieved, or when maximum duration of 3 months was reached. Workers' GPs were informed and asked to adhere to guidelines for LBP issued by Dutch College of general practitioners, and not to refer these workers to other care-providers for any additional treatment for LBP during course of intervention. *Adherence* Participants attended a mean (SD) of 13 (5.4) treatment sessions. The graded activity intervention had an average duration of almost 7 weeks.

Bibliographic reference	**Hlobil H, Staal JB, Twisk J, Koke A, Ariens G, Smid T, van Mechelen W. (2005) The effects of a graded activity intervention for low back pain in occupational health on sick leave, functional status and pain: 12-month results of a randomized controlled trial. Journal of Occupational Rehabilitation,15: p.569-580.**
	Three participants did not adhere: 1 withdrew immediately after randomisation; 2 others were dissatisfied with content of GA intervention and withdrew after a few sessions.
Comparison details	Usual OP care (+ usual GP care) No specific requirements or restrictions on treatment except usual care group were not allowed to receive any treatment in the physiotherapy practice at Schiphol Airport where the graded activity intervention sessions were held. GPs informed and asked to adhere to their professional guidelines for LBP.
Methods and analysis	**Power calculation** 70 participants in each group were required, assuming a statistically significant difference of 5 days of absence from work for LBP was the smallest clinically important difference (corresponded with the point at which the intervention was cost-neutral in terms of savings made due to reduction in absence from work). **Data collection** Primary outcome: Total days of sick leave due to LBP collected from the electronic medical records of the OHS for the entire study period. Secondary outcomes: Self-reported functional status (Roland Disability Questionnaire; scored 0 (no disability) to 24 (severe disability)); pain intensity during preceding week (VAS scale, ranging from 0 (no pain) to 10 (very severe pain)) - measured at follow-up assessments 3, 6 and 12 months post-randomization. Data about any treatment received during the study period other than the intervention were collected in both groups through diaries. Physiotherapists delivering the intervention reported data on number of sessions completed. **Analyses** ITT analyses of effect of GA intervention on sick leave. Survival analysis used to compare post-randomisation period of sick leave with Cox regression analysis for repeated events to estimate hazard ratios for RTW. Incidence-rate ratio was calculated to compare differences in recurrence of LBP between groups. Total number of days of sick leave was analysed with Mann–Whitney U-test; chi-square used to compare total number of workers in each group still on sick leave at 12 months. The effects of GA intervention on health outcomes at 12-month follow-up were analysed using linear regression analysis with group allocation as the independent variable and baseline values of functional status and pain severity entered into the models as covariates.

<table>
<tr><td>Bibliographic reference</td><td>Hlobil H, Staal JB, Twisk J, Koke A, Ariens G, Smid T, van Mechelen W. (2005) The effects of a graded activity intervention for low back pain in occupational health on sick leave, functional status and pain: 12-month results of a randomized controlled trial. Journal of Occupational Rehabilitation,15: p.569-580.</td></tr>
<tr><td></td><td>In both the Cox regression analyses and the linear regression analyses, adjustments were made for age, gender, duration of sick leave due to LBP before randomization, and partial or full sick leave at baseline.
An alternative per-protocol analysis, excluding all workers who were not treated according to the protocol, was only performed for the sick leave data.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Time to RTW (for at least 4 weeks without full or partial dropout)
Note: Reports separately for participants returning to work in first 50 days post-randomisation and those who returned after 50 days due to divergence in Kaplan-Meier curves (see graph below)

<table>
<tr><th></th><th>Intervention (n=67)</th><th>Control (n=67)</th></tr>
<tr><td>Probability of RTW up to 50 days post-randomisation*
- ITT analysis
- per protocol analysis[a,b]</td><td colspan="2">HR 1.0 (0.6 to 1.8)
HR 1.1 (0.6 to 1.9)</td></tr>
<tr><td>Probability of RTW between 50-365 days post-randomisation*
- ITT analysis
- per protocol analysis[c]</td><td colspan="2">HR 1.9 (1.2 to 3.1)
HR 2.5 (1.5 to 4.1)</td></tr>
<tr><td>RTW by 12 months post-randomisation – n (%)
- p-value</td><td>62 (92.5)</td><td>59 (88.1)
p=0.38</td></tr>
</table>
* analysis adjusted for age, gender, duration of sick leave due to LBP before randomization, and partial or full sick leave at baseline
[a] excluding the 3 non-adherent participants in the graded activity group
[b] data reported in Staal et al. (2004)
[c] data reported in Hlobil et al. (2005)

Outcome: Recurrences of sick leave due to LBP over 12 month follow-up
<table>
<tr><th></th><th>Intervention</th><th>Control</th></tr>
</table>
</td></tr>
</table>

Bibliographic reference	**Hlobil H, Staal JB, Twisk J, Koke A, Ariens G, Smid T, van Mechelen W. (2005) The effects of a graded activity intervention for low back pain in occupational health on sick leave, functional status and pain: 12-month results of a randomized controlled trial. Journal of Occupational Rehabilitation,15: p.569-580.**

	(n=67)	(n=67)
No. (%) with ≥1 recurrence over follow-up	14 (21%)	16 (24%)
Total no. of days sickness for recurrent episodes	800	831
Incidence of recurrence per person-year	0.4	0.59
Adjusted incidence rate ratio (95%CI)	0.68 (0.04 to 1.32)	

Outcome: Total number of days of sick leave due to LBP and other diagnoses over 12 month follow-up

	Intervention (n=67)		Control (n=67)		
	Days of sick leave	Median (IQR)	Days of sick leave	Median (IQR)	p-value
LBP (including recurrences)	6,589	67 (49-67)	9,446	102 (37-233)	0.09
Other diagnoses	2,376	15 (2-41)	2,016	6 (0-30)	0.11
LBP + any other diagnoses	8,965	93 (70-169)	11,462	135 (79-299)	0.06

Outcome: **Functional status**

Improvement from baseline at 12 months	Intervention (n=60)	Control (n=60)
Mean score improvement (SD)	7.3 (6.0)	6.7 (6.7)
- Effect (95%CI)[a] [n=196]	-0.6 (-2.8 to 1.5)	

[a] Adjusted for age, gender, duration of sick leave due to LBP before randomization, and partial or full sick leave at baseline

Other outcomes reported:
Self-reported pain severity (VAS scale) - data not extracted

Source of funding	Dutch Health Insurance Executive Council (CVZ), grant DPZ 169/0
Related publications	**Report of 6-month outcomes (with baseline details):**

Bibliographic reference	**Hlobil H, Staal JB, Twisk J, Koke A, Ariens G, Smid T, van Mechelen W. (2005) The effects of a graded activity intervention for low back pain in occupational health on sick leave, functional status and pain: 12-month results of a randomized controlled trial. Journal of Occupational Rehabilitation,15: p.569-580.**		
	Staal JB, Hlobil H, Twisk J, Smid T, Koke A, van Mechelen W. (2004) Graded activity for low back pain in occupational health care: a randomised, controlled trial. Annals of Internal Medicine, 140:77-84. **Economic evaluation:** Hlobil H, Uegaki K, Staal JB, de Bruyne M, Smid T, van Mechelen W (2007) Substantial sick-leave costs savings due to a graded activity intervention for workers with non-specific sub-acute low back pain. Eur Spine J 16:919-924		
Comments	**Limitations noted by authors:** • Generalisabilty issues: very few female participants (6%); not reflective of larger proportion of female workers who had sick leave for LBP in same period but did not participate in the trial (26%) • Under powered (numbers too few given range in return to work times) • Potential uncontrolled confounding: less non-LBP related sick leave in usual care group may be due to workers in the GA intervention group being at higher risk of sickness absence due to diagnoses other than LBP • Acceleration in RTW in control group at around 300 days - may be due to Dutch limits on sickness benefit payment after 52 weeks **Limitations noted by reviewer:** • Effect of other aspects of intervention not controlled for (eg. joint agreement between worker and physio of a RTW date, returning to workplace twice a week for intervention).		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Randomized, permuted blocks of 4 allocations were generated for each of 10 strata through a computer-generated random-sequence table (Staal et al. 2004 p.78).
	Allocation concealment	Low	Opaque, sequentially numbered, sealed envelopes were prepared for each stratum by a researcher not involved in enrolling the participants or assigning them to their groups; envelopes delivered to participants after baseline assessments (Staal et al. 2004, p.78)
	Blinding of participants and personnel	High	Participants and treatment providers not blinded to treatment allocation (not possible within context of study).
	Blinding of outcome assessment	Low	Primary outcome was objective – data collected from electronic medical records of the OHS by researchers blinded to treatment allocation.

Bibliographic reference	**Hlobil H, Staal JB, Twisk J, Koke A, Ariens G, Smid T, van Mechelen W. (2005) The effects of a graded activity intervention for low back pain in occupational health on sick leave, functional status and pain: 12-month results of a randomized controlled trial. Journal of Occupational Rehabilitation,15: p.569-580.**		
	Incomplete outcome data	Low	Sick leave data were available for all 134 workers for the entire follow-up period (Hlobil et al. 2005, p.573). 14 workers withdrew from the trial, or did not show up for the follow-up measurements (14 dropouts did not differ significantly with regard to baseline characteristics from the 120 workers who completed all follow-up measurements and questionnaires)
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	Low		

D.1.4 Lambeek 2010

Bibliographic reference	**Lambeek L, van Mechelen W, Knol D, Loisel P, Anema J. (2010) Randomised controlled trial of integrated care to reduce disability from chronic low back pain in working and private life. British Medical Journal, 340: c1035.**
Study type	RCT
Aim	To evaluate the effectiveness of an integrated care programme, combining a patient directed and a workplace directed intervention, for patients with chronic low back pain.
Location & setting	Netherlands Primary care (10 physiotherapy practices, one occupational health service, one occupational therapy practice) and secondary care (five hospitals).
Study dates	Recruitment: November 2005 to April 2007
Length of follow-up	12 months
Participant characteristics	Patients with low back pain who visited one of the participating hospitals received a letter from their medical specialist within one week of their visit informing them about the trial. **Inclusion criteria:**

Bibliographic reference	**Lambeek L, van Mechelen W, Knol D, Loisel P, Anema J. (2010) Randomised controlled trial of integrated care to reduce disability from chronic low back pain in working and private life. British Medical Journal, 340: c1035.**

- aged 18-65 with low back pain who had visited an outpatient clinic (mainly orthopaedics and neurology, but also rheumatology and neurosurgery) in one of the participating hospitals
- had low back pain for more than 12 weeks
- in paid work (paid employment or self-employed) for at least eight hours a week
- on full or partial sick leave from work

Exclusion criteria:

- absent from work > 2 years
- working for a temporary employment agency
- specific low back pain due to infection, tumour, osteoporosis, rheumatoid arthritis, fracture, or inflammation
- lumbar spine surgery in past six weeks or planned (or other invasive examinations) within three months;
- serious psychiatric or cardiovascular illness;
- pregnancy
- in lawsuit against employer.

Baseline characteristics of study participants:

	Intervention (n=66)	**Control (n=-68)**
Age (years) - mean	45.5 (8.9)	46.8 (9.2)
% male	56	60
Level of education (%): - Low (primary) - Intermediate (secondary) - High (tertiary)	 21 52 27	 34 47 19
Mean (SD) job content questionnaire [a] - Job control - Job demands - Social support	 74.3 (10.3) 33.2 (4.7) 23.5 (4.2)	 72.5 (10.5) 33.0 (4.4) 23.3 (3.6)
Demands of work (%):		

Bibliographic reference	**Lambeek L, van Mechelen W, Knol D, Loisel P, Anema J. (2010) Randomised controlled trial of integrated care to reduce disability from chronic low back pain in working and private life. British Medical Journal, 340: c1035.**

- Physical	64	62
- Mental	36	38
Sickness absence (%):		
- Partial	52	53
- Full	49	47
Median (IQR) days off work prior to study inclusion	142 (54,173)	163 (64,240)
Mean (SD) patients' expectation of return to work (score 1-5) [b]	2.9 (1.3)	2.3 (1.2)
Mean (SD) functional status (score 0-23) [c]	14.7 (5.0)	15.0 (3.6)
Mean (SD) pain intensity (score 0-10)	5.7 (2.2)	6.3 (2.1)

[a] Higher score means higher level of job control (score 40-94), job demands (score 22-44), and social support (score 10-32)

[b] Higher scores indicate more confidence of return to work

[c] Higher scores indicate greater reductions in daily activities

[d] Higher scores indicate more pain.

No significant between-group differences in measured baseline characteristics.

Number of study subjects	N=134 randomised. One intervention patient and 4 in the usual care group withdrew from the study immediately after randomisation. ITT analysis undertaken.
Intervention details	Integrated care protocol Provided by a team consisting of a clinical occupational physician, a medical specialist, an occupational therapist, and a physiotherapist, with 3-weekly team progress meeting. • Integrated care management by occupational physician (OP). Aim: to plan and coordinate care and communicate with other healthcare professionals. Period: from week 1 to full sustainable return to work, or week 12. • Workplace intervention. Aim: achieve consensus of all stakeholders about workplace adjustments to facilitate RTW. Period: from week 3 to week 12. Content: observe participant's workplace; barriers to RTW and solutions discussed and agreed by supervisor and worker facilitated by occupational therapist. • Graded activity. Aim: to restore occupational function and supervise RTW. Period: from week 2 to full sustainable RTW, or after receipt of 26 sessions (within maximum of 12 weeks). Content: Baseline (3 sessions) to test

Bibliographic reference	**Lambeek L, van Mechelen W, Knol D, Loisel P, Anema J. (2010) Randomised controlled trial of integrated care to reduce disability from chronic low back pain in working and private life. British Medical Journal, 340: c1035.**
	participant's functional capacity; individually graded exercise programme, teaching that, despite pain, moving is safe while increasing activity level. Average duration of integrated care (max. 3 months) from randomisation was 67 days (SD 32 days). Median frequency of consultations with the multidisciplinary team until sustainable RTW was 2.2 with the clinical OP, 2.4 with the OT for the workplace intervention, and 6.5 individual and 11.6 group sessions with the physiotherapist during the graded activity protocol. Adherence Five patients did not participate in the integrated care intervention for various reasons: no job (n=1), quit job (n=1), no approval from employer (n=1), recovered (n=1), and withdrew (n=1). Twelve patients received only two elements of the integrated care (clinical occupational management and graded activity or workplace intervention). Reasons were: no cooperation from employer (n=2) or patient (n=1), company bankrupt (n=1), adaptations already carried out (n=1), full return to work (n=1), continued with therapy from own therapist (n=4), distance too far (n=1), and symptoms other than low back pain (n=1).
Comparison details	Usual care (including from medical specialist, occupational physician, general practitioner, and/or allied health professionals).
Methods and analysis	Power calculation Target for recruitment: 130 participants to obtain data for 115, based on assumption of a hazard ratio of 2.0 indicating a relevant difference between intervention and usual care group (based on hazard ratios in comparable primary care studies), that 40% of patients with chronic LBP would not return to work during the 12 month follow-up, and expected dropout rate of 10%. Data collection Primary outcome = duration of sick leave due to LBP from day of randomisation to full return to own or other work with equal earnings for ≥ 4 weeks without full or partial recurrence. Patient self-reported data on sick leave collected monthly by means of a diary and after 12 months from centralised database of the occupational health services. Secondary outcomes: pain intensity (VAS) and functional status (Roland disability questionnaire); healthcare utilisation & QoL measured for economic analysis. Prognostic factors for duration of sick leave (for adjustment in case of dissimilarities between the treatment groups) were potential work-related psychosocial factors, measured with the job content questionnaire, and data on

Bibliographic reference	**Lambeek L, van Mechelen W, Knol D, Loisel P, Anema J. (2010) Randomised controlled trial of integrated care to reduce disability from chronic low back pain in working and private life. British Medical Journal, 340: c1035.**
	workload, measured with the Dutch musculoskeletal questionnaire. Questionnaires were administered to the patients at baseline and after 3, 6, 9, and 12 months. Analyses Used Kaplan-Meier analysis (log rank test) to describe univariate association between group allocation and duration of absence from work until first continuous period of full sustainable RTW. Cox proportional hazard model used to estimate hazard ratios for RTW. Compared total number of days sick leave due to LBP (including recurrences) over 12 month follow-up between the groups using the Mann-Whitney U test. Longitudinal mixed models were applied to assess between-group differences in improvement on all secondary outcome measures, adjusting for type of hospital and strata. All analyses conducted on intention to treat principle (and compared with per protocol results to assess whether protocol deviations had caused bias).
Outcomes measures and effect sizes	**Results** **Outcome: time to full RTW (sustained for ≥ 4 weeks without full or partial recurrence) over 12 months**

OUTCOME **Duration of continuous sick leave after randomisation**	**Intervention (n=66)**	**Control (n=68)**
ITT analysis Median in days (IQR)	88 (52,164)	208 (99,366)
Hazard ratio (95%CI), adjusted for type of hospital and strata - p-value	HR 1.90 (1.18 to 2.76) p=0.004	
Per protocol analysis Median in days (IQR)	82 (51, 164)	175 (91, 365)
Hazard ratio (95%CI) - p-value	1.83 (124 to 2.93) p=0.007	

Outcome: Functional status (ITT analysis)

Change from baseline at 12 months	**Intervention (n=66)**	**Control (n=68)**
Mean score improvement (SE)	7.16 (0.71)	4.43 (0.72)
- Effect[a] (95%CI)	-2.86 (-4.9 to -0.9)	

Bibliographic reference	**Lambeek L, van Mechelen W, Knol D, Loisel P, Anema J. (2010) Randomised controlled trial of integrated care to reduce disability from chronic low back pain in working and private life. British Medical Journal, 340: c1035.**		
	[a] Difference in improvement between integrated care and usual care adjusted for stratum and type of hospital **Adverse events** No adverse events or side effects were reported. **Other outcomes reported:** Pain intensity (VAS scale – improvements at 3,6,9, and 12 months) – data not extracted.		
Source of funding	Supported by VU University Medical Center, TNO Work & Employment, Dutch Health Insurance Executive Council, Stichting Instituut GAK, and the Netherlands Organisation for Health Research and Development. Primary author was supported with grant funding (FRN: 53909) from Work Disability Prevention Canadian Institutes of Health Research strategic training programme. Funders had no role in the project.		
Related publications			
Comments	**Limitations noted by authors:** • No blinding of participants and personnel so cannot exclude a placebo or Hawthorne effect • Potential bias due to self-reporting of sick leave (though data were checked at 12m with the OHS database data) • Not possible to determine effectiveness of individual intervention components (integrated care management, workplace intervention, graded activity) **Limitations noted by reviewer:** None		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Independent statistician carried out block randomisation of four allocations using a computer generated random sequence table.
	Allocation concealment	Low	Allocation followed collection of baseline data using independently-prepared opaque, sequentially numbered and sealed coded envelopes.

Bibliographic reference	Lambeek L, van Mechelen W, Knol D, Loisel P, Anema J. (2010) Randomised controlled trial of integrated care to reduce disability from chronic low back pain in working and private life. British Medical Journal, 340: c1035.		
	Blinding of participants and personnel	High	Not possible to blind patients or care providers to group allocation.
	Blinding of outcome assessment	Unclear	Care providers not involved in measuring outcomes. Patients self-reported sick leave (high risk of bias due to lack of blinding), but centralised administrative data obtained at 12 months enabled corroboration.
	Incomplete outcome data	Low	ITT analysis undertaken. Data on sick leave were complete for all patients at baseline, and for 93% of the patients during the 12 months of follow-up.
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	Low		

D.1.5 Lindh 1997

Bibliographic reference	Lindh M, Lurie M, Sanne H. A randomised prospective study of vocational outcome in rehabilitation of patients with non-specific musculoskeletal pain: a multidisciplinary approach to patients identified after 90 days of sick leave. Scandinavian Journal of Rehabilitation Medicine 29: 103-112
Study type	RCT
Aim	To examine if a multidisciplinary intervention for patients with non-specific musculoskeletal (MSK) pain would increase the chance of RTW and lead to reduced need for sickness benefit payment following RTW.
Location & setting	Sweden Seven (of 12) social insurance offices in Gothenburg (covering 66% of working population of the city)
Study dates	Not reported
Length of follow-up	5 years from first day of sick leave
Participant characteristics	**Inclusion criteria:** • employees aged 18-55 years in receipt of sickness benefit for continuous full-time sick leave for 90 days (insurance offices submitted a weekly report of cases reaching 90 days) • non-specific pain diagnosis (e.g. chronic MSK pain, fibromyalgia, neck & shoulder pain, back pain)

<table>
<tr><td>Bibliographic reference</td><td>Lindh M, Lurie M, Sanne H. A randomised prospective study of vocational outcome in rehabilitation of patients with non-specific musculoskeletal pain: a multidisciplinary approach to patients identified after 90 days of sick leave. Scandinavian Journal of Rehabilitation Medicine 29: 103-112</td></tr>
<tr><td></td><td>
• no on-going rehabilitation

Exclusion criteria:
• >180 days of sick leave in preceding 2 years
• on partial sick leave
• pregnancy

Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (n=238)</th><th>Control (n=226)</th></tr>
<tr><td>Age (years) - mean</td><td>39.0 (SD not reported)</td><td>40.0 (SD not reported)</td></tr>
<tr><td>% male</td><td>37%</td><td>39%</td></tr>
<tr><td>% Swedish national</td><td>62.5</td><td>60.0</td></tr>
<tr><td>Job role (%)
- Graduated
- Nursing
- Office
- Cashier
- Cleaning
- Blue collar
- Transport
- Hotel
- Unemployed</td><td>
3.0
12.0
7.0
5.0
17.5
35.5
7.5
10.0
2.5</td><td>
6.0
13.0
4.0
4.5
14.0
41.0
4.0
11.0
2.5</td></tr>
<tr><td>Sickness absence (days) during preceding 2 years – mean (SD)</td><td>80.0 (54.0)</td><td>77.0 (49.5)</td></tr>
<tr><td>Pain location (as identified on GP certificate) (%)
- Neck/arm
- Shoulder
- Low back</td><td>
33.0
20.5
27.0</td><td>
30.5
14.0
22.0</td></tr>
</table>
</td></tr>
</table>

Bibliographic reference	**Lindh M, Lurie M, Sanne H. A randomised prospective study of vocational outcome in rehabilitation of patients with non-specific musculoskeletal pain: a multidisciplinary approach to patients identified after 90 days of sick leave. Scandinavian Journal of Rehabilitation Medicine 29: 103-112**
	<table><tr><td>- Neck + low back</td><td>8.5</td><td>13.0</td></tr><tr><td>- Other</td><td>11.0</td><td>20.5</td></tr></table> No significant baseline differences on measured variables except for pain location.
Number of study subjects	N=464 (including 80 people randomised to the intervention group but did not respond to invitation (n=24 GP refusal; n=38 on-going alternative rehab; n=11 patient refusal; n=7 other reason). Dropouts included in analyses.
Intervention details	<u>Multidisciplinary rehabilitation model delivered in outpatient setting</u> Rehabilitation team: doctor specialised in rehabilitation; nurse; physiotherapist; psychologist; social worker; occupational therapist; vocational counsellor. ○ Patient evaluation – review of investigations, physical examination & tests (including psychological and social assessments) as required ○ Goal setting & programme planning – by team (with weekly re-evaluation) involving patient and spouse Programme duration and contacts were determined on individual basis. May consist of any of: ○ Interventions by physiotherapist: individual / group sessions for pain treatment modalities, relaxation, stretching, strength and fitness training and ergonomic education ○ Interventions by psychologist: individual / group CBT sessions for avoidance behaviour, illness beliefs, stress management & coping techniques ○ Interventions by social worker: family counselling, social support and assistance with contact with authorities ○ Interventions by occupational therapist and vocational counsellor: support in contacts with employers, preparation & follow-up of workplace vocational training. Rehabilitation completed and outcome communicated to GP when patient was: - able to RTW (part- or full-time) - able to resume labour market availability - recommended for prolonged sick leave or disability pension - non-compliant with programme or goal
Comparison details	Usual (GP) care No specific treatment requirements or restrictions
Methods and analysis	<u>Power analysis</u>

<table>
<tr><td>Bibliographic reference</td><td>Lindh M, Lurie M, Sanne H. A randomised prospective study of vocational outcome in rehabilitation of patients with non-specific musculoskeletal pain: a multidisciplinary approach to patients identified after 90 days of sick leave. Scandinavian Journal of Rehabilitation Medicine 29: 103-112</td></tr>
<tr><td></td><td>Not reported
<u>Data collection</u>
All sick leave and working status data were obtained over 5 years follow-up from first day of index sick leave from centralised social insurance registers.
<u>Analysis</u>
Compared survival curves for return to work (RTW) and re-sick listing using log likelihood ratio test. Outcome data are reported separately for Swedish nationals and immigrant participants.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results
Outcome: full- or part-time RTW incidence rate over follow-up period* (starting point: 90 days continuous sick leave)

<table>
<tr><th>Cumulative incidence of RTW from 90 day baseline absence</th><th>Intervention (n=238)</th><th>Control (n=226)</th></tr>
<tr><td>Any RTW (part- or full-time) – n (%)</td><td></td><td></td></tr>
<tr><td>- by 3 months</td><td>50 (21)</td><td>72 (32)</td></tr>
<tr><td>- by 12 months</td><td>132 (55)</td><td>142 (63)</td></tr>
<tr><td>- by 2 years</td><td>154 (65)</td><td>161 (71)</td></tr>
<tr><td>- by 3 years</td><td>173 (73)</td><td>176 (78)</td></tr>
<tr><td>- by 4 years</td><td>184 (77)</td><td>186 (82)</td></tr>
<tr><td>- by 5 years</td><td>187 (79)</td><td>186 (82)</td></tr>
</table>
* data are only reported separately by ethnicity; HR not reported; all data estimated by reviewer from Kaplan-Meier graphs (see below)

Subgroup analysis: any full- or part-time RTW over follow-up period by ethnicity*
<table>
<tr><th></th><th colspan="2">Swedish nationals</th><th colspan="2">Immigrants</th></tr>
<tr><td>Cumulative incidence of RTW from 90 day baseline absence</td><td>Intervention (n=151)</td><td>Control (n=134)</td><td>Intervention (n=87)</td><td>Control (n=92)</td></tr>
<tr><td>Any RTW (part- or full-time) – n (%)</td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
</table>

Bibliographic reference	Lindh M, Lurie M, Sanne H. A randomised prospective study of vocational outcome in rehabilitation of patients with non-specific musculoskeletal pain: a multidisciplinary approach to patients identified after 90 days of sick leave. Scandinavian Journal of Rehabilitation Medicine 29: 103-112

- by 3 months	33 (22)	42 (31)	17 (19)	30 (33)
- by 12 months	95 (63)	86 (64)	37 (43)	56 (61)
- by 2 years	110 (73)	98 (73)	44 (51)	63 (69)
- by 3 years	118 (78)	107 (80)	55 (63)	69 (75)
- by 4 years	125 (83)	114 (85)	59 (68)	72 (78)
- by 5 years	128 (85)	114 (85)	59 (68)	72 (78)

* HR not reported; all data estimated by reviewer from Kaplan-Meier graphs (see below)

Outcome: Prevalence of full- or part-time working during follow-up*

	Intervention (n=238)	Control (n=226)
In work (n, %) at…		
- 3 months after study inclusion	6 (3)	3 (1)
- 12 months	92 (39)	90 (40)
- 2 years	102 (43)	105 (46)
- 3 years	108 (45)	97 (43)
- 4 years	119 (50)	103 (46)
- 5 years	119 (50)	99 (44)

* data are only reported separately by ethnicity; HR not reported; all data estimated by reviewer from Kaplan-Meier graphs (see below)

Subgroup analysis: Prevalence of full- or part-time working during follow-up by ethnicity*

	Swedish nationals		**Immigrants**	
	Intervention (n=151)	Control (n=134)	Intervention (n=87)	Control (n=92)
In work (n, %) at…				
- 3 months after study inclusion	3 (2)	3 (2)	3 (3)	0
- 12 months	68 (45)	60 (45)	24 (28)	30 (33)
- 2 years	80 (53)	68 (51)	22 (25)	37 (40)

Bibliographic reference	**Lindh M, Lurie M, Sanne H. A randomised prospective study of vocational outcome in rehabilitation of patients with non-specific musculoskeletal pain: a multidisciplinary approach to patients identified after 90 days of sick leave. Scandinavian Journal of Rehabilitation Medicine 29: 103-112**

- 3 years	83 (55)	63 (47)	25 (29)	34 (37)
- 4 years	89 (59)	71 (53)	30 (34)	32 (35)
- 5 years	88 (58)	70 (52)	31 (36)	29 (31)

* HR not reported; all data estimated by reviewer from Kaplan-Meier graphs

Other outcomes reported:

- Sickness absence - mean no. days in each 6 month period after RTW (reported in bar chart; data not extracted from graph as group denominators are unclear).

Source of funding	Supported by grants from The Swedish Work Environment Fund, the AMF-trygghettsforsakring, and the Greta and Einar Asker Foundation.
Related publications	None
Comments	**Limitations noted by authors:** • Potential selection bias: non-selected general patient source population, but high 'dropout' (i.e. non-engagement) rate in those allocated to intervention (34%) might be because they were 'healthier' than those who attended for rehabilitation **Limitations noted by reviewer:** • Paper primarily contrasts the groups as per allocation, but 33% of rehabilitation group did not receive intervention • Some variation in baseline characteristics of intervention group and drop-outs.

Quality assessment

Criterion	Judgement	Comments
Random sequence generation	High	Not reported
Allocation concealment	High	Not reported
Blinding of participants and personnel	High	Not reported; unlikely given nature of intervention.
Blinding of outcome assessment	Unclear	Not reported, however primary outcome is objective and all sickness absence data were obtained from centralised administrative sources.
Incomplete outcome data	Low	Complete sickness absence / RTW data for all subjects; analysed according to ITT principle.

Bibliographic reference	**Lindh M, Lurie M, Sanne H. A randomised prospective study of vocational outcome in rehabilitation of patients with non-specific musculoskeletal pain: a multidisciplinary approach to patients identified after 90 days of sick leave. Scandinavian Journal of Rehabilitation Medicine 29: 103-112**		
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Unclear	33% of intervention group did not receive the intervention
Overall RoB	High		

D.1.6 Lindstrom 1992

Bibliographic reference	**Lindström I, Öhlund C, Eek C, Wallin L, Peterson LE, Fordyce W, Nachemson A. The effect of graded activity on patients with subacute low back pain: A randomized prospective clinical study with an operant-conditioning behavioural approach. Physical Therapy 72: 279-290.**
Study type	RCT
Aim	To determine whether graded activity restores occupational function in industrial blue-collar workers sick listed for 8 weeks because of subacute non-specific low back pain (LBP).
Location & setting	Sweden All divisions of the Volvo Company in Gothenburg (blue-collar employee population n=10,000)
Study dates	Not reported (recruitment period lasted 2.5 years)
Length of follow-up	2 years
Participant characteristics	Employees sick-listed with LBP were consecutively referred over 2.5yrs for examination by orthopaedic surgeon, psychosocial evaluation by social worker and assessment for inclusion in study. **Inclusion criteria:** - Blue-collar employee of Volvo Company in Gothenburg - Sick-listed for 6 weeks with diagnosis of LBP - No sick leave for LBP in 12 weeks prior to current episode - LBP assessed by orthopaedic surgeon on examination as being of a non-specific mechanical nature **Exclusion criteria:** - Specific LBP diagnoses and / or need for surgery (e.g. disk herniation, instability > 4mm on flexion/extension, spondylolisthesis stenosis, vertebral fractures, tumours, inflammatory diseases) - Pregnancy

<table>
<tr><td>Bibliographic reference</td><td>Lindström I, Öhlund C, Eek C, Wallin L, Peterson LE, Fordyce W, Nachemson A. The effect of graded activity on patients with subacute low back pain: A randomized prospective clinical study with an operant-conditioning behavioural approach. Physical Therapy 72: 279-290.</td></tr>
<tr><td></td><td>- Defined medical or psychiatric diagnoses
- Drug abuse

Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (n=51)</th><th>Control (n=52)</th></tr>
<tr><td>Age (years) - mean</td><td>39.4 (10.7)</td><td>42.4 (10.9)</td></tr>
<tr><td>% male</td><td>76.5</td><td>61.5</td></tr>
<tr><td>Nationality – %
- Swedish national
- Finnish immigrant
- Immigrant from another country</td><td colspan="2">
25
35
40</td></tr>
<tr><td>Work demands - %
- Shift work
- Job rotation
- Monotonous work
- Sitting
- Forward bending
- Standing / twisting
- Lifting</td><td>
60
41
39
55
90
92
69</td><td>
53
31
49
53
90
88
69</td></tr>
<tr><td>Sickness absence
- at baseline
- previous sickness absence</td><td>
100
Not reported</td><td>
100
Not reported</td></tr>
</table>
Note: there were no significant differences at baseline between groups on measures of pain, range of motion and other physical indices (data not extracted).</td></tr>
<tr><td>Number of study subjects</td><td>N=103
2/51 patients randomised to the graded activity intervention refused to participate</td></tr>
</table>

Bibliographic reference	**Lindström I, Öhlund C, Eek C, Wallin L, Peterson LE, Fordyce W, Nachemson A. The effect of graded activity on patients with subacute low back pain: A randomized prospective clinical study with an operant-conditioning behavioural approach. Physical Therapy 72: 279-290.**
Intervention details	Graded activity programme (+ usual care) • Delivered by physical therapist • Aimed to return employee to previous non-modified workplace as soon as possible (no ergonomic or other changes in work situation were included). • Duration of intervention was variable, not fixed – workers continuously encouraged to RTW. • Consisted of four parts: - Measurements of functional capacity; - Workplace visit – with employee and supervisor, to assess work situation and give physical therapist an overview of work demands, and to allow supervisor to become involved in the rehabilitation process; - Back school education – one 1 hour session - An individual, submaximal, gradually increased exercise programme with operant conditioning behavioural approach, based on results of tests and demands of job role; initially supervised, progressing to self-training sessions. Each participant undertook their graded exercise programme in the company's recreation department, 3 days a week until RTW (no home exercise required) In addition, 29% received usual care from company OP, remainder from own GP. Usual care physician was responsible for sick-listing forms and judgement of patient's ability to RTW. All agreed to their patients receiving the graded activity intervention. *Adherence* Participants had a mean 10.7 (SD 12.3) appointments with the physical therapist before RTW (median: 5, range: 0-25). 59% of workers participated in a mean of 9.7 self-training sessions: mean for all patients in activity group was 3. No significant gender differences found.
Comparison details	Usual care No involvement with physical therapist. 28% received usual care from company OP, remainder from own GP. Could include sick-listing with rest, analgesics, physical therapy, etc. Usual care physician was responsible for sick-listing forms and judgement of patient's ability to RTW.
Methods and analysis	**Power**

<table>
<tr><td>Bibliographic reference</td><td>Lindström I, Öhlund C, Eek C, Wallin L, Peterson LE, Fordyce W, Nachemson A. The effect of graded activity on patients with subacute low back pain: A randomized prospective clinical study with an operant-conditioning behavioural approach. Physical Therapy 72: 279-290.</td></tr>
<tr><td></td><td>Calculation not reported.
Data collection
Primary outcomes: rate of RTW and amount of sickness absence during 2nd follow-up year. Records of sick leave were obtained from Social Insurance Office.
Analyses
Log likelihood ratio test used to compare rate of RTW between graded activity and control groups based on number of sick listing days between randomisation and day of RTW (cut-off at 1 year of follow-up).</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Return to work (regular job and hours)
<table>
<tr><th>Timepoint</th><th>Intervention (n=51)</th><th>Control (n=52)</th></tr>
<tr><td>Within 6 weeks of randomisation – n (%)</td><td>30 (59)</td><td>21 (40)</td></tr>
<tr><td>Within 12 weeks of randomisation – n (%)</td><td>41 (80)</td><td>30 (58)</td></tr>
<tr><td>After 1 year follow-up – n (%)</td><td>48 (94)</td><td>47 (90)</td></tr>
</table>
Outcome: Time to RTW (regular job and hours) over 1 year
<table>
<tr><th></th><th>Intervention (n=51)</th><th>Control (n=52)</th></tr>
<tr><td>Time to RTW
- mean (SD) weeks
- median days</td><td>
10.0 (12.7)
35</td><td>
15.1 (15.6)
61</td></tr>
<tr><td>- log likelihood ratio test</td><td colspan="2">χ^2 = 4.7; p=0.03</td></tr>
</table>
Outcome: recurrence of sickness absence for LBP over 2nd follow-up year
<table>
<tr><th></th><th>Intervention (n=51)</th><th>Control (n=52)</th></tr>
<tr><td>Yes – n (%)</td><td>30 (58)</td><td>41 (79)</td></tr>
</table></td></tr>
</table>

Bibliographic reference	**Lindström I, Öhlund C, Eek C, Wallin L, Peterson LE, Fordyce W, Nachemson A. The effect of graded activity on patients with subacute low back pain: A randomized prospective clinical study with an operant-conditioning behavioural approach. Physical Therapy 72: 279-290.**

Outcome: sickness absence duration over 2nd follow-up year

	Intervention (n=51)	Control (n=52)
Total weeks of sick leave – mean (SD)	16.6 (18.4)	24.3 (19.7)
- due to LBP – mean (SD)	12.1 (18.4)	19.6 (20.7)
- due to other diagnoses – mean (SD)	4.4 (7.9)	4.7 (10.6)

Subgroup: Time to RTW by gender

	Intervention		Control	
	Male (n=39)	Female (n=12)	Male (n=32)	Female (n=20)
Time to RTW - mean (SD) weeks	9.7 (12.9)	11.0 (12.4)	16.7 (16.3)	12.6 (14.4)

Subgroup: Sickness absence duration over 2nd follow-up year by gender

	Intervention		Control	
	Male (n=39)	Female (n=12)	Male (n=32)	Female (n=20)
Total weeks of sick leave – mean (SD)	15.1 (19.5)	21.1 (13.9)	27.2 (19.2)	19.6 (20.1)
- due to LBP – mean (SD)	11.0 (19.1)	15.9 (16.4)	21.6 (20.3)	16.6 (21.7)

Other outcomes reported:
None

Source of funding	Supported by Arbetsmarknadens forsakringsaktiebolag (AFA), Stockholm; The Volvo Company, Gothenburg; the Medical Faculty of the University of Gothenburg; AMF-Trygghetsforsakring, Stockholm; The Greta and Einar Asker Foundation, Gothenburg, and the Bertha and Felix Neuberg Foundation, Gothenburg.
Related publications	None identified.

Bibliographic reference	**Lindström I, Öhlund C, Eek C, Wallin L, Peterson LE, Fordyce W, Nachemson A. The effect of graded activity on patients with subacute low back pain: A randomized prospective clinical study with an operant-conditioning behavioural approach. Physical Therapy 72: 279-290.**		
Comments	**Limitations noted by authors:** ○ Gender imbalance between treatment groups, although overall proportion of females in the study is broadly representative of the company workforce (study population 31% female vs. 23% of company workforce). Number of female patients in both groups is too small to test for subgroup differences. ○ Over-representation of immigrant workers in the study population (75% vs. 32% of the company profile of blue-collar workers) – insufficient numbers to examine immigrant vs. non-immigrant subgroup effects **Limitations noted by reviewer:** ○ Potential control group contamination (participants not prevented from getting information from intervention group patients) ○ Generalisability issues due to largely male, immigrant study population		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	High	Not reported.
	Allocation concealment	High	Not reported.
	Blinding of participants and personnel	High	Not reported but unlikely given the nature of the intervention.
	Blinding of outcome assessment	Low	Sick leave data were collected for all patients in the study from centralised administrative source. Investigators blind to sick-leave data until the end of the study
	Incomplete outcome data	Low	Sick leave data available for all study participants.
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Unclear	Difference between groups in gender
Overall RoB	Unclear		

D.1.7 Loisel 1997

Bibliographic reference	**Loisel P, Abenhaim L, Durand P, Esdaile J, Suissa S, et al. (1997) A population-based, randomized clinical trial on back pain management. Spine, 22: 2911-2918.**
Study type	Cluster RCT
Aim	To develop and test a model of management of subacute back pain to prevent long-term disability.
Location & setting	Canada One hospital back pain clinic. Participants recruited from 31 workplaces (approx. total of 20,000 employees) in the city of Sherbrooke, Quebec.
Study dates	Recruitment: September 1991 to end December 1993.
Length of follow-up	1 year
Participant characteristics	**Inclusion criteria:** Workplace inclusion: - More than 170 employees - Located within 30km of study site Management at participating workplace identified workers filing claims for back pain Employee inclusion: - Age 18-65 with thoracic or lumbar back pain incurred at work - Had accumulated absence from work / assignment to light duties due to back pain for more than 4 weeks and less than 3 months over preceding year - Accepted by Workers Compensation Board for a claim for back pain **Exclusion criteria:** - pregnant - spinal fracture or significant degenerative spinal disease - non-mechanical spinal disease (e.g. tumour, infection) - major co-morbid condition that might limit participation **Baseline characteristics of study participants: TBC**

	Intervention	Control

Bibliographic reference	**Loisel P, Abenhaim L, Durand P, Esdaile J, Suissa S, et al. (1997) A population-based, randomized clinical trial on back pain management. Spine, 22: 2911-2918.**
	<table><tr><td>Age (years) - mean</td><td></td><td></td></tr><tr><td>% male</td><td></td><td></td></tr><tr><td>Sickness absence</td><td></td><td></td></tr></table> Statistically significant difference at baseline between groups in: age, gender, presence of comorbidity
Number of study subjects	N=130 across 31 participating organisations N=104 analysed (n=14 randomised workers subsequently classed ineligible; n=12 failed to respond to follow-up visit; all non-participants were distributed among the four comparison groups)
Intervention details	(i) Occupational intervention *Details:* After early identification from participating workplaces (4 weeks absence), the first step of the model was occupational. The occupational intervention began after 6 weeks of absence from work. It included a visit to an occupational physician, participatory worksite assessment, agreement and implementation of a participatory ergonomics intervention / other job modifications. (ii) Clinical intervention (after 8 weeks SA) *Details:* Focused on diagnosis and activity education. This step was offered after 8 weeks only if the worker was still absent from regular work. Included a visit to a back pain specialist, education (‘back school’) and, after 12 weeks absence, a multidisciplinary work rehabilitation intervention. The rehabilitation consisted of two successive stages: - Functional Rehabilitation Therapy (FRT) - including fitness development, work hardening and a CBT approach - Therapeutic Return to Work (TRW) – progressive RTW alternating days at the original job with progressively increased tasks and days receiving functional therapy.
Comparison details	Usual care Not defined.
Methods and analysis	**Power** Not reported

<table>
<tr><td>Bibliographic reference</td><td>Loisel P, Abenhaim L, Durand P, Esdaile J, Suissa S, et al. (1997) A population-based, randomized clinical trial on back pain management. Spine, 22: 2911-2918.</td></tr>
<tr><td></td><td>Data collection
Primary outcome: duration of absence from regular work in the year after study enrolment.
Secondary outcomes: duration of absence from any work (including light duties); functional statis (Owestry questionnaire and Sickness Impact profile); pain (McGill-Melzack questionnaire)
Analyses
Duration of absence from regular work and from any work during the 1 year follow-up (including possible recurrences) was analysed with survival analysis. Between-group comparisons of duration of absence were tested with the log-rank test. Cox’s proportional hazards model was used to derive hazard ratios for these outcomes, adjusted for age, gender, comorbidity and BMI.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Return to work (full, regular job and hours) over 1 year*
<table>
<tr><th></th><th>(A) Occupational intervention only (n=22)</th><th>(B) Clinical intervention only (n=31)</th><th>(C) Full occupational + clinical intervention (n=25)</th><th>(D) Control (usual care) (n=26)</th></tr>
<tr><td>Time off regular work (days) - median</td><td>67.0</td><td>131.0</td><td>60.0</td><td>120.5</td></tr>
<tr><td>- log-rank test p-value</td><td colspan="4">p=0.04</td></tr>
<tr><td>- adjusted hazard ratio [a]</td><td>1.59</td><td>1.12</td><td>2.41</td><td>1.00</td></tr>
<tr><td>- p-value</td><td>p=0.26</td><td>p=0.76</td><td>p=0.01</td><td>-</td></tr>
<tr><td>Full intervention vs. control</td><td colspan="4"></td></tr>
<tr><td>Time off regular work (days) – median</td><td colspan="2" rowspan="3"></td><td>60.0</td><td>120.5</td></tr>
<tr><td>- log-rank test p-value</td><td colspan="2">p=0.02</td></tr>
<tr><td>- adjusted hazard ratio [a]</td><td>2.23</td><td>1.00</td></tr>
<tr><td>- p-value</td><td colspan="2">p=0.04</td></tr>
<tr><td>Clinical effect</td><td colspan="2">No clinical effect (A+D)</td><td colspan="2">Clinical effect (B+C)</td></tr>
<tr><td>Time off regular work (days) – median</td><td colspan="2">103.0</td><td colspan="2">79.0</td></tr>
<tr><td></td><td colspan="4">p=0.32</td></tr>
</table></td></tr>
</table>

Bibliographic reference	**Loisel P, Abenhaim L, Durand P, Esdaile J, Suissa S, et al. (1997) A population-based, randomized clinical trial on back pain management. Spine, 22: 2911-2918.**		
	- log-rank test p-value		
	- adjusted hazard ratio [b]	1.00	1.30
	- p-value	p=0.29	
	Occupational effect	**No occupational effect (B+D)**	**Occupational effect (A+C)**
	Time off regular work (days) – median	131.0	67.0
	- log-rank test p-value	p=0.01	
	- adjusted hazard ratio [c]	1.00	1.91
	- p-value	p<0.01	
	* when analyses were conducted with return to *any* work (full / partial, same or other role) as the outcome, no statistically significant benefit was found of any group or combination of groups. [a] adjusted for age, gender, comorbidity and BMI [b] adjusted for age, gender, comorbidity and BMI and occupational effect in same model [c] adjusted for age, gender, comorbidity and BMI and clinical effect in same model **Other outcomes reported (data not extracted):** ○ Functional status self-report measures (Owestry questionnaire; Sickness Impact Profile) ○ Pain level (McGill-Melzack questionnaire)		
Source of funding	Supported by a grant from the Institut de la Recherche en Sante et Securite du Travail du Quebec, Canada.		
Related publications	None identified in search.		
Comments	**Limitations noted by authors:** ○ Study ended before planned number had been recruited due to introduction of new regional policy focused on earlier detection of prolonged cases of sickness absence which may have created a co-intervention, modifying the control arm of the study. **Limitations noted by reviewer:**		
Quality assessment	**Criterion**	**Judgement**	**Comments**

Bibliographic reference	Loisel P, Abenhaim L, Durand P, Esdaile J, Suissa S, et al. (1997) A population-based, randomized clinical trial on back pain management. Spine, 22: 2911-2918.		
	Random sequence generation	Unclear Low	*Occupational intervention* Cluster randomisation: workplaces stratified by activity sector (manufacturing, services, healthcare) and no. or employees (< or >500). Sequence generation not described. *Clinical intervention* Individual employee randomisation: random numbers generated by computer
	Allocation concealment	Unclear	Sealed sequentially numbered envelopes used to allocate employees to clinical or no clinical intervention. However risk of selection bias due to fact that workplaces were randomised first, so personnel responsible for recruiting patients would be aware of workplace allocation to occupational (or no occupational) intervention.
	Blinding of participants and personnel	High	Not reported but unlikely given nature of interventions.
	Blinding of outcome assessment	Low	Objective sickness absence data (primary outcome) were obtained from Workers Compensation Board claims. States that data on secondary outcomes from medical questionnaire and back pain examination at 1 year were collected by a physician blind to group allocation.
	Incomplete outcome data	Low	Not stated but assume primary outcome data were complete as these were obtained from centralise administrative sources. Randomised non-participants (n=26) were distributed among the four groups.
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.1.8 Marhold 2001

Bibliographic reference	**Marhold C, Linton S, Melin L. (2001) A cognitive-behavioral return-to-work program: effects on pain patients with a history of long-term versus short-term sick leave. Pain 91; 155-163**
Study type	RCT (2x2 design)
Aim	To evaluate if a cognitive behavioural return-to-work focused program conducted by a psychologist could help pain patients back to work, and further to compare the treatment effects on short- and long-term sick leave groups.
Location & setting	Sweden Participants recruited consecutively from a sick leave register managed by the National Insurance Authority in Uppsala
Study dates	Not reported
Length of follow-up	6 months
Participant characteristics	**Inclusion criteria:** • female, aged between 25 and 60 years old, in gainful employment • with a diagnosis of musculoskeletal pain • on sick leave either 2-6 months ('short-term') or >12 months ('long-term') **Exclusion criteria:** • psychotic illness • any planned operations **Baseline characteristics of study participants:**

	All participants* (n=72)
Age (years) – mean (SD)	46 (9)
% male	0
Education (%) - Compulsory - High school education - University degree	 61 25 14
Swedish national (%)	75
Shoulder pain (%)	58

<table>
<tr><td>Bibliographic reference</td><td>Marhold C, Linton S, Melin L. (2001) A cognitive-behavioral return-to-work program: effects on pain patients with a history of long-term versus short-term sick leave. Pain 91; 155-163</td></tr>
<tr><td></td><td>
<table>
<tr><td>Lower back pain (%)</td><td colspan="2">29</td></tr>
<tr><td>Sickness absence^</td><td>2-6 months (n=36)</td><td>>12 months (n=36)</td></tr>
<tr><td>Mean (months) sickness absence</td><td>3</td><td>26</td></tr>
<tr><td>Mean (months) duration of pain</td><td>10</td><td>48</td></tr>
</table>
* Baseline data not reported separately for intervention and control; states there were no significant differences in above characteristics. Dominant work fields of participants reported as: nursing, cleaning, administration, restaurant work, and shop work.
</td></tr>
<tr><td>Number of study subjects</td><td>N=72</td></tr>
<tr><td>Intervention details</td><td><u>Cognitive-behavioural return-to-work programme</u>
Manual-based treatment delivered to groups of six participants over 12 weekly 2.5hr sessions. Delivered on outpatient basis at university psychology department by clinical psychologist.
- First 6 sessions - focus on different pain coping skills (cognitive-behavioural pain management): education & gate control theory of pain; goal setting; graded activity; pacing of activities; relaxation; cognitive techniques to identify, challenge and re-structure negative thoughts; stress management, and problem-solving.
- Last 6 sessions: helping patients to RTW and teaching application of pain coping skills to workplace risk factors e.g. repetitive movements, heavy lifts, stress due to time urgency, disliking the work, insecurity about how to perform the work, and conflicts. Patients also taught how to handle difficulties in early work return, such as increased pain, fatigue, social anxiety, and knowledge deficits about how to perform the work.
- Two post-treatment booster session at 1 and 3 months: focused on developing individual maintenance programs and teaching the patients how to handle setbacks to prevent relapse.
- Additional 15min phone calls conducted by therapist with patients after every third session and in between booster sessions to follow-up homework.

Adherence
Two patients dropped out of intervention group (no primary or secondary data collection) – one on short-term and one long-term sick leave.</td></tr>
<tr><td>Comparison details</td><td>Treatment-as-usual (no cognitive-behavioural interventions).</td></tr>
</table>

<table>
<tr><td>Bibliographic reference</td><td>Marhold C, Linton S, Melin L. (2001) A cognitive-behavioral return-to-work program: effects on pain patients with a history of long-term versus short-term sick leave. Pain 91; 155-163</td></tr>
<tr><td></td><td>Primary outcome data available for all control patients; four control patients failed to complete all secondary data collection.</td></tr>
<tr><td>Methods and analysis</td><td>Power analysis
Based on between-groups effect sizes in a meta-analysis (Flor et al., 1992), 36 patients was sufficient to detect differences in outcome measure between treatment and control groups on short- and long-term sick leave.
Data collection
Primary outcome - sick leave data collected from the National Insurance Authority in 2 month blocks (max. 60 days per period) starting with the 2 months before start of treatment. Part-time sick leave also included – no. of days on sick leave were adjusted according to work percentage to form full sick leave days.
Secondary outcomes - self-report measures administered pre- and post-treatment and at 6 months follow-up.
Analysis
Treatment effects for sick leave were analysed separately for patients on long- and short-term sick leave with a 2 (treatment/control) X 4 (pre-treatment/post-treatment/4-month follow-up/6-month follow-up) repeated measures analysis of variance (ANOVA).</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: No. days on sick leave over 2-month periods (max. 60 days per period)
<table>
<tr><th></th><th colspan="2">Short-term sick leave 2-6 months</th><th colspan="2">Long-term sick leave >12 months</th></tr>
<tr><th>Time period</th><th>Intervention (n=18)</th><th>Control (n=18)</th><th>Intervention (n=18)</th><th>Control (n=18)</th></tr>
<tr><td>Mean (SD) sick days</td><td></td><td></td><td></td><td></td></tr>
<tr><td>- 2 months pre-treatment</td><td>57.4 (4.9)</td><td>55.1 (9.9)</td><td>52.6 (12.0)</td><td>53.2 (11.7)</td></tr>
<tr><td>- Post-treatment (0-2 months)</td><td>38.9 (24.7)</td><td>45.5 (22.2)</td><td>49.9 (14.7)</td><td>51.5 (11.9)</td></tr>
<tr><td>- 2-4-months</td><td>25.4 (26.4)</td><td>37.2 (26.6)</td><td>49.4 (17.4)</td><td>51.9 (11.3)</td></tr>
<tr><td>- 4-6-months</td><td>21.0 (25.1)</td><td>39.7 (25.3)</td><td>49.4 (17.4)</td><td>53.7 (10.5)</td></tr>
<tr><td>F-value (Group x Time)</td><td colspan="2">2.78*</td><td colspan="2">0.49</td></tr>
</table>
* p<0.05</td></tr>
</table>

Bibliographic reference	**Marhold C, Linton S, Melin L. (2001) A cognitive-behavioral return-to-work program: effects on pain patients with a history of long-term versus short-term sick leave. Pain 91; 155-163**
	Other outcomes reported: Self-report scores over 2-month periods on: - Multidimensional Pain Inventory - 13 dimensions - Coping Strategies Questionnaire (CSQ) – 10 dimensions - Beck Depression Inventory (BDI) - Pain And Impairment Rating Scale (PAIRS) - Disability Rating Index (DRI)
Source of funding	Supported by grants from the National Insurance Authority in Uppsala and the Swedish National Institute for Working Life.
Related publications	None identified.
Comments	**Limitations noted by authors:** • Generalisability issues: intervention conducted by only one psychologist (could reduce generalisability to other psychologists) and only female participants were enrolled, so results may not be generalizable to men. • A treatment manual was followed for each session, but no treatment adherence checks were conducted. **Limitations noted by reviewer:** • High recovery rates (without intervention) in early stages of MSDs may reduce the difference in results between intervention and control on short-term sick leave, where short-term sick leave is defined as 2-6 months. Conversely, lack of effect for those on long-term sick leave suggests the importance of early intervention • Very small sample sizes • Unclear if those on sick leave >12 months at baseline had a current contract of employment or were unemployed

Quality assessment

Criterion	Judgement	Comments
Random sequence generation	High	Not reported
Allocation concealment	High	Not reported
Blinding of participants and personnel	High	Not reported
Blinding of outcome assessment	Low	Objective data on sick leave
Incomplete outcome data	Low	Attrition rate for primary outcome was 3%. Two patients dropped out of the intervention group (one on short-term sick

Bibliographic reference	**Marhold C, Linton S, Melin L. (2001) A cognitive-behavioral return-to-work program: effects on pain patients with a history of long-term versus short-term sick leave. Pain 91; 155-163**		
			leave and one on long-term sick leave). Attrition rate for secondary outcomes was 8%.
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.1.9 Meijer 2006

Bibliographic reference	**Meijer E, Sluiter J, Heyma A, Sadiraj K, Frings-Dresen M. (2006) Cost-effectiveness of multidisciplinary treatment in sick-listed patients with upper extremity musculoskeletal disorders: a randomized, controlled trial with one-year follow-up. Int Arch Occup Environ Health 79: 654-664.**
Study type	RCT
Aim	To determine the effectiveness and cost-effectiveness of a return-to-work outpatient multidisciplinary treatment programme for sick-listed workers with non-specific upper extremity musculoskeletal complaints.
Location & setting	The Netherlands Patients recruited by OPs serving a population of 160,000 bank employees throughout the Netherlands and workers at one of the two universities in Amsterdam.
Study dates	Patients referred to study between August 2002 and August 2003
Length of follow-up	1 year
Participant characteristics	**Inclusion criteria:** - aged between 18-65 years - employed ≥50% full-time working hours - on sick leave due to non-specific upper extremity musculoskeletal disorders for over 50% of contractual hours for between 4 and 20 weeks. **Exclusion criteria:** - none noted. **Baseline characteristics of study participants:**

<table>
<tr><td>Bibliographic reference</td><td>Meijer E, Sluiter J, Heyma A, Sadiraj K, Frings-Dresen M. (2006) Cost-effectiveness of multidisciplinary treatment in sick-listed patients with upper extremity musculoskeletal disorders: a randomized, controlled trial with one-year follow-up. Int Arch Occup Environ Health 79: 654-664.</td></tr>
<tr><td></td><td>
<table>
<tr><th></th><th>Intervention
(n=20)</th><th>Control
(n=14)</th></tr>
<tr><td>Age (years) – mean (SD)</td><td>38.3 (7.8)</td><td>37.9 (9.0)</td></tr>
<tr><td>% male</td><td>54.5</td><td>45.5</td></tr>
<tr><td>Mean (SD) score for:
- Physical disability
- Physical functional
- Handgrip strength
- Kinesiophobia</td><td>

47.5 (18.6)
70.3 (18.0)
21.8 (14.6)
38.9 (6.9)</td><td>

48.5 (17.3)
67.1 (14.6)
24.1 (14.0)
40.9 (4.4)</td></tr>
<tr><td>Mean (SD)percentage of normal working hours at work</td><td>28.3 (SD 31.2)</td><td>29.2 (SD 23.8)</td></tr>
</table>
No significant differences between groups at baseline.
</td></tr>
<tr><td>Number of study subjects</td><td>N=38 randomised; n=33 analysed
Three intervention patients were lost to follow-up: n=1 never started intervention; n=1 discontinued intervention; n=1 arm complaints due to myocardial infarction. One further patient was excluded from the return-to-work analyses as only 2 out of 4 measures were available.
One patient randomised to usual care was dissatisfied with treatment allocation and dropped out.</td></tr>
<tr><td>Intervention details</td><td><u>Multidisciplinary treatment programme</u>
Outpatient training programme carried out by a Dutch rehabilitation organisation at 13 locations. All locations followed same standardized treatment protocol. Participants were treated at a location closest to their workplace or home. All were allowed to receive other treatments in addition to the intervention.
Details
– Intervention took 13 full days (from 9.00 to 17.00 hours), 5 return-to-work sessions and 1 feedback session, all of which took place within 2 months.
– Delivered by a multidisciplinary team: a physical therapist, a psychologist, a medical specialist and an occupational therapist.
– Patients treated in groups of about eight.</td></tr>
</table>

Bibliographic reference	**Meijer E, Sluiter J, Heyma A, Sadiraj K, Frings-Dresen M. (2006) Cost-effectiveness of multidisciplinary treatment in sick-listed patients with upper extremity musculoskeletal disorders: a randomized, controlled trial with one-year follow-up. Int Arch Occup Environ Health 79: 654-664.**
	– Each day's schedule consisted of four (1.5 h) sessions: two physical sessions and two psychological sessions, twice a week supplemented with a fifth session consisting of 30 min of relaxation exercises. – Physical sessions included: o activities to restore muscle strength, endurance, and aerobic fitness, using graded activity training starting at 30% of the patients' MVC o education to eliminate inappropriate pain behaviour o sports activities outside the building, e.g. bowling. – One of the daily psychological sessions aimed at ''de-medicalising'', setting (and achieving) goals and improving coping strategies using cognitive techniques and education. – Second psychological session prepared participants to return-to-work, or to discuss work experiences. – In the 3rd week of treatment, a workplace visit could be arranged. – Four months and 1 year after starting treatment, two feedback sessions were scheduled. *Adherence* 18/21 randomised intervention patients showed good compliance. The other three attended 50–75% of all sessions (min. 31 sessions). Compliance to the intervention protocol among the team members was good. All the major components (physical, psychological, return-to-work) were provided with over 75% compliance with the protocol. Total number of physical sessions provided was on average 26 (23 required by the protocol). On average, 14 of the 16 psychological sessions took place. Return-to-work was discussed on average 12 times (14 times prescribed by the protocol). Relaxation exercise sessions showed a 12% compliance with the protocol
Comparison details	Usual care, coordinated by OP at the occupational health services Could include treatment at the workplace and in regular health care system, initiated by a GP or medical specialist. During the first 2 months of usual care, all patients visited their OP. In addition, 93% of controls had physical therapy; in 33%, this was supplemented by manual therapy. A GP was consulted by 67%.
Methods and analysis	Power A power analysis based on the results of a pilot study calculated that, with a power of 0.80, 50 subjects were needed per group. Data collection All outcomes assessed by questionnaire and physical examination at 2, 6, and 12 months.

<table>
<tr><td>Bibliographic reference</td><td>Meijer E, Sluiter J, Heyma A, Sadiraj K, Frings-Dresen M. (2006) Cost-effectiveness of multidisciplinary treatment in sick-listed patients with upper extremity musculoskeletal disorders: a randomized, controlled trial with one-year follow-up. Int Arch Occup Environ Health 79: 654-664.</td></tr>
<tr><td></td><td>Return-to-work was defined as the mean percentage of RTW, where 100 was all subjects returning to their regular work at original number of hours. Four questions were used to determine the return-to-work percentage: 1) the actual number of working hours per day; 2) number of contractual hours; 3) number of extra rest breaks during a working day; and 4) number of working hours spent performing tasks other than the usual work. All hours not devoted to regular work were considered to comprise sick leave.
Physical functioning was determined with the Dutch version of the SF-36 Health Survey.
<u>Analyses</u>
ITT analyses.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: return to work – mean % of RTW at regular working hours
<table>
<tr><th>Timepoint</th><th>Intervention (n=19)</th><th>Control (n=14)</th></tr>
<tr><td>At 2 months - % (95%CI)</td><td>39.6 (15.0 to 42.0)</td><td>38.1 (21.3 to 55.0)</td></tr>
<tr><td>At 6 months - % (95%CI)</td><td>81.9 (65.4 to 98.3)</td><td>71.6 (52.5 to 90.8)</td></tr>
<tr><td>At 12 months- % (95%CI)</td><td>86.0 (68.5 to 103.4)</td><td>72.8 (52.5 to 93.2)</td></tr>
</table>
Outcome: physical functioning (SF-36 subscale: range 0-100; higher = better health)
<table>
<tr><th>Timepoint</th><th>Intervention (n=19)</th><th>Control (n=14)</th></tr>
<tr><td>At 2 months – mean score (95%CI)</td><td>82.8 (75.2 to 90.3)</td><td>68.7 (59.4 to 77.9)</td></tr>
<tr><td>At 6 months – mean score (95%CI)</td><td>86.1 (78.8 to 93.4)</td><td>76.4 (67.7 to 85.1)</td></tr>
<tr><td>At 12 months- mean score (95%CI)</td><td>86.0 (76.8 to 95.2)</td><td>77.9 (66.9 to 88.8)</td></tr>
</table>
Other outcomes reported (data not extracted):
• Physical disability (measured using the Disability Arm Shoulder Hand questionnaire)
• Handgrip strength (physical examination)
• Pain severity (VAS scale)
• Other MSK complaints e.g. paraesthesia, stiffness, coldness (VAS scale)</td></tr>
</table>

Bibliographic reference	**Meijer E, Sluiter J, Heyma A, Sadiraj K, Frings-Dresen M. (2006) Cost-effectiveness of multidisciplinary treatment in sick-listed patients with upper extremity musculoskeletal disorders: a randomized, controlled trial with one-year follow-up. Int Arch Occup Environ Health 79: 654-664.**		
	• Kinesiophobia (measured using the of the Tampa Scale for kinesiophobia)		
Source of funding	Funded by The Netherlands Organization for Health Research and Development (ZONMw) and a supplementary grant from the UWV.		
Related publications	None identified in search		
Comments	**Limitations noted by authors:** • Recruitment issues: number of participants was limited **Limitations noted by reviewer:** • Study underpowered; according to power calculation, the sample was too small even before loss to follow-up.		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	A computer-generated random sequence table was made before the start of the inclusion period.
	Allocation concealment	Low	Information kept in opaque, sealed envelopes by a researcher (no contact with the therapists, physicians or patients). Envelopes allocated to patients based on consecutive registration numbers. Envelopes were opened by another researcher to conclude the allocation.
	Blinding of participants and personnel	High	Blinding of participants and personnel not possible.
	Blinding of outcome assessment	High	All self-report
	Incomplete outcome data	Low	33/38 reported
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Unclear	Three intervention patients were lost to follow-up: n=1 never started intervention; n=1 discontinued intervention; n=1 arm complaints due to myocardial infarction. One further patient was excluded from the return-to-work analyses as only 2 out of 4 measures were available. One patient randomised to usual care was dissatisfied with allocation and dropped out
Overall RoB	Low		

D.1.10 Moll 2018

Bibliographic reference	**Moll LT, Jensen OK, Schiøttz-Christensen B, Stapelfeldt CM, Christiansen DH, Nielsen CV, Labriola M. (2018) Return to work in employees on sick leave due to neck or shoulder pain: a randomized clinical trial comparing multidisciplinary and brief intervention with one-year register-based follow-up. J Occup Rehabil 28: 346–356**
Study type	RCT
Aim	To evaluate the effect of a multidisciplinary intervention (MDI) compared to a brief intervention (BI) with respect to return to work (RTW), pain and disability in workers on sick leave because of neck or shoulder pain
Location & setting	Denmark One hospital spinal clinic.
Study dates	Recruitment: May 2009 through January 2014
Length of follow-up	One year
Participant characteristics	**Inclusion criteria:** - age 18–60 years - on full- or part-time sick leave for 4-12 weeks due to pain in the neck, shoulders or upper thoracic region (changed to 4–16 weeks sick leave shortly after starting the project due to low number of GP referrals) **Exclusion criteria:** - signs of nerve root impingement implying plans for surgery - known substance abuse - pregnancy - neck-, back- or shoulder-surgery within the last year - other specific or serious musculoskeletal disease - primary psychiatric disorder (not in clinical remission) **Baseline characteristics of study participants:**

	Intervention (n=85)	Control (n=83)
Age (years) – mean (SD)	40.0 (9.2)	42.2 (10.4)
% female	59 (69.4)	56 (67.5)
Sickness absence ≤ 12 weeks	66 (77.7)	60 (72.3)

Bibliographic reference	**Moll LT, Jensen OK, Schiøttz-Christensen B, Stapelfeldt CM, Christiansen DH, Nielsen CV, Labriola M. (2018) Return to work in employees on sick leave due to neck or shoulder pain: a randomized clinical trial comparing multidisciplinary and brief intervention with one-year register-based follow-up. J Occup Rehabil 28: 346–356**

Education, %: - none, brief courses or other - skilled workers, education < 3 years - education ≥ 3 years	 26.6 55.7 17.7	 32.9 47.4 19.7
Pain intensity last week (0 to 10), median, IQR	7 (5; 8)	7 (6; 8)
Diagnosis, %: - non-specific back pain - radiculopathy - primary shoulder disorder	 67.1 24.7 8.2	 60.2 22.9 16.9
Previous sickness absences due to neck/shoulder pain: - 0 -1-2 - 3-4 >4	 30 25 14 11	 38 12 13 15

Number of study subjects	N=168 randomised; n=164 analysed Three patients randomised to the multidisciplinary intervention (MDI) and one patient randomised to brief intervention group were excluded from analysis of the primary outcome as RTW occurred at baseline (prior to start of interventions)
Intervention details	<u>Multidisciplinary intervention (MDI) with caseworker (hospital outpatient)</u> ○ Patients received same brief multidisciplinary intervention as described below for control group with addition of a caseworker ○ Role of caseworker held by a social worker, a specialist of clinical social medicine or an occupational therapist.

Bibliographic reference	**Moll LT, Jensen OK, Schiøttz-Christensen B, Stapelfeldt CM, Christiansen DH, Nielsen CV, Labriola M. (2018) Return to work in employees on sick leave due to neck or shoulder pain: a randomized clinical trial comparing multidisciplinary and brief intervention with one-year register-based follow-up. J Occup Rehabil 28: 346–356**
	Details: - caseworker responsible for coordinating communication among stakeholders - first appointment (1-2 weeks after randomisation): discuss work history, private life, pain and disability; make a full or partial RTW rehabilitation plan - subsequent meetings with participant depending on need and progress - consultations with a psychologist arranged where required (n=12 (14%) cases) - case manager discusses relevant matters at regular team conferences with rheumatologist, three case managers, physiotherapists and, where relevant, the psychologist - in 19 (22%) cases, roundtable discussions were arranged at workplaces and in three additional cases the case manager phoned the employer of the participant - workplace involvement was optional and decided by the participants – majority wished to keep health problems secret from their employers due to concerns about job security - if RTW was considered impossible, an alternative plan to remain in work was made, for instance by jobs supported by the social system. To ensure a standardized multidisciplinary intervention, the entire team received 1–2 h of supervision every 2 months from a general practitioner specialised in cognitive therapy. Cases were closed when the participants returned to work and the MDI support could not proceed after this was achieved. Median duration of the MDI+caseworker intervention was 4.6 months (IQR 3.3, 7.4)
Comparison details	<u>Brief multidisciplinary intervention (hospital outpatient)</u> *Details* • Baseline: clinical examination with a rheumatologist and physiotherapist, plus reassurance and advice (plus MRI and/or other lab tests arranged and analgesic treatment adjusted, where necessary) • 2 weeks: follow-up with physiotherapist (to ensure adherence to given exercises) and trial randomization • 3–6 weeks: follow-up appointment with rheumatologist to discuss MRI findings • 12 weeks: follow-up with physiotherapist

<table>
<tr><td>Bibliographic reference</td><td>Moll LT, Jensen OK, Schiøttz-Christensen B, Stapelfeldt CM, Christiansen DH, Nielsen CV, Labriola M. (2018) Return to work in employees on sick leave due to neck or shoulder pain: a randomized clinical trial comparing multidisciplinary and brief intervention with one-year register-based follow-up. J Occup Rehabil 28: 346–356</td></tr>
<tr><td></td><td>Except for the follow-up visits with rheumatologist and physiotherapist, those allocated to the brief intervention group were offered no further intervention. They were advised to resume work when possible. If additional advice / treatment were needed, they were recommended to consult their GP.

Median duration of the Brief intervention was 3 months (IQR 3, 3)</td></tr>
<tr><td>Methods and analysis</td><td>Power
Prior to the study, a power calculation was carried out based on the assumption that there would be a 15% difference in RTW between the groups. Given a power (1-β) of 70%, a sample size of 85 in each group was required (two-sided α = 0.05).
Data collection
Primary outcome was RTW obtained by a national registry on public transfer payments. Secondary outcomes: self-report measures of pain intensity and disability
Analysis
One-year follow-up RTW rates were estimated by Cox proportional hazard regression adjusted for gender, age, sick leave prior to inclusion, part-time sick leave and clinical diagnosis.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Return to work (for ≥4 consecutive weeks) at 12 months follow-up
<table>
<tr><th></th><th>Multidisciplinary intervention (n=85)</th><th>Brief intervention (n=83)</th></tr>
<tr><td>No. (%) RTW</td><td>50 (59)</td><td>48 (58)</td></tr>
</table>
Outcome: Time to RTW (for ≥4 consecutive weeks) over 12 months
<table>
<tr><th></th><th>Multidisciplinary intervention (n=85)</th><th>Brief intervention (n=83)</th></tr>
<tr><td>Time (in weeks) – median (IQR)</td><td>44 (IQR 18, 52)</td><td>32 (IQR 12, 52)</td></tr>
</table></td></tr>
</table>

Bibliographic reference	**Moll LT, Jensen OK, Schiøttz-Christensen B, Stapelfeldt CM, Christiansen DH, Nielsen CV, Labriola M. (2018) Return to work in employees on sick leave due to neck or shoulder pain: a randomized clinical trial comparing multidisciplinary and brief intervention with one-year register-based follow-up. J Occup Rehabil 28: 346–356**
	– p value for difference: 0.83 – Hazard ratio (95%CI) - crude analysis (n=164): 0.94 (0.63 to 1.41) – Hazard ratio (95%CI) – adjusted analysis[a]: 0.84 (0.54; 1.31) [a] adjusted for known prognostic variables for RTW: sex, age (≤40/>40 years), duration of sick leave (≤/>12 weeks), part-time sick leave (yes/no) and clinical diagnoses (non-specific neck pain, radiculopathy, primary shoulder disorder). Excluded 14 individuals with missing data on one or more variable included in model. **Other outcomes reported (data not extracted):** ○ Pain intensity (self-report measure) ○ Disability (self-report measure)
Source of funding	The Danish Rheumatism Foundation, Helga og Peter Korning Foundation, Aase og Ejnar Danielsen Foundation, Aarhus University, Tryg Foundation.
Related publications	None identified
Comments	**Limitations noted by authors:** • Potential risk of selection bias in assessment of secondary outcomes due to high number of non-responders (n=89) • Only a minority of participants in the MDI experienced any workplace involvement **Limitations noted by reviewer:** • Little distinction in practice between the two treatments as very few of the intervention subjects either saw a psychologist or agreed to involve their workplace

Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	High	No details of random sequence generation.
	Allocation concealment	Low	A secretary made a telephone call to an externally placed computer to receive allocation.

Bibliographic reference	**Moll LT, Jensen OK, Schiøttz-Christensen B, Stapelfeldt CM, Christiansen DH, Nielsen CV, Labriola M. (2018) Return to work in employees on sick leave due to neck or shoulder pain: a randomized clinical trial comparing multidisciplinary and brief intervention with one-year register-based follow-up. J Occup Rehabil 28: 346–356**		
	Blinding of participants and personnel	High	Not possible to perform all interventions in a blinded manner
	Blinding of outcome assessment	Unclear	Not reported but primary outcome was objective
	Incomplete outcome data	Low	Access to register data on the primary outcome allowed for 100% follow-up.
	Selective outcome reporting	High	SF36 mentioned in ISRCTN and paper but not reported
	Other sources of bias	Unclear	Nested in this randomized controlled trial (RCT) was a smaller RCT testing the effect of two different exercise programs, which has been reported previously. Enrolled in the nested RCT were 83 of the participants with nonspecific neck pain who were randomly allocated to one of two home-based exercise groups. Some were allocated to a general physical activity group (GPA) (n = 40) and the remaining participants (n = 43) were allocated to a group doing both general physical exercise AND specific strength training (SST). The primary outcome of this trial was pain intensity, and no difference was found between the groups.
Overall RoB	Low		

D.1.11 Myhre 2014

Bibliographic reference	**Myhre K ; Marchand G H; Leivseth G ; Keller A ; Bautz-Holter E ; Sandvik L ; Lau B ; Roe C (2014) The effect of work-focused rehabilitation among patients with neck and back pain: a randomized controlled trial. Spine 39: 1999-2006**
Study type	RCT
Aim	To compare the sustainable RTW rate among sick-listed patients offered work-focused rehabilitation or multidisciplinary rehabilitation in specialist healthcare.
Location & setting	Norway Two hospital outpatient neck and back clinics (patients recruited from referrals).

<table>
<tr><td>Bibliographic reference</td><td>Myhre K ; Marchand G H; Leivseth G ; Keller A ; Bautz-Holter E ; Sandvik L ; Lau B ; Roe C (2014) The effect of work-focused rehabilitation among patients with neck and back pain: a randomized controlled trial. Spine 39: 1999-2006</td></tr>
<tr><td>Study dates</td><td>Recruitment: August 2009 – August 2011.</td></tr>
<tr><td>Length of follow-up</td><td>1 year</td></tr>
<tr><td>Participant characteristics</td><td>Inclusion criteria:
• employed patients referred to neck and back outpatients clinic
• aged 18-60 years
• currently sick-listed between 4 weeks and 12 months

Exclusion criteria:
• need for surgical treatment
• Cauda equine syndrome
• symptomatic spinal deformities
• osteoporosis with factures
• inflammatory rheumatic diseases
• pregnancy
• legal labour disputes
• cardiac, pulmonary or metabolic disease with functional restrictions
• diagnosed mental health disorder

Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (n=203)</th><th>Control (n=202)</th></tr>
<tr><td>Age (years) - mean</td><td>40.2 (9.7)</td><td>41.0 (10.0)</td></tr>
<tr><td>% male</td><td>55.7</td><td>51.5</td></tr>
<tr><td>Norwegian native-speaker (%)</td><td>79.8</td><td>76.5 (n=200)</td></tr>
<tr><td>Education (%)
- Primary school
- Vocational high / secondary
- College / university <4 yrs</td><td>
14.8
60.6
15.8</td><td>
17.1 (n=199)
52.8 (n=199)
18.1 (n=199)</td></tr>
</table></td></tr>
</table>

Bibliographic reference	**Myhre K ; Marchand G H; Leivseth G ; Keller A ; Bautz-Holter E ; Sandvik L ; Lau B ; Roe C (2014) The effect of work-focused rehabilitation among patients with neck and back pain: a randomized controlled trial. Spine 39: 1999-2006**

- College / university >4 yrs	8.9	12.1 (n=199)
Occupational category (%) - Low-skilled blue collar - High-skilled blue collar - Low- skilled white collar - High-skilled white collar	 18.2 22.7 31.5 27.6	 15.9 (n=201) 20.4 (n=201) 37.3 (n=201) 26.4 (n=201)
Sickness absence prior to inclusion – median (IQR)	109 (69, 168)	115 (71, 189)
Smoker (%)	29.5 (n=200)	29.9 (n=197)
BMI – mean (SD)	26.9 (4.7) (n=176)	27.1 (5.0) (n=163)

No significant differences between groups on any baseline characteristics including clinical measures of pain, disability and other health indices (data not extracted)

Number of study subjects	N=405
Intervention details	Work-focused intervention (usual multidisciplinary care + caseworker; delivered in hospital outpatient setting) Patients received standard clinical examination from a physician and education and reassurance (as for control patients, described below) *plus* individual appointments with a caseworker during first days of treatment. *Caseworker process:* - discussed work histories, family lives, and obstacles to RTW - contacted participants' employers by phone (unless patient refused) to inform of programme and inquire about possible temporary modifications at work - created a RTW schedule together with patients and the multidisciplinary team - discussed with patients relevant issues for a meeting with the employer and offered assistance at this meeting, if requested - contacted municipal social services if sick leave compensation was an issue - sent medical records and RTW schedules to participants and their GPs, who managed the patients' sick-leave certificates.

	Work-focused intervention (3 weeks)

<table>
<tr><td>Bibliographic reference</td><td>Myhre K ; Marchand G H; Leivseth G ; Keller A ; Bautz-Holter E ; Sandvik L ; Lau B ; Roe C (2014) The effect of work-focused rehabilitation among patients with neck and back pain: a randomized controlled trial. Spine 39: 1999-2006</td></tr>
<tr><td></td><td>
<table>
<tr><td></td><td>Hospital 1</td><td>Hospital 2</td></tr>
<tr><td>Team</td><td colspan="2">Multidisciplinary healthcare professionals + caseworker</td></tr>
<tr><td>Physio sessions</td><td>7</td><td>7</td></tr>
<tr><td>Lectures</td><td>4</td><td>5</td></tr>
<tr><td>Group discussions</td><td>0</td><td>3</td></tr>
<tr><td>Appointments with medical specialist</td><td>2</td><td>2</td></tr>
<tr><td>Appointments with caseworker</td><td>2-3</td><td>2</td></tr>
</table>
</td></tr>
<tr><td>Comparison details</td><td>
<u>Usual multidisciplinary model of care at each hospital outpatient clinic</u>

All participants received a standard clinical examination from a physician. Relevant imaging was evaluated, and patients informed about the findings and that the origin of pain is often difficult to visualize via imaging. Patients were reassured that daily activities, physical exercise, or work would not hurt or damage their necks or backs.

At the time of the study, the neck and back clinic at one of the participating hospitals used a 3-week ‘comprehensive’ multidisciplinary intervention, while the other participating hospital used a 3-week multidisciplinary ‘brief model’; both programs were used as control interventions (details below)

<table>
<tr><td></td><td colspan="2">Control intervention</td></tr>
<tr><td></td><td>Hospital 1
(brief model: 3 weeks)</td><td>Hospital 2
(comprehensive: 3 weeks)</td></tr>
<tr><td>Team</td><td colspan="2">Multidisciplinary healthcare professionals</td></tr>
<tr><td>Physio sessions</td><td>1–2</td><td>17</td></tr>
<tr><td>Lectures</td><td>0</td><td>8</td></tr>
<tr><td>Group discussions</td><td>0</td><td>4</td></tr>
<tr><td>Appointments with medical specialist</td><td>1</td><td>2</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td>Bibliographic reference</td><td>Myhre K ; Marchand G H; Leivseth G ; Keller A ; Bautz-Holter E ; Sandvik L ; Lau B ; Roe C (2014) The effect of work-focused rehabilitation among patients with neck and back pain: a randomized controlled trial. Spine 39: 1999-2006</td></tr>
<tr><td></td><td>
<table>
<tr><td>Appointments with caseworker</td><td>0</td><td>0</td></tr>
</table>
</td></tr>
<tr><td>Methods and analysis</td><td>Power calculation
A hazard ratio of 1.7 was assumed, and given a power (1- β) of at least 0.8 and a significance level of α = 0.05, 157 participants were required. Assuming 10% attrition rate and 30% to not respond at follow-up a target sample size of 224 was calculated.

Data collection
Primary outcome: RTW – defined as the first 5-week period following randomisation that the patient did not receive sickness benefits, work assessment allowance or disability pension

Analysis
Survival analysis (Kaplan-Meier) was used to investigate the length of sickness absence and the Breslow test to compare the intervention group with the standard care group. A Cox proportional hazards regression model was used to calculate hazard ratios for RTW rates. All analysis performed according to intention to treat principle.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: RTW at 12 month follow-up
<table>
<tr><td></td><td colspan="2">Work-focused intervention (n=203)</td><td colspan="2">Control (n=202)</td></tr>
<tr><td>Patients with RTW within 12 months - no. (%)</td><td colspan="2">142 (70)</td><td colspan="2">152 (75)</td></tr>
<tr><td></td><td>Work-focused intervention (n=97)</td><td>Control (n=96)</td><td>Work-focused intervention (n=106)</td><td>Control (n=106)</td></tr>
<tr><td>Patients with RTW within 12 months - no. (%)</td><td>73 (75)</td><td>72 (75)</td><td>69 (65)</td><td>80 (75)</td></tr>
</table>
Outcome: Time taken to return to work</td></tr>
</table>

Bibliographic reference	**Myhre K ; Marchand G H; Leivseth G ; Keller A ; Bautz-Holter E ; Sandvik L ; Lau B ; Roe C (2014) The effect of work-focused rehabilitation among patients with neck and back pain: a randomized controlled trial. Spine 39: 1999-2006**

	Work-focused intervention (n=203)	**Control (n=202)**
No. of days until RTW - median	161	158
- p-value for difference between groups	0.45	
Unadjusted hazard ratio (95%CI)	0.91 (0.73 to 1.13)	
Adjusted hazard ratio (95%CI)	0.94 0.75 to 1.17)	

	Hospital 1		**Hospital 2**	
Kaplan-Meier analysis	**Work-focused intervention (n=97)**	**Control (n=96)**	**Work-focused intervention (n=106)**	**Control (n=106)**
No. of days until RTW - median	150	158	176	157
- p-value for difference between groups	0.750		0.178	
Unadjusted hazard ratio (95%CI)	1.08 (0.79 to 1.47)		0.78 (0.57 to 1.06)	
Adjusted hazard ratio (95%CI)	1.15 (0.84 to 1.57)		0.76 (0.56 to 1.04)	

Other outcomes reported:
None

Source of funding	
Related publications	
Comments	**Limitations noted by authors:** It was not possible to obtain similar control interventions across the 2 study sites, and the work focused interventions vary in implementation. Both groups received thorough clinical examinations in specialist care, which may have reduced the ability to detect differences.

Bibliographic reference	**Myhre K ; Marchand G H; Leivseth G ; Keller A ; Bautz-Holter E ; Sandvik L ; Lau B ; Roe C (2014) The effect of work-focused rehabilitation among patients with neck and back pain: a randomized controlled trial. Spine 39: 1999-2006**		
	Limitations noted by reviewer:17 participants in the control group dropped out immediately after randomisation and were included in analysis		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	An independent statistician generated a random block sequence stratified by hospital
	Allocation concealment	High	Not reported
	Blinding of participants and personnel	High	After randomization, it was not possible to blind either the treatment team or participants
	Blinding of outcome assessment	Unclear	Not reported but primary outcome was objective
	Incomplete outcome data	Low	405/413 analysed
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.1.12 Scheel 2002

Bibliographic reference	**Scheel I, Birger Hagen K, Herrin J, Carling C, Oxman A. (2002b) Blind faith? The effects of promoting active sick leave for back pain patients: a cluster-randomized controlled trial. Spine 27: 2734 – 2740.**
Study type	Cluster RCT
Aim	To evaluate the effects of two strategies to increase use of active sick leave (ASL) among patients with low back pain (LBP) on improved return to work and quality of life.
Location & setting	Norway 65 municipalities within 19 counties throughout Norway selected to reflect industrial and demographic variation in the population.
Study dates	Recruitment: September 1998 to end-November 1999
Length of follow-up	One year

<table>
<tr><td>Bibliographic reference</td><td>Scheel I, Birger Hagen K, Herrin J, Carling C, Oxman A. (2002b) Blind faith? The effects of promoting active sick leave for back pain patients: a cluster-randomized controlled trial. Spine 27: 2734 – 2740.</td></tr>
<tr><td>Participant characteristics</td><td>Inclusion criteria:
Back pain patients residing in one of the 65 participating municipalities with one of the following ICPC diagnoses: L02 (back symptoms/complaints), L03 (low back symptoms/complaints), L84 (back syndromes without radiation), or L86 (intervertebral disc ruptures with radiating pain).
Employed and absent from work ≥16 days (sickness is registered by the NIA from the 17th day of absence when the responsibility for sickness benefits passes from the employer to the NIA).

Exclusion criteria:
Pregnant women
Self-employed people
Employees on part-time sick leave

Baseline characteristics of study participants:
<table>
<tr><td></td><td>Proactive intervention (n=2232)</td><td>Passive intervention (n=2045)</td><td>Control (n=1902)</td></tr>
<tr><td>Age (years) - mean</td><td>40.7 (11.8)</td><td>39.2 (11.5)</td><td>40.2 (11.5)</td></tr>
<tr><td>% male</td><td>51.7</td><td>46.4</td><td>52.1</td></tr>
<tr><td>Sickness absence in past 12 m for back pain – %</td><td>28.9</td><td>32.7</td><td>29.4</td></tr>
<tr><td>Positive attitude to Active Sick Leave - %</td><td>48.9</td><td>50.6</td><td>50.3</td></tr>
</table>
</td></tr>
<tr><td>Number of study subjects</td><td>N=6,179 patients (representing 7,056 episodes of sick leave) were included in the analysis.</td></tr>
<tr><td>Intervention details</td><td>The municipalities were randomly assigned to receive a proactive intervention to increase use of active sick leave (ASL), a passive intervention to increase use of ASL, or no intervention.

Active sick leave (ASL) is a Norwegian social insurance option enabling employees to return to modified duties at the workplace on 100% remuneration of normal wages (as for ordinary sick leave).

[A] Proactive intervention:
- reminders about ASL on the sick leave form that GPs must complete
- standard agreement to facilitate ASL
- targeted information</td></tr>
</table>

<table>
<tr><td>Bibliographic reference</td><td>Scheel I, Birger Hagen K, Herrin J, Carling C, Oxman A. (2002b) Blind faith? The effects of promoting active sick leave for back pain patients: a cluster-randomized controlled trial. Spine 27: 2734 – 2740.</td></tr>
<tr><td></td><td>- GP desktop summary of clinical guidelines for LBP emphasising importance of advice to stay active
- a continuing education workshop for GPs
- a trained local resource person to facilitate use of ASL via motivating phone calls to patients.

[B] Passive intervention
As for proactive intervention but without the continuing education workshop for GPs or a trained resource person to facilitate use of ASL.</td></tr>
<tr><td>Comparison details</td><td>No intervention to improve use of ASL</td></tr>
<tr><td>Methods and analysis</td><td>Power
Estimated a sample size of approximately 2,500 patients per group would be needed to detect a reduction from 6% to 3% in the proportion of patients who did not return to work within a year (p = 0.05 with 80% power). Data from the previous 3 years were used to estimate the intra-cluster correlation in the sample size calculations. With this sample size it was estimated there would be more than 90% power to detect a difference of 8 days or more in the average length of sick leave (p=0.05).
Data collection
Baseline data such as sex, age, diagnosis, municipality of residency, and sick leave data were gathered from the NIA register. All patients were observed for a year. Data to determine differences in health-related quality of life were collected by postal questionnaires at baseline and at 3 and 12 months after inclusion. Patient attitudes toward ASL were assessed in the baseline questionnaire. Periods of sick leave that were consecutive (separated by ≤ 1 day) in the data record were combined into a single episode. If any portion of an episode was recorded as active, the entire episode was categorized as active.

Adjustment for clustering using cluster-adjusted X^2 and t-tests.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: RTW in less than 50 weeks (proxy for ‘long-term disability’)
<table>
<tr><td></td><td>[A] Proactive intervention (n=2232)</td><td>[B] Passive intervention (n=2045)</td><td>[C] Control (n=1902)</td><td>[D] Control + Passive (n = 3947)</td></tr>
<tr><td>% RTW (95%CI)</td><td>89.0</td><td>90.0</td><td>89.1</td><td>89.5</td></tr>
</table></td></tr>
</table>

Bibliographic reference	Scheel I, Birger Hagen K, Herrin J, Carling C, Oxman A. (2002b) Blind faith? The effects of promoting active sick leave for back pain patients: a cluster-randomized controlled trial. Spine 27: 2734 – 2740.

	(87.0 to 90.9)	(88.5 to 91.4)	(87.7 to 90.5)	(88.6 to 90.5)
Comparison		[A] - [B]	[A] - [C]	[A] - [D]
% difference (95%CI)		-1.0 (-3.4 to 1.4)	-0.1 (-2.5 to 2.3)	-0.6 (-2.7 to 1.6)

Outcome: Days off work*

	Proactive intervention (n=2232)	Passive intervention (n=2045)	Control (n=1902)
First episode mean no. days (SD) median no. days	 112.7 (113.4) 57	 110.6 (113.1) 55	 113.7 (117.8) 56
All sick leave mean no. days (SE) median no. days	 127.7 (122.8) 70	 124.8 (122.1) 68	 128.5 (122.1) 71

* No statistically significant differences between groups

Outcome: recurrent episodes of sick leave for back pain*

	[A] Proactive intervention (n=2232)	[B] Passive intervention (n=2045)	[C] Control (n=1902)	[D] Control + Passive (n = 3947)
% with one or more recurrences (95%CI)	11.8 (10.3 to 13.3)	11.6 (10.2 to 13.0)	11.2 (9.4 to 12.9)	11.4 (10.4 to 12.4)
Comparison		[A] - [B]	[A] - [C]	[A] - [D]
% difference (95%CI)		0.2 (-1.9 to 2.3)	0.6 (-1.7 to 2.9)	0.4 (-1.4 to 2.2)

* No statistically significant differences between groups

Outcome: Quality of life (SF36 scores: higher = better health)*

	Proactive intervention	Passive intervention	Control
Physical functioning score at 3m – mean (SD), n**	61.2 (23.56), n=867	61.5 (22.18), n=769	63.1 (24.05), n=714

Bibliographic reference	**Scheel I, Birger Hagen K, Herrin J, Carling C, Oxman A. (2002b) Blind faith? The effects of promoting active sick leave for back pain patients: a cluster-randomized controlled trial. Spine 27: 2734 – 2740.**

Bodily pain score at 3m – mean (SD), n**	46.1 (23.73), n=880	43.8 (22.27), n=775	46.1 (24.23), n=725

* No statistically significant differences between groups

** 38.5% of participants returned the 3-month survey with sufficient data to calculate SF-36 scores.

Subgroup analyses (post-hoc)

Rates of uptake of Active sick leave (ASL) by treatment group
Proactive intervention: 396/2232 = 17.7% uptake
Passive intervention: 220/2045 = 10.8%
Control: 235/1902 = 12.4%

Time to start of ASL and total sickness absence for ASL users only

	Proactive intervention (n=396)	Passive intervention (n=220)	Control (n=235)
Time to start of ASL (= partial RTW) in days mean no. days (SD) median no. days	 77.4 (73.6) 56.2	 86.9 (80.1) 69.0	 101.6 (81.3) 89.0
First episode of sick leave mean no. days (SD) median no. days	 159.7 (113.4) 127.0	 170.2 (106.8) 148.0	 179.8 (104.2) 155.0
All sick leave mean no. days (SD) median no. days	 189.1 (113.4) 156.0	 208.5 (108.3) 188.5	 215.1 (104.2) 196.0

Other outcomes reported (data not extracted):
Satisfaction at 3 months with GP, NIA, employer and work-adaptation

Source of funding	Funding and other support: Ministry of Social and Health Affairs, the National Insurance Administration (NIA), the Confederation of Norwegian Business and Industry, the Norwegian Confederation of Trade Unions, and the Norwegian Medical Association.

Bibliographic reference	**Scheel I, Birger Hagen K, Herrin J, Carling C, Oxman A. (2002b) Blind faith? The effects of promoting active sick leave for back pain patients: a cluster-randomized controlled trial. Spine 27: 2734 – 2740.**		
Related publications	Secondary publication Scheel I, Hagen K, Herrin J, Oxman A. (2002a). A call for action: a randomized controlled trial of two strategies to implement active sick leave for patients with low back pain. Spine. 27:561-566.		
Comments	Limitations noted by authors: Limitations noted by reviewer:		
Quality assessment	Criterion	Judgement	Comments
	Random sequence generation	Low	External statistical consultant stratified municipalities based on demographics, industry, and centrality (4 strata). Computer-generated random numbers were used for randomisation.
	Allocation concealment	Low	Computer-generated random numbers were applied to all 65 included municipalities at one time with no modifications in the group to which a municipality was randomly allocated
	Blinding of participants and personnel	Unclear	Not reported
	Blinding of outcome assessment	Unclear	Not reported but primary outcome was objective
	Incomplete outcome data	Low	100% follow-up for two outcomes: days off work and long-term disability. Low response for quality of life outcome: 38.5% returned the 3-month survey with enough data to calculate the standard SF-36 score for Physical Functioning and Bodily Pain
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	Low		

D.1.13 van den Hout 2003

Bibliographic reference	**van den Hout J, Vlaeyen J, Heuts P, Zijlema J, Wijnen J. (2003) Secondary prevention of work-related disability in nonspecific low back pain: does problem-solving therapy help? A randomized clinical trial. The Clinical Journal of Pain 19, 87-96.**
Study type	RCT
Aim	To investigate whether problem-solving therapy has supplementary benefit for low back pain patients when added to behavioural graded activity in terms of days of sick leave and work status.
Location & setting	The Netherlands One rehabilitation centre (employees referred by GP, occupational physician or rehabilitation physician).
Study dates	Not reported
Length of follow-up	12 months
Participant characteristics	Potential participants were referred by general practitioners, occupational physicians, or rehabilitation physicians. **Inclusion criteria:** • employees recently absent due to LBP, • age between 18 and 65 years • LBP for more than 6 weeks • on sick leave with LBP but no longer than 20 weeks, and no more than 120 days of sick leave during the last year. **Exclusion criteria:** • specific back disorders (vertebral fracture, infectious disease, rheumatoid arthritis, ankylosing spondylitis, or herniated disc) • predominant psychopathology; • pregnant; • seeing a medical specialist (other than rehabilitation physician) for LBP at the time of referral • medical comorbidity where the disorder would interfere with treatment program or render them unable to participate in every part of the program, as decided by the rehabilitation physician • involvement in any litigation regarding work conflicts.

<table>
<tr><td>Bibliographic reference</td><td>van den Hout J, Vlaeyen J, Heuts P, Zijlema J, Wijnen J. (2003) Secondary prevention of work-related disability in nonspecific low back pain: does problem-solving therapy help? A randomized clinical trial. The Clinical Journal of Pain 19, 87-96.</td></tr>
<tr><td></td><td>Note: subjects had to agree to stop any other ongoing treatments for their back disorders at the start of the intervention.

Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (N=45)</th><th>Control (N=39)</th></tr>
<tr><td>Age (years) – mean (SD)</td><td>40.3 (9.3)</td><td>40.8 (8.4)</td></tr>
<tr><td>% male</td><td>73.3</td><td>79.5</td></tr>
<tr><td>Sickness absence length (weeks) – mean (SD)</td><td>7.4 (6.1)</td><td>10.0 (9.9)</td></tr>
<tr><td>Job satisfaction, mean (SD) score on perception and evaluation of work questionnaire</td><td>19.2 (3.2)</td><td>18.4 (2.7)</td></tr>
<tr><td>Education (%)
- high
- low or medium</td><td>
48.9
51.1</td><td>
35.9
64.1</td></tr>
<tr><td>Workplace visit (%)
- yes
-no</td><td>
38.9
61.1</td><td>
48.6
51.4</td></tr>
<tr><td>Pain duration since first pain episode (years), mean (SD)</td><td>8.7 (9.4)</td><td>6.4 (6.5)</td></tr>
<tr><td>Duration of current pain episode (years), mean (SD)</td><td>1.7 (4.5)</td><td>1.4 (2.6)</td></tr>
<tr><td>Functional disability, mean (SD)</td><td>13.8 (5.4)</td><td>12.5 (5.2)</td></tr>
</table></td></tr>
<tr><td>Number of study subjects</td><td>N=84</td></tr>
<tr><td>Intervention details</td><td>Graded activity plus problem-solving therapy (GAPS)
Details:
• Graded activity component (15 one-hour training sessions):</td></tr>
</table>

Bibliographic reference	van den Hout J, Vlaeyen J, Heuts P, Zijlema J, Wijnen J. (2003) Secondary prevention of work-related disability in nonspecific low back pain: does problem-solving therapy help? A randomized clinical trial. The Clinical Journal of Pain 19, 87-96.
	- register baseline levels during the first two weeks; develop treatment contract to increase activity levels by means of quota systems; positive reinforcement for activity increments - 3 additional sessions dedicated to back education and lifting instructions - 30 minutes-per-week individual treatment by occupational therapist (OT) applying graded activity to personally-relevant activities like work, housekeeping, and leisure activities - Contact by OT with the occupational physician and patient's workplace supervisor to discuss RTW plan - Workplace visit where considered necessary by the OT • Problem-solving therapy component - Protocol-based group intervention delivered by two experienced behaviour therapists - 10x 90-minute sessions of problem-solving skills therapy and application of skills in daily life (rather than one specific problem area). Patients free to select their own problem areas, which did not need to be pain-related - Homework to practice skills in everyday life between sessions. Homework assignments were discussed within the group at all sessions. • Group education - 10x 90-minute lessons discussing issues related to the back and to back pain - Delivered by a physiotherapist, occupational therapist, and a psychologist, using a protocol-based manual - No skills taught; each theme discussed during no more than one protocol-based session
Comparison details	<u>Graded activity plus group education (GAGE).</u> *Details:* • Graded activity + group education (both as described above). Note: ○ Both intervention & comparison treatments comprised 19 half-day group sessions (≤ 5 patients) over 8 weeks ○ Therapist team had 3 meetings with individual patients to discuss barriers and facilitators to goal achievement and RTW ○ Booster session held 2-months after final treatment to summarise treatment components and discuss individual developments in the group ○ To avoid contamination, the GAPS and the GAGE groups had their programs planned separately so they did not encounter one another.

Bibliographic reference	**van den Hout J, Vlaeyen J, Heuts P, Zijlema J, Wijnen J. (2003) Secondary prevention of work-related disability in nonspecific low back pain: does problem-solving therapy help? A randomized clinical trial. The Clinical Journal of Pain 19, 87-96.**
Methods and analysis	**Power** Not reported **Data collection** Work status data obtained from the OHS data report measured at three timepoints: one week before the intervention, 6m after the intervention, and one year after the intervention. The classification was as follows: (1) 100% return-to-work; (2) part-time return-to-work; (3) no return-to-work; (4) 100% disability pension as a result of back pain; and (5) 100% disability pension not as a result of back pain. Cases where sick leave was reported not to be associated with back pain were deleted from the analyses. Data on sick leave were obtained from the 23 occupational health service (OHS) associated with the workplaces of the employee. There is no national administration of sick leave data in the Netherlands; data were therefore recorded quite differently. One research assistant who was blind to the condition calculated the number of days of sick leave, taking into account (1) a ratio of 5 working days to 7 (5:7); (2) the percentage of full-time equivalents (fte); and (3) disability pensions (defined in terms of days of sick leave). Data were calculated with respect to 4 time periods: 2 half-year periods preceding the intervention (periods 1 and 2); and 2 half-year periods after the intervention (periods 3 and 4). A variable regarding general sick leave was also calculated, in which all days of sick leave were cumulated, regardless of the primary reason. **Analyses** Differences in work status (one week before, and 6 and 12 months after the intervention) assessed by means of Chi-square test. Multiple linear regression used to test whether days of sick leave in periods 3 and 4, independently, differed by treatment condition. Number of days of sick leave in the half year before treatment (period 2) was added to the model as a covariate. Variables that were unequally divided between conditions despite randomisation were also included as covariates. Analyses were performed on days of sick leave (a) as a result of back pain, and (b) in general. Work retention was analysed by deleting those cases in which the patient never returned to work after the intervention.
Outcomes measures and effect sizes	**Results** **Outcome: RTW (work status) at follow-up**

Timepoint	Intervention (GAPS)	Control (GAGE)
At 6 months – n (%) - Full RTW	(n=44)[a] 33 (75.0)	(n=37)[a] 26 (70.3)

Bibliographic reference	van den Hout J, Vlaeyen J, Heuts P, Zijlema J, Wijnen J. (2003) Secondary prevention of work-related disability in nonspecific low back pain: does problem-solving therapy help? A randomized clinical trial. The Clinical Journal of Pain 19, 87-96.

- Part-time RTW	6 (13.6)	3 (8.1)
- No RTW	3 (6.8)	7 (18.9)
- 100% disability compensation due to back pain	1 (2.3)	1 (2.7)
- 100% disability compensation not due to back pain	1 (2.3)	0
At 12 months – n (%)	(n=41)[b]	(n=35)[b]
- 100% RTW	35 (85.4)	22 (69.9)
- Part-time RTW	1 (2.4)	1 (2.9)
- No RTW	1 (2.4)	4 (11.4)
- 100% disability compensation due to back pain	2 (4.9)	7 (20.0)
- 100% disability compensation not due to back pain	2 (4.9)	1 (2.9)

[a] In 3 cases (1 GAPS, 2 GAGE) sick leave was not caused by back pain, so cases were omitted from analyses.

[b] Data for one GAPS participant were not available at 12-month follow-up because of a job change. In 7 cases (3 GAPS, 4 GAGE) sick leave had causes other than back pain so cases were deleted from analyses.

Outcome: Days of sick leave due to back pain

	Intervention (GAPS) (n=44)	Control (GAGE) (n=39)
Between 0-6 months post-treatment – mean (SD)	24.5 (31.3)	34.2 (44.3)
Between 6-12 months post-treatment – mean (SD)	18.5 (36.4)	37.9 (50.1)

Other outcomes reported:

None

Source of funding	Supported by Grant no. 940-31-004 of the Council for Medical and Health Research of the Netherlands (MW-NWO).
Related publications	None identified in search
Comments	**Limitations noted by authors:** • No treatment-as-usual comparator, so can only draw conclusions about the added problem-solving therapy; however previous studies have already shown graded activity to be more effective than treatment-as-usual. **Limitations noted by reviewer:** • Intensive treatment (both groups): 19 half-day group sessions over 8 weeks

Bibliographic reference	van den Hout J, Vlaeyen J, Heuts P, Zijlema J, Wijnen J. (2003) Secondary prevention of work-related disability in nonspecific low back pain: does problem-solving therapy help? A randomized clinical trial. The Clinical Journal of Pain 19, 87-96.		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Randomization scheme was computer-generated and known only to the logistics planner of the rehabilitation centre.
	Allocation concealment	Unclear	A rehabilitation physician and a mental health scientist, both of whom were blind to the allocated condition, carried out the selection procedure. Randomization scheme was computer-generated and known only to the logistics planner of the rehabilitation centre. Subjects were assigned to one of two treatment conditions in groups of 5.
	Blinding of participants and personnel	High	Therapists were not blinded to the condition because multidisciplinary consultation was part of the treatment program. Participants could not be blinded
	Blinding of outcome assessment	Low	All outcomes objective
	Incomplete outcome data	Unclear	Data on 84/108 included, but number allocated not clear
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	High		

D.2 Effectiveness evidence for populations with common mental health conditions

D.2.1 Arends 2014

Bibliographic reference	**Arends I, van der Klink JJL, van Rhenen W, de Boer M, Bultmann U. (2014) Prevention of recurrent sickness absence in workers with common mental disorders: results of a cluster-randomised controlled trial. Occup Environ Med, 71:21–29.**
Study type	Cluster RCT
Aim	Evaluate the effectiveness of the Stimulating Healthy participation And Relapse Prevention at work (SHARP-at work) intervention in preventing recurrent sickness absence in workers who returned to work after sickness absence due to common mental disorders (CMD) compared with care as usual (CAU).
Location & setting	The Netherlands. Occupational physicians (OPs) were recruited through one of the largest Occupational Health Services (OHS) in the Netherlands. Research participants were recruited by participating OPS.
Study dates	January 2010- June 2011
Length of follow-up	12 months
Participant characteristics	**Inclusion criteria:** - 18-63 years old - Employed in a paid job - Diagnosis of a CMD given by their OP (based on ICD-10) at the start of the sickness absence period - An episode of sickness absence of at least 2 weeks - A planned RTW within 2 weeks **Exclusion criteria:** - Sickness absence episode >12 months - Prior sickness absence episode due to a CMD in the past 3 months - Severe mental disorders, such as psychotic disorder or bipolar disorder - Somatic complaints/disorders that would affect RTW - Pregnancy - Upcoming retirement/resignation/lay-off **Baseline characteristics of study participants:**

	Intervention SHARP, n= 80	**Control CAU, n= 78**

Bibliographic reference	**Arends I, van der Klink JJL, van Rhenen W, de Boer M, Bultmann U. (2014) Prevention of recurrent sickness absence in workers with common mental disorders: results of a cluster-randomised controlled trial. Occup Environ Med, 71:21–29.**

Age (years) – mean (SD)	41.3 (9.4)	43.3 (9.8)
% male	33.8	48.7
Breadwinner (yes) %	50	62.8
Education level % - Low - Intermediate - High	 7.5 45.0 47.5	 16.7 51.3 29.5
Duration of sickness absence - mean (SD)	130.9 (94.2)	99.3 (66.1)
Employment (hours per week) - mean (SD)	32.6(7.0)	32.9(7.3)
Irregular work (eg. shift work) - n, %	6 (7.5)	10 (12.8)
Work Role functioning questionnaire (WRFQ): total score - mean (SD)	66.9 (15.5)	61 (20)

Number of study subjects	Total participants N=158 Randomised to the intervention group (SHARP), n= 80 Randomised to the control (CAU), n= 78
Intervention details	**SHARP-at work intervention:** Developed to prevent recurrent sickness absence by structuring OP treatment after RTW OP-delivered 5-step problem-solving process to find and implement solutions for problems experienced when back at work. Consultations between the worker and supervisor took place. The five steps were as follows: 1. Make an inventory of problems and/or opportunities encountered at work after RTW 2. Brainstorm about solutions 3. Write down solutions and the support needed and assess the applicability of these solutions 4. Discuss solutions and make an action plan with the supervisor 5. Evaluate the action plan/implementation of solutions OP started the intervention during the first 2 weeks of RTW, monitored that all steps were taken and activated and supported the worker if needed. The OP empowered the worker to define his own problems and design his own solutions. Two to five OP consultations were recommended within 3 months after RTW, depending on the needs of the individual worker, with a minimum of two to conduct the intervention. The duration of an intervention consultation

Bibliographic reference	**Arends I, van der Klink JJL, van Rhenen W, de Boer M, Bultmann U. (2014) Prevention of recurrent sickness absence in workers with common mental disorders: results of a cluster-randomised controlled trial. Occup Environ Med, 71:21–29.**
	was 30 minutes. OPs received a 2-day intervention training, provided by experienced trainers in occupational health interventions. *Adherence* At 3 month follow-up, 67 participants completed a questionnaire on received intervention components. 43 (64%) participants reported that they had two or more OP consultations and had made the first intervention assignment.
Comparison details	**OP care as usual (CAU):** OPs delivered CAU according to the guideline on 'Management of mental health problems of workers by OPs'. This guideline does not contain a structured approach for preventing recurrent sickness absence. No specific attempts were made to ensure that the OPs followed the guideline and they received no information about the content of the SHARP-at work intervention.
Methods and analysis	**Power** The target of the present study was to reduce recurrent sickness absence days by 20%, that is, an average of 12.7 days. 25 OPs per group were needed, each providing five participants, in order to have 80% power to show a mean difference in decrease of 12.7 recurrent sickness absence days during 1 year, assuming an α of 0.05 and an intraclass correlation coefficient of 0.05. **Data collection** Measured recurrent sickness absence days and recurrent sickness absence incidence due to all causes at 3 months, 6 months and 12 months follow-up and time to first episode of recurrent sickness absence (measured in calendar days). Data from OHS records. Recurrent sickness absence was defined as ≥30% decrease in working hours per week due to sickness absence. No limits set for duration of the ≥30% decrease. When a worker increased again in number of working hours per week above the 30% threshold, this was recorded as the end of the recurrence episode. **Analyses:** Difference in incidence of recurrent sickness absence analysed during follow-up with multilevel longitudinal regression analyses to account for the three-level design. Kaplan-Meier survival analyses were conducted to compare time to recurrent sickness absence in the two treatment groups. Participants were censored when lost to follow-up or when recurrent sickness absence had not occurred at the end of the 12 months follow-up period. The Cox proportional hazard model was used to estimate HRs. ITT was used.

Bibliographic reference	**Arends I, van der Klink JJL, van Rhenen W, de Boer M, Bultmann U. (2014) Prevention of recurrent sickness absence in workers with common mental disorders: results of a cluster-randomised controlled trial. Occup Environ Med, 71:21–29.**

Outcomes measures and effect sizes

Results

Outcome: Recurrent sickness absence (all causes)

Number of workers with a recurrent sickness absence episode and duration of recurrence	Intervention (SHARP) (n=72)			Control (CAU) (n=75)		
	3m	6m	12m	3m	6m	12m
Recurrence*, n (%)	8 (11)	15 (21)	24 (34)	17(22)	29 (39)	35 (47)
Recurrent sickness absence days, Median (IQR)	0(0-0)	0(0-0)	0(0-5)	0(0-0)	0(0-4)	0(0-8)

* Recurrent sickness absence was defined as ≥30% decrease in working hours per week due to any sickness absence. No limits were set for the duration of the ≥30% decrease. When a worker increased again in number of working hours per week above the 30% threshold, this was recorded as the end of the recurrence episode. Recurrent sickness absence days were corrected for part-time sickness absence by dividing the sickness absence days by 1/RTW percentage.

Multilevel regression analyses of differences in SHARP and CAU	Differences between SHARP and CAU		
	3m	6m	12m
Adjusted [a] incidence of recurrent sickness absence - OR (95% CI)	0.32 (0.06, 1.83)	0.28 (0.09, 0.85)	0.45 (0.17, 1.23)

[a] Adjusted for age, gender, educational level, mental health complaints and sickness absence days at baseline

Outcome: Time to first recurrent sickness absence (all causes) over 12 month follow-up

	SHARP intervention (n=74)	CAU control (n=76)
No. days to recurrent absence - median (IQR)	365 (174, 365)	253 (117, 365)
Adjusted[a] HR (95%CI)	0.53 (0.33 to 0.86)	

Bibliographic reference	**Arends I, van der Klink JJL, van Rhenen W, de Boer M, Bultmann U. (2014) Prevention of recurrent sickness absence in workers with common mental disorders: results of a cluster-randomised controlled trial. Occup Environ Med, 71:21–29.**
	[a] Adjusted for age, gender, educational level, mental health complaints and sickness absence days at baseline Kaplan-Meier graph: cumulative probability of recurrent sickness absence from baseline measurement to 12 months follow-up per study group. CAU, care as usual (n=76); SHARP, intervention group (n=74). **Subgroup** Reports that there was no significant subgroup effect of company size (≤100 and >100 employees) – no data presented. **Other outcomes reported (data not extracted):** ○ Work functioning score (Work Role Functioning Questionnaire, WRFQ; 27 5-point Likert-scale items assessing perceived difficulties in meeting work demands given physical or emotional problems) ○ Mental health complaints (HADS anxiety and depression subscale scores) ○ Psychological symptoms (4DSQ) ○ Coping behaviour – Utrecht Coping List (UCL)
Source of funding	The project was funded by 'Stichting Instituut GAK' (grant number 2007636).
Related publications	**Study protocol** Arends et al. (2010) Prevention of recurrent sickness absence among employees with common mental disorders: design of a cluster-randomised controlled trial with cost-benefit and effectiveness evaluation. BMC Public Health 10:132 **Economic evaluation** Arends I, Bültmann U, van Rhenen W, Groen H, van der Klink JJL (2013) Economic evaluation of a problem solving intervention to prevent recurrent sickness absence in workers with common mental disorders. PLoS ONE 8(8): e71937. doi:10.1371/journal.pone.0071937
Comments	**Limitations noted by authors:** ○ Study underpowered: lower number of participants recruited per OP than required by sample size calculation ○ Differences in baseline characteristics between SHARP and CAU groups on gender, educational level and sickness absence

Bibliographic reference	**Arends I, van der Klink JJL, van Rhenen W, de Boer M, Bultmann U. (2014) Prevention of recurrent sickness absence in workers with common mental disorders: results of a cluster-randomised controlled trial. Occup Environ Med, 71:21–29.**		
	○ Could not distinguish between different reasons for recurrent sickness absence because these were not consistently registered in the administrative OHS database. **Limitations noted by reviewer:** None		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Used a computerised random allocation sequence developed by an independent statistician
	Allocation concealment	Unclear	Randomisation at level of OPs. Potential for selection bias - OPs were not blind to group allocation and had a role in patient recruitment.
	Blinding of participants and personnel	Unclear	Participants were blinded for study design and group comparison. Blinding OPs for allocation was not possible
	Blinding of outcome assessment	Low	An independent researcher at the OHS, blinded for study group, collected the administrative data on recurrent sickness absence days.
	Incomplete outcome data	Low	No administrative sickness absence data available for 6 participants; 5 more were censored (1 became pregnant, 4 left company) = 7% loss to follow-up on primary outcome.
	Selective outcome reporting	Low	Outcome pre-specified in study protocol and appropriately reported.
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.2.2 Bakker 2007

Bibliographic reference	**Bakker I, Terluin B, van Marwijk H, van der Windt D, Rijmen F, van Mechelen W, Stalman W. (2007) A cluster randomised trial evaluating an intervention for patients with stress related mental disorders and sick leave in primary care. PLoS Clin Trials 2(6): e26. doi:10.1371/journal.pctr.0020026**
Study type	Cluster RCT

<table>
<tr><td>Bibliographic reference</td><td>Bakker I, Terluin B, van Marwijk H, van der Windt D, Rijmen F, van Mechelen W, Stalman W. (2007) A cluster randomised trial evaluating an intervention for patients with stress related mental disorders and sick leave in primary care. PLoS Clin Trials 2(6): e26. doi:10.1371/journal.pctr.0020026</td></tr>
<tr><td>Aim</td><td>Assess the effectiveness of our Minimal Intervention for Stress-related mental disorders with Sick leave (MISS) in primary care</td></tr>
<tr><td>Location & setting</td><td>Netherlands
Primary health-care practices in Amsterdam area: 46 primary care physicians (PCP) were randomised</td></tr>
<tr><td>Study dates</td><td>September 2003- October 2004</td></tr>
<tr><td>Length of follow-up</td><td>1 year</td></tr>
<tr><td>Participant characteristics</td><td>Used computerised patient records systems to approach source population by mail. The source population consisted of all primary care attenders who consulted one of the participating PCPs (n=22,740). The source population was approached every 1 or 2 weeks until a sufficient number of patients from each PCP was enrolled. Final recruitment took place by phone survey. All patients who had returned the questionnaire and screened positive on distress and sick leave were contacted and asked to participate in the study.
Inclusion criteria:
- Aged 20-60 years
- Self-reported symptoms of stress-related mental disorder (SMD)
- Sick leave for no longer than 3 months from a paid job
Exclusion criteria:
- Patients with very severe psychiatric disorders (mania or psychosis)
- Patients with terminal illness

Baseline characteristics of study participants:
<table>
<tr><th></th><th>MISS intervention (n= 277)</th><th>Control: usual care (n= 206)</th></tr>
<tr><td>Age (years) – mean (SD)</td><td>42.0 (8.8)</td><td>39.5 (9.6)</td></tr>
<tr><td>% male</td><td>33</td><td>35</td></tr>
<tr><td>Level of education - %
- Low
- Intermediate
- High</td><td>
27
42
31</td><td>
22
50
28</td></tr>
<tr><td>Mean (SD) number of visits to the primary care</td><td>2.55 (2.12)</td><td>2.50 (2.23)</td></tr>
</table>
</td></tr>
</table>

Bibliographic reference	**Bakker I, Terluin B, van Marwijk H, van der Windt D, Rijmen F, van Mechelen W, Stalman W. (2007) A cluster randomised trial evaluating an intervention for patients with stress related mental disorders and sick leave in primary care. PLoS Clin Trials 2(6): e26. doi:10.1371/journal.pctr.0020026**
	physician (PCP), counted from the day of sick leave + 3mo | |
Number of study subjects	Intervention group (MISS): n= 227 Control group (Usual Care, UC): n= 206
Intervention details	**Minimal intervention for stress-related mental disorders with Sick leave (MISS) training intervention for PCPs** • 2 sessions of 3.5 hours and 2 regular follow-up sessions of 2 hours (total 11 hours). • Tutors were the PCP who developed the intervention and an occupational physician • PCPs were taught: ○ how to diagnose an SMD and detect symptoms of anxiety and depression ○ how to give information and promote patients understanding ○ how to emphasise the importance of the patients active role with regards to successful return to work ○ how to advise on the content of functional rehabilitation ○ how to evaluate if the patient had made efforts to translate the work situation into a resolvable problem ○ when to consider referral to more specialised care if no progress had been made. Actual treatment of participating patients was left to the discretion of the PCPs, who were informed of a patient's participation only after a month. At baseline, patients were asked whether or not they had planned another visit to their PCP. If not, they were asked if they were considering another visit. The PCP was not obliged to apply the MISS or any other intervention, nor were the patients obliged to visit their PCP.
Comparison details	**Usual Care** The PCPs received no information or advice about the content of the intervention beforehand, but were offered the training at the end of the trial
Methods and analysis	**Power** A 15% difference in RTW was considered an important difference based on previous studies. Anticipating 21% MISS and 36% UC participants to still be on sick leave after 3 months, the sample size needed in each group was 126 (power of 80% at a 0.05 level two-sided log-rank test for equality of survival curves). Taking into account an intracluster correlation coefficient of 0.025 (physician level randomisation) and 7 patients per cluster, a total of 290 patients was

<table>
<tr><td>Bibliographic reference</td><td>Bakker I, Terluin B, van Marwijk H, van der Windt D, Rijmen F, van Mechelen W, Stalman W. (2007) A cluster randomised trial evaluating an intervention for patients with stress related mental disorders and sick leave in primary care. PLoS Clin Trials 2(6): e26. doi:10.1371/journal.pctr.0020026</td></tr>
<tr><td></td><td>needed. Assuming a dropout rate of 30% (approximately 10% at each moment of follow-up), enrolment of 415 patients was needed.
Data collection
Primary outcome was duration of sick leave in calendar days from the first day of sick leave until full (not part-time) return to work, lasting for a period of at least 4 weeks without partial or full relapse into sick leave. Patients were asked to record their days of sick leave, and this information was collected at baseline and after 2, 6, and 12 months during telephone interviews.
Analysis:
All analyses conducted as ITT and corrected for the clustered design.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Time to full RTW (at least 4 weeks without partial or full relapse into sick leave)
<table>
<tr><th>OUTCOME</th><th>MISS intervention (n=197)</th><th>Control (n=174)</th><th>Unadjusted hazard ratio (95% CI)</th></tr>
<tr><td>No. days of sick leave before lasting full return to work – median (95%CI)</td><td>96 (81 to 111)</td><td>102 (75 to 182)</td><td>1.06 (0.87-1.29)</td></tr>
</table>
Subgroup analysis
Median number of days of sick leave before lasting full return to work, by subgroups ‘stress-related mental disorder’ ‘other mental health problems’ and ‘somatic problems’: data not extracted as these were not included in review protocol.

Other outcomes reported (data not extracted):
○ Self-reported psychological symptoms: distress, depression, anxiety, and somatisation (measured with the Four-Dimensional Symptom Questionnaire; 4DSQ)</td></tr>
<tr><td>Source of funding</td><td>Funding for this study was obtained from the Health Research and Development Council (ZONMW) in the Netherlands (Project number 4200.0003).</td></tr>
<tr><td>Related publications</td><td></td></tr>
<tr><td>Comments</td><td>Limitations noted by authors:
○ Criteria for patient inclusion possibly too broad</td></tr>
</table>

Bibliographic reference	**Bakker I, Terluin B, van Marwijk H, van der Windt D, Rijmen F, van Mechelen W, Stalman W. (2007) A cluster randomised trial evaluating an intervention for patients with stress related mental disorders and sick leave in primary care. PLoS Clin Trials 2(6): e26. doi:10.1371/journal.pctr.0020026**		
	○ Time constraints of PCP to carry out intervention, training hours too short and don't have the capacity to apply highly specialised interventions ○ Intervention integrity: no direct observation or other test of the application of MISS components in consultations ○ No account taken of PCPs self-efficacy or motivation for change: Dutch GPs do not have statutory role in sick leave process and there is little close co-operation with patients' OPs, with the former more focused on symptom resolution and the latter on working conditions and functional recovery. **Limitations noted by reviewer:** None		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Computer generated random number sequences were used
	Allocation concealment	Low	In order to prevent selection bias, the research team screened the source population of patients. This was preferred since recognition of SMD and other mental health problems by the GPs could have been influenced by the training in the MISS
	Blinding of participants and personnel	Unclear	Patients were blinded but PCPs could not be.
	Blinding of outcome assessment	Low	Sickness absence was self-reported but participants and external interviewers were blind to group allocation.
	Incomplete outcome data	High	Data on primary outcome (duration of sick leave) available for 87% of patients treated by practitioners receiving the training intervention and 84% of patients receiving usual care.
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Unclear	Not reported
Overall RoB	Unclear		

D.2.3 Brouwers 2007

Bibliographic reference	**Brouwers E, de Bruijne M, Terluin B, Tiemens B, Verhaak P. (2007) Cost-effectiveness of an activating intervention by social workers for patients with minor mental disorders on sick leave: A randomized controlled trial. European Journal of Public Health, 17: 214-220**
Study type	RCT
Aim	Evaluate the cost-effectiveness of an intervention conducted by social workers designed to reduce sick leave duration in patients absent from work owing to emotional distress or minor mental disorders.
Location & setting	The Netherlands Primary care - patients recruited by 70 GPs in one city.
Study dates	August 2001-July 2003
Length of follow-up	18 months
Participant characteristics	**Inclusion criteria:** - suffering from minor mental disorders according to GP and patient - paid employment - on sick leave because of minor mental disorders (maximum 3 months) - aged 18–60 **Exclusion criteria:** - moderately severe or severe mood disorder (major depressive disorder, bipolar disorder), agoraphobia, panic disorder, social phobia, by means of the CIDI, a fully structured diagnostic interview, resulting in psychiatric diagnoses according to the DSM-IV1 and the ICD-10 criteria. - patients already receiving psychotherapy **Baseline characteristics of study participants:** *Not separated into intervention and control group* - Patients were 40 years old (SD 9) - 60% women - 65% had middle educational level - 75% had a partner - the mean number of hours/week of paid employment was 33.7 (SD 8, median 37) in the experimental group and 34.3 (SD 8, median 37) in the control group - 57 (29%) had a mild depressive disorder, 1 (0.5%) a mild bipolar disorder, 2 dysthymia (1%), 32 (16%) generalized anxiety disorder, and 110 (57%) had no mood or anxiety disorder at baseline

Bibliographic reference	**Brouwers E, de Bruijne M, Terluin B, Tiemens B, Verhaak P. (2007) Cost-effectiveness of an activating intervention by social workers for patients with minor mental disorders on sick leave: A randomized controlled trial. European Journal of Public Health, 17: 214-220**
Number of study subjects	N=194 randomised Intervention group n=98; Control group n=96
Intervention details	<u>Activating intervention delivered by social workers</u> Five individual sessions of 50 min delivered by a social worker in the primary care setting over 10 weeks, the content of which was described in a manual. Treatment entailed three stages: (i) understanding the cause of loss of control (ii) the development of problem-solving strategies; (iii) implementing problem-solving strategies. Patients were motivated to solve work-related problems actively, do homework assignments, and to resume work as soon as possible. The 11 social workers had received a 3 day training by the researchers, including two follow-up sessions throughout the study period. *Adherence* One patient randomised to the intervention group dropped out after baseline assessment. Overall mean number of visits with a social worker was 4.5 (SD 1.0).
Comparison details	<u>Routine GP care</u> Could include medication or counselling or referral. GPs were not informed about the contents of the experimental intervention and were asked to manage each patient as they would normally. However they were asked to refer patient only if necessary, and exclusively to caregivers who were not trained in the intervention technique. *Adherence* Six patients randomised to the control group dropped out after baseline assessment.

<table>
<tr><td>Bibliographic reference</td><td>Brouwers E, de Bruijne M, Terluin B, Tiemens B, Verhaak P. (2007) Cost-effectiveness of an activating intervention by social workers for patients with minor mental disorders on sick leave: A randomized controlled trial. European Journal of Public Health, 17: 214-220</td></tr>
<tr><td>Methods and analysis</td><td>ITT analyses limited to patients completing all follow-up assessments using all available cases for each outcome. Sick leave duration defined as the period between the first day of absenteeism and the first day of full work resumption. Sick leave data obtained from GP records.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Sick leave until full RTW
<table><tr><th></th><th>Intervention (n=97)</th><th>Control (n=96)</th></tr><tr><td>Days of sick leave until full work resumption – mean (SD</td><td>152.7 (122.0)</td><td>156.5 (121.1)</td></tr><tr><td>- Difference between groups in days (95%CI)</td><td colspan="2">3.8 (-34.5 to 42.3)</td></tr></table>For six patients who dropped out, exact sick leave duration was unknown. However, as four of them were indicated not to have resumed work at 3 months after baseline, and two not after 6 months, sick leave duration was estimated to be at least 92 and 182 days, respectively, (considering a month has on average 30.4 days), and they were included in the analyses.

Outcome: Quality of life (EuroQol utility values)
<table><tr><th></th><th>Intervention</th><th>Control</th></tr><tr><td>Baseline utility value – mean (SD)</td><td>0.45 (0.36)</td><td>0.45 (0.33)</td></tr><tr><td>18 months post-intervention utility value – mean (SD)</td><td>0.90 (0.16</td><td>0.83 (0.23)</td></tr></table>Other outcomes reported (data not extracted):
o Functional status (mental health and physical health component summary scores of SF36)
o Service utilisation and cost measures (for cost-utility analysis)</td></tr>
<tr><td>Source of funding</td><td>Funded by The Netherlands Organisation for Health Research and Development, grant number 2200.0100.</td></tr>
<tr><td>Related publications</td><td>None identified</td></tr>
<tr><td>Comments</td><td>Limitations noted by authors:</td></tr>
</table>

Bibliographic reference	**Brouwers E, de Bruijne M, Terluin B, Tiemens B, Verhaak P. (2007) Cost-effectiveness of an activating intervention by social workers for patients with minor mental disorders on sick leave: A randomized controlled trial. European Journal of Public Health, 17: 214-220**		
	• operating in primary care, social workers (and GPs) were not in contact with the workplace or people who could encourage or facilitate work resumption; may act as patient's advocate, valuing wellbeing higher than work resumption, and as such may not stimulate work resumption if the patient thinks this may worsen his situation. • only index sick leave duration period was studied; no information on sick leave in the months after RTW or on patients' history of absenteeism prior to the study. Therefore, unclear if participants learned from the intervention how to better deal with future stress or whether it was effective in preventing new sick leave episodes. • although GPs were not informed about the content of the experimental treatment to avoid contamination, they may have heard about it through their patients. **Limitations noted by reviewer:** • lack of baseline data makes it hard to identify possible confounding factors and leaves the possibility that the lack of a difference between groups was caused by differing group compositions • no definition as to how long the study population was on sick leave at baseline. The only requirement is that it did not exceed 3 months – so may span both short and long term sickness.		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Unclear	"The random sequence was generated… with the aid of a dice (evens being intervention group)"
	Allocation concealment	Unclear	"sealed in consecutively numbered envelopes by an administrative assistant not in contact with the patients" – no indication that envelopes were opaque
	Blinding of participants and personnel	High	Not reported but not possible due to nature of intervention.
	Blinding of outcome assessment	Unclear	Sick leave data obtained from GP records. GPs likely to be aware of patient's allocation to intervention, but states they were "not informed about the contents of the experimental intervention and were asked to manage each patient as they would normally"
	Incomplete outcome data	Low	Sick leave data unavailable for 6/194 (3%)
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.2.4 Finnes 2017

Bibliographic reference	**Finnes A, Ghaderi A, Dahl J, Nager A, & Enebrink P. (2017, September 28). Randomized controlled trial of acceptance and commitment therapy and a workplace intervention for sickness absence due to mental disorders. Journal of Occupational Health Psychology. Advance online publication. doi.org/10.1037/ocp0000097**
Study type	RCT
Aim	To evaluate the efficacy of 3 interventions for reducing sickness absence (SA) in people with common mental disorders.
Location & setting	Sweden Clinic of a university psychology department
Study dates	Not reported
Length of follow-up	12 months (3 months treatment + 9m follow-up)
Participant characteristics	Social Insurance Agency (SIA) register was searched based on age, diagnosis, and employment rate and letters were sent to eligible insured persons currently on sickness absence with information about the study. Local newspaper adverts also used to recruit. Potential participants were screened by telephone then face-to-face with the Mini-International Neuropsychiatric Interview (M.I.N.I.) **Inclusion criteria:** - Working age adult holding a current employment status of at least 50% (working at least 20 hr per week) - Diagnosis of anxiety disorder, depression, or stress-related ill-health as defined by the diagnostic criteria for exhaustion disorder (ICD-10 Diagnostic Groups F32, F33, F43.8) - Current sickness absence status between 25% and 100% for the past 1 to 12 months **Exclusion criteria:** - active suicide ideation - severe depression - history of bipolar disorder or psychosis - substance abuse or dependence - unemployment or self-employment **Baseline characteristics of study participants:**

Bibliographic reference	Finnes A, Ghaderi A, Dahl J, Nager A, & Enebrink P. (2017, September 28). Randomized controlled trial of acceptance and commitment therapy and a workplace intervention for sickness absence due to mental disorders. Journal of Occupational Health Psychology. Advance online publication. doi.org/10.1037/ocp0000097

	ACT intervention (n=89)	WDI intervention (n=87)	Combined ACT + WDI intervention (n=88)	Control (n=88)
Age (years) – mean	46.0 (8.2)	44.9 (8.6)	47.2 (9.2)	46.9 (9.5)
% male	19.1	26.7	21.6	25.0
Education - %				
- Primary / secondary	28.1	31.8	23.3	17.2
- Vocational	12.4	15.3	17.4	18.4
- University	59.6	52.9	59.3	64.4
Non-Swedish national – (%)	19.1	19.0	22.1	19.5
Sickness absence past 2 years				
- Net compensated days – mean (SD)	94.9 (64.3)	97.7 (72.1)	104.7 (82.2)	92.3 (65.2)
- Total sick days – mean (SD)	139.6 (87.4)	154.4 (107.5)	149.4 (102.2)	143.2 (100.1)
Baseline sickness absence status (%)				
- 0%	9.1	5.8	2.3	4.6
- 25%	8.0	20.9	8.1	10.3
- 50%	34.1	30.2	30.2	28.7
- 75%	10.2	12.8	15.1	13.8
- 100%	38.6	30.2	44.2	42.5
M.I.N.I comorbidity diagnostic criteria (%):				
- Current depression	66.3	55.7	55.8	54.5
- Panic disorder	16.9	22.7	18.6	21.6
- Social phobia	12.4	13..6	17.4	15.9
- GAD	28.1	35.2	24.4	25.0
- Exhaustion disorder	69.7	65.9	59.3	71.6

Bibliographic reference	**Finnes A, Ghaderi A, Dahl J, Nager A, & Enebrink P. (2017, September 28). Randomized controlled trial of acceptance and commitment therapy and a workplace intervention for sickness absence due to mental disorders. Journal of Occupational Health Psychology. Advance online publication. doi.org/10.1037/ocp0000097**
	No significant pre-treatment differences between the groups on the sociodemographic variables or on the pre-treatment outcome measures
Number of study subjects	N=352
Intervention details	Compared three active interventions: (i) <u>Acceptance and commitment therapy (ACT)</u> Consisted of 6 manual-based face-to-face sessions and internet-based homework modules. The manual is based on the six core processes in the ACT-model: acceptance, mindfulness, defusion, self as context, values and committed action. ○ Part 1 (three sessions) focused on helping participant to become aware of avoidance patterns of behaviour underpinning SA and distinguishing between helpful and non-helpful thoughts. ○ Part 2 focused on increasing behaviour repertoire in a valued direction, involving discriminating between rule-governed (e.g., must do, should do) and avoidant behaviours on one side and those driven by positive reinforcement (want to do) on the other side. (ii) <u>Workplace dialogue intervention (WDI)</u> 3-step intervention that aims to facilitate dialogue between participant and workplace: ○ participant interview – six open questions regarding the participant's perception of causes of SA and factors that may facilitate RTW; ○ supervisor interview at the workplace (with participant consent) to establish the supervisor's view of causes and facilitators ○ 'convergence dialogue' meeting between participant and supervisor (normally at the workplace) – review both interviews and facilitate constructive worker-supervisor dialogue to generate mutual understanding on what arrangements are necessary or helpful in facilitating RTW. (iii) <u>Combined ACT + WDI</u> The two interventions were combined; not integrated but followed the respective protocols of ACT and WDI separately (each delivered by a different therapist) – resulting in nine intervention meetings.

Bibliographic reference	**Finnes A, Ghaderi A, Dahl J, Nager A, & Enebrink P. (2017, September 28). Randomized controlled trial of acceptance and commitment therapy and a workplace intervention for sickness absence due to mental disorders. Journal of Occupational Health Psychology. Advance online publication. doi.org/10.1037/ocp0000097**
	Personnel Fifteen therapists delivered the interventions: 5 conducted ACT treatments only (all licensed clinical psychologists with at least 1 year of training in ACT), 6 conducted exclusively WDI treatments (licensed clinical psychologists, a behavioural therapist, and a nurse specialised in psychiatric care), and 4 conducted both ACT and WDI treatments. *Duration of treatment* According to the study protocol, the interventions (ACT, WDI, or ACT + WDI) were to be conducted within 3 months during which participants in the three intervention groups were informed not to participate in any concurrent psychotherapy - ACT: M=10.0 weeks, SD=3.8, range: 4.7 to 25.4 weeks - WDI: M =9.3 weeks, SD=4.0, range: 3.9 to 23.0 weeks - ACT+WDI, M=12.8 weeks, SD=4.7, range: 5.4 to 27.4 weeks *Adherence* 180/261 participants completed all allocated treatment sessions: ACT = 71 (78.9%) WDI = 47 (55.3%) ACT+WDI = 61 (70.9%).
Comparison details	Treatment as usual *Details* Participants continued the normal course of treatment or rehabilitation in standard care facilities. 97% consulted a medical doctor; 52% a psychologist; 16% a social worker; 27% a physical therapist, and 8% met with a nurse.
Methods and analysis	**Power** For a power of at least .80, a sample size of 72 participants was required in each group. A total of 320 participants were deemed necessary to randomize to each group in order to guard against the undesired effect of attrition **Data collection** Data on SA was collected from Sickness Insurance Agency (SIA) registers. Outcome data consisted of net SA days (i.e., part-time SA is added up to full-day equivalents) during blocks of 3 months including baseline and the follow-up period. Data on the ICD-10 diagnosis motivating the SA was also obtained via the SIA. **Analyses**

<table>
<tr><td>Bibliographic reference</td><td>Finnes A, Ghaderi A, Dahl J, Nager A, & Enebrink P. (2017, September 28). Randomized controlled trial of acceptance and commitment therapy and a workplace intervention for sickness absence due to mental disorders. Journal of Occupational Health Psychology. Advance online publication. doi.org/10.1037/ocp0000097</td></tr>
<tr><td></td><td>ITT analyses were conducted with all available data used in the analyses regardless of number of completed sessions, dropout, or loss to post-treatment assessment. For the analysis of SA data, a generalized linear mixed model (GLMM) with a normal distribution was fitted due to positively skewed data. Time was split into two periods for all outcomes measured by a piecewise linear function, making it possible to model change during treatment (pre- to post-intervention) and follow-up (post-intervention to 9 month follow-up) separately. This approach models typical trends in treatment studies, in which the greatest effect is expected by post-intervention, and change levels over follow-up.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Net sick leave days per time period
<table>
<tr><th>Total sick leave days per 3 month time period – mean (SD)</th><th>ACT intervention (n=89)</th><th>WDI intervention (n=87)</th><th>Combined ACT +WDI intervention (n=88)</th><th>Control (n=88)</th></tr>
<tr><td>3 month baseline period (pre-intervention)</td><td>59.5 (23.9)</td><td>58.5 (22.9)</td><td>63.0 (21.2)</td><td>61.0 (19.7)</td></tr>
<tr><td>3 month treatment period (baseline to post-intervention)</td><td>46.6 (31.7)</td><td>46.6 (31.5)</td><td>57.3 (30.90</td><td>47.9 (30.2)</td></tr>
<tr><td>Post-intervention to 3m follow-up</td><td>33.2 (34.9)</td><td>35.3 (33.5)</td><td>41.3 (33.4)</td><td>32.9 (35.2)</td></tr>
<tr><td>3m to 6m follow-up</td><td>24.8 (32.1)</td><td>24.3 (31.9)</td><td>30.3 (33.4)</td><td>24.7 (33.0)</td></tr>
<tr><td>6m to 9m follow-up</td><td>19.4 (27.7)</td><td>19.3 (28.5)</td><td>20.8 (28.5)</td><td>17.4 (27.7)</td></tr>
</table>

Note: For the follow-up period (data from post-measurement to 9m follow-up), there was a significant difference in the average linear change over time between the groups, F(3, 1728) = 2.695, p = .045 The estimates showed a tendency toward a significant difference between ACT+WDI and Control, in which ACT+WDI had an estimated average of 6 days more SA during follow-up (b = -2.078, 95% CI [-4.456, 0.301]). There was also a significant main effect of time, F(3, 1728) = 548.809, p<.001, indicating that net SA continued to decrease for all groups during the follow-up period.

Other outcomes reported (data not extracted):</td></tr>
</table>

Bibliographic reference	**Finnes A, Ghaderi A, Dahl J, Nager A, & Enebrink P. (2017, September 28). Randomized controlled trial of acceptance and commitment therapy and a workplace intervention for sickness absence due to mental disorders. Journal of Occupational Health Psychology. Advance online publication. doi.org/10.1037/ocp0000097**
	○ Work functioning – Work Ability Index (WAI) ○ General functioning – Work and Social Adjustment Scale (WSAS) ○ Life satisfaction – Satisfaction With Life Scale (SWLS) ○ Exhaustion disorder diagnostic scale – Karolinska Exhaustion Disorder Scale (KEDS) ○ Anxiety & depression symptomology – Hospital Anxiety and Depression Scale (HADS)
Source of funding	Funded by the Stockholm County Council and the REHSAM Research Funds.
Related publications	**Economic evaluation**: Finnes et al. 2017 Cost-Effectiveness of Acceptance and Commitment Therapy and a Workplace Intervention for Employees on Sickness Absence due to Mental Disorders. Journal of Occupational and Environmental Medicine, 12: 1211-1220
Comments	**Limitations noted by authors:** • generalisability issues: self-selected sample with high educational level • most participants were on a long-term SA: the 3-step WDI intervention might have been too brief to match the population needs • combined ACT+WDI intervention was longer than ACT or WDI alone and was associated with more SA – being 'in treatment' might influence both the worker and the GP issuing sickness certificates, reasoning that treatment should be finished before RTW is initiated • perceptions of treatment expectancy at baseline were not measured: lower satisfaction with and rates of completion of WDI intervention, especially by participants with depression and anxiety compared with exhaustion disorder – differences in perceptions of treatment credibility may impact on results **Limitations noted by reviewer:** None

Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Unclear	"a blinded administrator made random allocation in blocks of eight, each block containing two possibilities of each condition"
	Allocation concealment	Unclear	See above – method of concealment not stated.

Bibliographic reference	**Finnes A, Ghaderi A, Dahl J, Nager A, & Enebrink P. (2017, September 28). Randomized controlled trial of acceptance and commitment therapy and a workplace intervention for sickness absence due to mental disorders. Journal of Occupational Health Psychology. Advance online publication. doi.org/10.1037/ocp0000097**		
	Blinding of participants and personnel	High	Not reported but unlikely given nature of interventions.
	Blinding of outcome assessment	Low	Not reported, but objective primary outcome (sickness absence) with data obtained from centralised administrative source.
	Incomplete outcome data	Low	The primary outcome net SA days was collected from registers, with no missing data at any of the measurement points.
	Selective outcome reporting	Low	Outcomes pre-specified in trial registry (http://clinicaltrials.gov; identifier: NCT01805583) and appropriately reported
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.2.5 Glasscock 2018

Bibliographic reference	**Glasscock D, Carstensen O, Dalgaard V. (2018) Recovery from work-related stress: a randomized controlled trial of a stress management intervention in a clinical sample. International Archives of Occupational and Environmental Health 91: 675-687.**
Study type	RCT
Aim	To determine whether a stress management intervention combining individual CBT and a workplace focus is superior to no treatment in the reduction of perceived stress and stress symptoms and time to lasting return to work (RTW) in a clinical sample.
Location & setting	Denmark – a university hospital Department of Occupational Medicine (patients referred by GPs)
Study dates	Recruitment occurred between September 2008 and January 2011.
Length of follow-up	10 months

Bibliographic reference	**Glasscock D, Carstensen O, Dalgaard V. (2018) Recovery from work-related stress: a randomized controlled trial of a stress management intervention in a clinical sample. International Archives of Occupational and Environmental Health 91: 675-687.**
Participant characteristics	Patients referred by GPs to Department of Occupational Medicine when it was suspected that symptoms were related to work stress. Subjects were prospectively recruited amongst these routinely referred patients, subject to a clinical assessment undertaken by a psychologist. **Inclusion criteria:** • a diagnosis of adjustment disorder or reaction to stress (ICD-10 code: F43.2–F43.9, but not PTSD) or mild depression (F32.0); • clinical assessment concluded that working conditions played a major role in symptom development; • currently employed at the workplace where stressful working conditions had occurred; • on sick-leave (≤4 months) due to stress at time of recruitment. **Exclusion criteria:** • resigned/fired from workplace prior to baseline or no intention to return; • continuous pre-baseline sick-leave > 4 months; • comorbidity of another psychiatric illness (e.g. moderate to severe depression); • substance abuse; • comorbidity of recently diagnosed chronic somatic disease; • pregnancy; • any form of disability pension. **Baseline characteristics of study participants:**

Baseline characteristics	Intervention group (n=57)	Control group (n=80)
Male - %	15.8	16.3
Age in years – mean (range)	45 (20 – 62)	45 (21 – 59)
Education (years) - % • ≤9 • 10-12	 7.0 68.4	 7.0 60.0

Bibliographic reference	Glasscock D, Carstensen O, Dalgaard V. (2018) Recovery from work-related stress: a randomized controlled trial of a stress management intervention in a clinical sample. International Archives of Occupational and Environmental Health 91: 675-687.

• Other	22.8	11.0
Occupation by field - % • Health • Teaching • Administration • Day care worker • Leader • Trade • Other	 14.0 22.8 10.5 24.6 14.0 3.5 10.5	 17.5 10.0 21.3 26.3 10.0 5.0 10.0
Sickness absence at baseline – % • Full • Partial • None Mean length in days (SD)	 71.9 26.3 1.8* 38 (27)	 85.0 15.0 0 43 (31)
Diagnosis – % • Mild depression • Adjustment disorder	 17.5 82.5	 13.8 86.3
Taking medication - %	35.1	46.3

* one participant had been on sick leave but resumed work at the start of the study – not included in analysis of RTW.

Number of study subjects	N=137 randomised (RTW data available for n=134)
Intervention details	<u>CBT + mediated workplace discussion</u> Two parts to intervention: 1. Six one-hour sessions of individual CBT lasting a maximum of 4 months delivered by psychologist. Focussed on how the patient interprets and copes with stressful situations, involving:

Bibliographic reference	Glasscock D, Carstensen O, Dalgaard V. (2018) Recovery from work-related stress: a randomized controlled trial of a stress management intervention in a clinical sample. International Archives of Occupational and Environmental Health 91: 675-687.
	• Psycho-education on nature of stress • A stress model, integrating a CBT approach to stress focusing on the individual with an organisational approach focusing on the psychosocial work environment • Analysis and restructuring of inappropriate thoughts and interpretations • Focus on dialogue between employee and workplace, on potential communication problems and ways of promoting a shared understanding of how stress arises and can be dealt with • Homework assignments between sessions 2. Offer of participation by psychologist in a meeting between the patient and the employer Meeting aimed at discussing how the workplace could aid RTW and reduce stress levels with psychologist as mediator, attempting to improve mutual understanding between the two parties. When the psychologist did not participate in these meetings, it was usually because the patient preferred to take the meeting alone. Meeting involved: • Patient discussing specific problems identified during psychologist sessions with their workplace supervisor • Focus on how stressful working conditions could be changed (temporarily or permanently). Temporary changes agreed often included a period of part-time sick-leave, where work was gradually resumed over a couple of months with work hours and task complexity increasing week for week until sick-leave termination • Initiating a process through which stressors were reduced; role ambiguity was clarified, poor working relationships were improved, or the patient's influence over work tasks increased, dependent on the particular problems faced by the patient • Psychologist advised the workplace on what it could do to aid RTW – e.g. the patient being transferred to a different work team, if other solutions to interpersonal conflicts could not be found, or which tasks could be given to colleagues in cases of work overload. • In most cases of graded RTW a written plan of action was agreed upon. <u>Delivery</u> – Several psychologists functioned as therapists – To ensure conformity to the manual they underwent a short training program and received external supervision

Bibliographic reference	**Glasscock D, Carstensen O, Dalgaard V. (2018) Recovery from work-related stress: a randomized controlled trial of a stress management intervention in a clinical sample. International Archives of Occupational and Environmental Health 91: 675-687.**
	– Actual content of every treatment session was documented using a check list of which techniques had been employed. – The program is standardised in that the manual specifies which CBT techniques may be used, but is adapted to the needs of the individual. Adherence 25% patients included psychologist at their meeting with the employer – others preferred to do this alone
Comparison details	No intervention – usual care (completed questionnaires only)
Methods and analysis	Power: A sample size of 120 (60 per group) was required to detect a group difference of ½ SD equal to 3 points on one of the outcome measures, the Perceived Stress Scale (see below). The calculation was based on the following: significance level = 95%, power = 80% and correlation coefficient between baseline and follow-up = 0.15. Data collection: Stress and mental health status were primary outcomes measured via questionnaire data collected at baseline, after 4 months (end of treatment period) and 10 months after baseline. RTW (secondary outcome) was assessed using national register data. Lasting RTW was defined as full-time resumption of work (or equivalent) for 4 consecutive weeks. Statistical Analysis: RTW was analysed with cox regression. Time to RTW was defined as the period from the clinical interview to the first week of four in a row with no transfer income (or equivalent, i.e. education). RTW was visualised by a Kaplan-Meier Plot using the cumulative number of weeks of sick-leave in the 44 weeks from inclusion. Group differences were analysed with Cox regression adjusted for gender, age, part time/full time sick leave, occupation, number of weeks on sick leave the previous year before inclusion and diagnosis at baseline. Model validation of the proportional hazards assumption was conducted by performing a log-log plot of the survival curves as well as the proportional hazards test.
Outcomes measures and effect sizes	**Results** **Outcome: Sustained RTW (≥4 weeks)**

Bibliographic reference	**Glasscock D, Carstensen O, Dalgaard V. (2018) Recovery from work-related stress: a randomized controlled trial of a stress management intervention in a clinical sample. International Archives of Occupational and Environmental Health 91: 675-687.**		
	No between group differences in sick-leave duration (see Kaplan-Meier curve below). At 44 weeks after baseline the HR for lasting RTW for the intervention group was 0.84 (p = 0.372, 95% CI 0.56–1.24). Adjustment for potential confounders did not change the estimates (HR = 0.81, p = 0.285, 95% CI 0.54 to 1.20). **Other outcomes reported:** • Stress level measured with Cohen's Perceived Stress Scale (PSS-10) • Mental health measured with the General Health Questionnaire (GHQ-30)		
Source of funding	Supported by a grant from the Danish Working Environment Research Fund (Grant No. 34-2007-03).		
Related publications	None identified.		
Comments	**Limitations noted by authors:** • The recruitment period was longer than anticipated, due to more patients being excluded than expected • 41% of 'care as usual' control group received help from psychologists external to the study. • Unequal group size • Limited follow-up time of 6 months post-intervention – unable to determine if there are longer-term effects • Study population too limited in size to detect if there are any sub-group treatment effects • Centralised sickness absence **Limitations noted by reviewer:** • Intervention was inconsistently delivered - 25% of participants had a meeting with their superior along with a psychologist, while 75% of participants were given points to talk through with their supervisor from a psychologist		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Generated from a list of true random numbers
	Allocation concealment	Low	Randomization done by a project secretary who knew only that the patient was a study participant. The psychologist who conducted the clinical eligibility

Bibliographic reference	Glasscock D, Carstensen O, Dalgaard V. (2018) Recovery from work-related stress: a randomized controlled trial of a stress management intervention in a clinical sample. International Archives of Occupational and Environmental Health 91: 675-687.		
			interview was not able to influence the randomization procedure.
	Blinding of participants and personnel	High	Blinding not possible
	Blinding of outcome assessment	Low	RTW data from centralised database
	Incomplete outcome data	Low	RTW data unavailable for 3/137 (2%) at follow-up
	Selective outcome reporting	Low	Outcomes reported as per published protocol (trial number: ISRCTN11561502)
	Other sources of bias	Low	None reported
Overall RoB	Low		

D.2.6 Hees 2013

Bibliographic reference	Hees H, de Vries G, Koeter M, Schene A. (2013) Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial Occup Environ Med 70:252–260.
Study type	RCT
Aim	To evaluate whether adjuvant occupational therapy (OT) can improve the effectiveness of treatment as-usual (TAU) in sick-listed employees with major depression.
Location & setting	The Netherlands One outpatient university clinic. Participants were referred by occupational health services in the Amsterdam area
Study dates	December 2007 and October 2009
Length of follow-up	6, 12 and 18 months

<table>
<tr><td>Bibliographic reference</td><td>Hees H, de Vries G, Koeter M, Schene A. (2013) Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial Occup Environ Med 70:252–260.</td></tr>
<tr><td>Participant characteristics</td><td>
Inclusion criteria:
- aged 18–65 years, diagnosed with a major depressive disorder according to DSM-IV criteria
- absent from work for at least 25% of contract hours due to depression
- duration of depressive disorder ≥3 months / duration of sickness absence ≥8 weeks
- work situation contributes substantially (>25%) to depression, or depressive symptoms reduce productivity or hinder RTW.

Exclusion criteria:
- severe alcohol or drug dependence,
- bipolar disorder, psychotic disorder, depression with psychotic characteristics, or an indication of inpatient treatment

Baseline characteristics of study participants:
<table>
<tr><th></th><th>TAU</th><th>TAU+OT</th></tr>
<tr><td>Age (years) – mean (SD)</td><td>41.9(9.6)</td><td>43.8(9.0)</td></tr>
<tr><td>% male</td><td>41</td><td>53</td></tr>
<tr><td>Work Characteristics
- Contract, number of hours mean (SD)
- Absenteeism, number of hours mean (SD)
- Duration of absenteeism, months[1]</td><td>
32.7 (5.8)
27.1(8.8)
3.8(2.0-6.5)</td><td>
35.0(5.0)
27.6(10.0)
5.0(2.8-5.0)</td></tr>
<tr><td>Job sector %
- Financial / insurance
- Healthcare
- Other</td><td>
54
18
28</td><td>
58
9
33</td></tr>
<tr><td>Efficiency[2]</td><td>4.8(1.4)</td><td>5.4(1.5)</td></tr>
<tr><td>WLQ (mental-interpersonal score) – mean (SD)
Baseline measures reflects the last 4 weeks before start of sickness absence (variable time period)</td><td>55(21.1)</td><td>55.5(18.9)</td></tr>
</table>
</td></tr>
</table>

Bibliographic reference	**Hees H, de Vries G, Koeter M, Schene A. (2013) Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial Occup Environ Med 70:252–260.**
	HRSD[3] 20.1(5) 18(5.1) MOS-SF 36[4]- mental health 31.2(15.6) 34.8(15.7) Self-efficacy[5] 2.4 (1.1) 2.5 (1.0) [1]median values (IQR) were calculated if data were skewed [2] weekly self report records of work efficiency on a scale of 1 ('not productive at all') to 10 ('very productive') [3] a semi structured clinical interview. A score of ≤7 is qualified as 'normal', 8–13 as 'mild', 14– 18 as 'moderate', 19–22 as 'severe' and ≥23 as 'very severe' [4]Medical Outcomes Study-Short Form (MOS-SF 36):'Mental health', 'Role limitations due to emotional problems' (Role Emotional), and 'Role limitations due to physical problems' (Role Physical). Each scale ranged from 0 to 100, with higher scores reflecting higher levels of functioning. [5] Work-related self efficacy was measured by the 11-item questionnaire 'Expectations regarding work resumption'. Items were rated on a five-point scale, with higher scores reflecting higher self-efficacy
Number of study subjects	117 participants were randomised TAU+OT (n=78) TAU (n=39).
Intervention details	**Occupational therapy (OT) + Treatment as usual (TAU)** • Content of OT intervention as used in study by Schene et al. 2007 • Consisted of 18 sessions (nine individual sessions, eight group sessions and a meeting with the employer) • Conducted by two experienced occupational therapists with extensive training in the intervention protocol. Employees were required to work at least 2 hours per week when starting OT so they were able to directly practise applying things learned during therapy (e.g. new coping strategies) • During intervention, the occupational therapist frequently communicated with the occupational physician and the resident treating psychiatrist. • OT element consisted of three manual-based phases: o Diagnostic phase: detailed occupational history, video observation in a role-played work situation, contact with an OP from patient's employer and a plan for work reintegration. o Therapeutic phase: - group sessions (8–10 patients) focused on: preparation for work reintegration, contacting place of work, starting to work. First half of sessions spent discussing individual progress. Second half focused on seven themes: being passive, workplace stress, personal bounds and limits, being powerful and powerless, perfectionism, conflicts and prevention.

Bibliographic reference	Hees H, de Vries G, Koeter M, Schene A. (2013) Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial Occup Environ Med 70:252–260.
	- individual sessions focused on: further analyses of the relationship between work and depression, exploration of work problems, support and evaluation of work resumption. Specific individual issues from group sessions were discussed further. Participants in TAU+OT received an average of 15.2 (SD=5.8) OT sessions. In all, 85% of participants in OT (n=66) completed the intervention. Of these, only seven (11%) finished OT before the 6-month follow-up. Of the remaining, 45 participants (68%) finished OT before the 12-month follow-up, and 14 participants (18%) finished OT before the 18-month follow-up. Participants in the intervention group also received 'Treatment as usual (TAU)' as described below. Participants in TAU+OT had significantly fewer visits to a psychiatrist (M=10.6, SD=6.3) than those in TAU (M=14.5, SD=8.4; p=0.005). There were no significant group differences regarding the number of visits to a psychologist, general practitioner, or occupational physician.
Comparison details	**Treatment as usual (TAU):** Treatment by psychiatric residents in an outpatient university clinic according to a treatment protocol consistent with the APA guidelines. Visits consisted of clinical management, including psychoeducation, supportive therapy and cognitive behavioural interventions. Therapies were supervised on a weekly basis by an experienced senior psychiatrist specialised in depression. If needed, participants received pharmacotherapy according to a protocolised algorithm. If the participant's condition deteriorated and outpatient treatment was no longer deemed adequate, he/she was referred to day treatment or inpatient treatment.
Methods and analysis	**Power** For an expected difference of 25% in hours of absenteeism between both groups (power of 0.80 given a one-sided α of 0.05), an estimated effect size of 0.30, and a ratio of control sample to experimental sample of 1 : 2, 35 participants in the control condition and 70 participants in the experimental condition were needed. Considering a 10% loss to follow-up, required sample size was 116 participants. Power calculations were made with G-power. **Data collection** Primary outcome was work participation, defined in terms of absenteeism and time until partial/full RTW. Unclear if data were self-reported by participants or obtained from OHS / employer sources. Absenteeism was operationalised as the average number of hours of absenteeism over each 6-month period. Time until partial/full RTW was operationalised as the duration of sick leave due to depression in calendar days from the

<table>
<tr><td>Bibliographic reference</td><td>Hees H, de Vries G, Koeter M, Schene A. (2013) Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial Occup Environ Med 70:252–260.</td></tr>
<tr><td></td><td>start of treatment until partial (or full) RTW. Partial RTW was defined as working an increment of at least 5 hours (compared with hours worked at baseline), for at least 4 weeks without partial or full recurrence. Full RTW was defined as working the full number of contract hours in own or other work for at least 4 weeks, without partial or full recurrence.
Analysis
Data analysed according to the intention-to-treat principle. A Cox proportional hazard model was used to estimate HR for partial/full RTW with bootstrapping to account for the large variance in the outcome measure. Kaplan–Meier curves were used to describe the duration until partial/full RTW. Dichotomous outcomes (% of RTW in GH) were analysed using population-averaged logistic regression analysis (Generalised Estimating Equations, GEE), with unstructured covariance matrices to allow for correlation in outcome across time within participants.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: time to RTW
<table><tr><th></th><th>Intervention (n=78)</th><th>Control (n=39)</th></tr><tr><td>No. days to partial RTW – median (IQR)</td><td>80 (42, 172)</td><td>166 (67, 350)</td></tr><tr><td>- Adjusted [a] HR (95%CI)</td><td colspan="2">0.72 (0.44 to 1.11)</td></tr><tr><td>No. days to full RTW – median (IQR)</td><td>361 (193, 653)</td><td>405 (189, 613)</td></tr><tr><td>- Adjusted [a] HR (95%CI)</td><td colspan="2">0.93 (0.57 to 1.53)</td></tr></table>[a] Adjusted for baseline covariates: number of contracted weekly working hours, WLQ output scale score and HRSD score at baseline.

Outcome: RTW over 18 month study period
<table><tr><th></th><th>Intervention (n=78)</th><th>Control (n=39)</th></tr><tr><td>Partial RTW over 18 months– no. (%)</td><td>72 (92)</td><td>35 (89)</td></tr><tr><td>Full RTW over 18 months– no. (%)</td><td>51 (66)</td><td>22 (56)</td></tr><tr><td>RTW in good health (RTW-GH[†])
- 1-6 months</td><td>5 (6)</td><td>4 (10)</td></tr></table></td></tr>
</table>

Bibliographic reference	**Hees H, de Vries G, Koeter M, Schene A. (2013) Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial Occup Environ Med 70:252–260.**

- 7-12 months - 12-18 months	27 (34) 41 (52)	9 (23) 11 (28)
Probability of RTW-GH over 18 month follow-up [I vs. C] - Odds ratio (95%CI)	1.9 (1.1 to 3.2)	

† RTW-GH – Return to work in good health defined as: working the full number of contract hours while being remitted from depression (HRSD<7)

Outcome: Sickness absence (weekly averages over follow-up period) in hours

	Intervention (n=78)	**Control (n=39)**
Hours of absenteeism, mean (SD)		
1-6 months*	22.7(10)	23.3(10.8)
7-12 months**	14.1(11.9)	17.0(12.8)
13-18 months***	10.4(12.5)	11.9(12.3)

*weekly average over 1-6 months

**weekly average over 7-12 months

***weekly average over 13-18 months

Outcome: health-related quality of life (SF-36 mental health subscale score)

	Intervention (n=78)	**Control (n=39)**
6 months	52.2 (19.6)	50.6 (22.9)
12 months	61.7 (18.6)	57.0 (22.5)
18 months	65.9 (18.0)	57.9 (22.7)

Other outcomes reported (data not extracted):

- Work Limitations Questionnaire: subgroup score ‘Mental-Interpersonal’ (ie, difficulties in handling the job’s cognitive and social demands)

Bibliographic reference	**Hees H, de Vries G, Koeter M, Schene A. (2013) Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial Occup Environ Med 70:252–260.**		
	○ Depression severity: Hamilton Rating Scale for Depression (HRSD) ○ Work-related self-efficacy ○ Self-rated efficiency		
Source of funding	Funded by the Netherlands Foundation for Mental Health (grant no. 20035713) and the National Institute for Employee Benefit Schemes (grant no. 5002002) in Amsterdam, The Netherlands.		
Related publications	**Study protocol:** Hees et al. (2010) Effectiveness of adjuvant occupational therapy in employees with depression: design of a randomized controlled trial BMC Public Health 10: 558-566.		
Comments	**Limitations noted by authors:** ○ Small sample size – sufficient to meet the requirements of power analyses, but the wide variability in duration until partial/full RTW may have limited power to detect differences in the primary outcome (work participation) ○ Highly impaired population (69% absent for >3 months at baseline) – may have diluted potential effect in those with shorter absence spells (insufficient power to undertake subgroup analysis) ○ TAU consisted of highly specialised treatment at an academic department for mood disorders; this could have potentially reduced the contrast between the two groups, which may have led to an underestimation of the potential effects of adjuvant OT ○ 18 month follow up possibly too short to measure whether additional effects in depression recovery lead to further improvement in work outcomes longer-term ○ Rapid societal changes in the Netherlands since previous study on which this trial is based (Schene 2007) - e.g. legislative changes with more financial incentive to achieve a fast RTW. **Limitations noted by reviewer:** ○ Unclear if work participation data were self-reported by participants and if / how verified		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Randomisation was conducted by an independent research assistant, using software based on a minimisation randomisation procedure
	Allocation concealment	High	Not reported
	Blinding of participants and personnel	High	Not possible due to nature of intervention.

Bibliographic reference	**Hees H, de Vries G, Koeter M, Schene A. (2013) Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial Occup Environ Med 70:252–260.**		
	Blinding of outcome assessment	Low	Study assessments were conducted by a psychiatrist and a researcher who were blind to group allocation.
	Incomplete outcome data	Low	Loss to follow-up: 16/117 (13% intervention group; 15% control group)
	Selective outcome reporting	Low	Outcomes pre-specified in study protocol and appropriately reported.
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.2.7 Kenning 2018

Bibliographic reference	**Kenning C, Lovell K, Hann M, Agius R, Bee P, Chew-Graham C, Coventry P, van der Feltz-Cornelis C, Gilbody S, Hardy G, Kellett S, Kessler D, McMillan D, Reeves D, Rick J, Sutton M, Bower P. (2018) Collaborative case management to aid return to work after long-term sickness absence: a pilot randomised controlled trial. Public Health Research 6(2).**
Study type	RCT
Aim	To conduct a pilot study evaluating a collaborative case management intervention for employees who have been on long-term sickness absence.
Location & setting	UK Two collaborating host organisations: (i) a large provider of OH services for several large commercial organisations with approximately 250,000 clients and up to 2000 new referrals per month; and (ii) a non-profit 'Fit for Work' organisation in Leicestershire providing OH services to employees of small and medium-sized enterprises.
Study dates	Recruitment: October 2015 to September 2016
Length of follow-up	12 weeks post-randomisation

<table>
<tr><td>Bibliographic reference</td><td>Kenning C, Lovell K, Hann M, Agius R, Bee P, Chew-Graham C, Coventry P, van der Feltz-Cornelis C, Gilbody S, Hardy G, Kellett S, Kessler D, McMillan D, Reeves D, Rick J, Sutton M, Bower P. (2018) Collaborative case management to aid return to work after long-term sickness absence: a pilot randomised controlled trial. Public Health Research 6(2).</td></tr>
<tr><td>Participant characteristics</td><td>Existing customers of the OH provider were given information on the trial by the company – aimed to recruit at least two large private or public sector companies. The FFW organisation aimed to identify people on long-term sickness absence through recruiting up to 15 GP practices to conduct mail shots to patients issued with fit notes.

Inclusion criteria:
- Employed adults aged 18–65 years, who have been off work for at least 4 weeks or who have been signed off for sickness absence for at least 4 weeks and for up to 12 months
- Minimum baseline distress level (CORE-OM score of ≥ 11).

Exclusion criteria:
- Currently attending formal psychotherapy through NHS or private services.
- Requires palliative care.
- Absent because of bereavement.
- Suffering from a severe and enduring mental disorder, or at risk of suicide, and requiring immediate care.
- In advanced stage of pregnancy (defined as > 24 weeks' gestation).
- Undergoing grievance proceedings at work
- Employment likely to be terminated

Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (n=7)</th><th>Control (n=9)</th></tr>
<tr><td>Age (years) – mean (SD); range</td><td>52 (8); 43–61</td><td>49 (9); 33–58</td></tr>
<tr><td>% male</td><td>57</td><td>22</td></tr>
<tr><td>White British ethnic group (%)</td><td>86</td><td>89</td></tr>
<tr><td>Sickness absence
- duration in weeks – median (IQR); range</td><td>15 (14, 29); 12–39</td><td>14 (12, 21); 9–52</td></tr>
<tr><td>Reasons for sickness absence – n (% of total)</td><td></td><td></td></tr>
</table>
</td></tr>
</table>

Bibliographic reference	**Kenning C, Lovell K, Hann M, Agius R, Bee P, Chew-Graham C, Coventry P, van der Feltz-Cornelis C, Gilbody S, Hardy G, Kellett S, Kessler D, McMillan D, Reeves D, Rick J, Sutton M, Bower P. (2018) Collaborative case management to aid return to work after long-term sickness absence: a pilot randomised controlled trial. Public Health Research 6(2).**
	- Musculoskeletal: 1 (14); 3 (33) - Mental health: 1 (14); 6 (57) - Recurrent condition: 1 (14); 0 - Acute condition: 1 (14); 2 (22) - Other: 3 (44); 3 (33)
Number of study subjects	N=16
Intervention details	Collaborative case management delivered by specially trained case managers from the host organisations. Core principles of the intervention were to establish a collaborative care model based on case management for patients with long-term conditions, combined with factors specific to the occupational setting. *Details:* Participants would receive up to 6 telephone sessions supporting use of a self-help handbook with their assigned case manager, delivered over a 12-week period, with two follow-up sessions, at weeks 16 and 24, to check on progress. ○ Week 1: session 1 – client-centred assessment (45-60 minutes): Problem statement and collaborative goal-setting; develop action plan – low-intensity psychological intervention (e.g. behavioural activation, problem-solving and cognitive restructuring), signposting, workplace facilitation; ○ Weeks 2-12: sessions 2–6: implement and review action plan (30 minutes): Sessions via telephone or face to face; liaison and information sharing with key health-care personnel such as GPs and other primary care providers (where appropriate, and with patient consent) ○ Weeks 16 and 24: follow-up sessions (30 minutes): Review progress – further actions; review goals The intervention also involved the option for workplace facilitation. Workplace facilitation supports the fit note system focusing on how a patient 'may be fit' if adjustments can be made to their working environment, hours or duties. Rather than the GP making recommendations then leaving it to the patient to negotiate with their employer whether or not adjustments are possible, this model aimed to have the case manager act as an intermediary to facilitate the process.

Bibliographic reference	**Kenning C, Lovell K, Hann M, Agius R, Bee P, Chew-Graham C, Coventry P, van der Feltz-Cornelis C, Gilbody S, Hardy G, Kellett S, Kessler D, McMillan D, Reeves D, Rick J, Sutton M, Bower P. (2018) Collaborative case management to aid return to work after long-term sickness absence: a pilot randomised controlled trial. Public Health Research 6(2).**
	The case managers, in collaboration with the participants, were free to give the most suitable forms of interventions as described above. *Personnel & training* Case managers (2 from OH provider and 1 from FfW organisation) delivered the intervention. Case managers received initial 2-day training and telephone supervision for 15-30 minutes every 2 weeks during the study. Case managers were provided with a therapist manual to support intervention delivery and adherence to the model Adherence - All intervention participants completed the initial patient-centred assessment and consensus-based action plan, agreeing the participant's needs for support. - No intervention participants elected to use brief psychological interventions during their case management sessions, but these were featured in the participant handbook and participants did report using that - Only 2 participants elected to use workplace facilitation - Signposting to external agencies to support other aspects of participants' needs was used by all three case managers with 4 participants (but unclear whether participants engaged with these agencies).
Comparison details	Usual care as provided by participant's GP and / or OH provider
Methods and analysis	No power calculation as this was a pilot feasibility trial – aimed to recruit 100 participants. Total recruitment, including rates over time and response rates, was a primary outcome. Self-reported actual and effective working hours (measured by the World Health Organization Health and Work Performance Questionnaire) was a secondary outcome. Questionnaires were posted to participants at either 12 weeks (care as usual) or on completion of the intervention (treatment group). Participants were asked to complete and return the follow-up questionnaire to receive a £20 gift voucher as recompense for their time. A 2-week reminder was sent by post to non-respondents.
Outcomes measures and effect sizes	**Results** **Outcome: Return to work at 12 weeks post-intervention** | | **Intervention** | **Control** |

Bibliographic reference	**Kenning C, Lovell K, Hann M, Agius R, Bee P, Chew-Graham C, Coventry P, van der Feltz-Cornelis C, Gilbody S, Hardy G, Kellett S, Kessler D, McMillan D, Reeves D, Rick J, Sutton M, Bower P. (2018) Collaborative case management to aid return to work after long-term sickness absence: a pilot randomised controlled trial. Public Health Research 6(2).**
	<table><tr><th></th><th>(n=7)</th><th>(n=9)</th></tr><tr><td>No. of responses at follow-up</td><td>6</td><td>7</td></tr><tr><td>RTW? [Y] – n (%)</td><td>1 (14)</td><td>5 (56)</td></tr><tr><td>Reported working some hours in last 28 days – n (%)*</td><td>3 (43)</td><td>5 (56)</td></tr></table> Note: one intervention and two control participants did not complete follow-up but are included in analyses. * Although only 1 person in the treatment group reported having returned to work, 3 stated in response to the World Health Organization's Health and Work Performance Questionnaire that they had worked some hours during the last 7 days. Discrepancy may reflect brief RTW followed by recurrent absence. **Other outcomes reported (data not extracted):** ○ Psychological distress – measured with the Clinical Outcomes in Routine Evaluation Outcome Measure (CORE-OM) ○ Work and Social Adjustment Scale (WSAS) is a short, five-item measure of impairment in functioning across five domains (work, home management, social leisure, private leisure and relationships).
Source of funding	Funded by the NIHR Public Health Research programme
Related publications	None identified
Comments	**Limitations noted by authors:** • Recruitment issues – the chosen recruitment methods were not functional in the occupational context. Aimed to recruit 100 participants but recruitment of organisations to host the research and of employees was lower than planned. From over 1000 mailed invitations to people absent from work, there were just 61 responses, of whom only 16 entered the study. Very low recruitment rates mean that the people in the study are unlikely to be representative of the target population who are experiencing long-term work absence. • Although the FfW service was situated in an area with a high ethnic minority population, it was not possible to deliver the intervention in other languages, restricting the study population to English-speakers only • Eligibility criteria excluded people who had returned to work at all within a 4-week period and anyone who was unemployed. It may be easier to recruit participants who have been off work for shorter periods, or whose RTW is intermittent or who are suffering from degrees of presenteeism. However, participants on long-term sickness absence have the highest costs so, although it may be possible to recruit people with shorter-term or more

Bibliographic reference	**Kenning C, Lovell K, Hann M, Agius R, Bee P, Chew-Graham C, Coventry P, van der Feltz-Cornelis C, Gilbody S, Hardy G, Kellett S, Kessler D, McMillan D, Reeves D, Rick J, Sutton M, Bower P. (2018) Collaborative case management to aid return to work after long-term sickness absence: a pilot randomised controlled trial. Public Health Research 6(2).**		
	intermittent absence, showing the intervention to be cost-effective among such patients may be difficult given the fairly significant costs associated with the case management intervention. **Limitations noted by reviewer:** • Reliability issues re: self-reported RTW data (different responses within same individuals)		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	The method of randomisation was permuted blocks within strata, with block sizes themselves varying randomly between pre-specified limits. There were two stratification factors: partner organisation (OH provider, the FFW team) and baseline CORE-OM score (11–17.9, 18–23.9 and 24–40).
	Allocation concealment	Low	Central telephone-based allocation system provided by independent clinical trials unit.
	Blinding of participants and personnel	High	Not possible due to nature of intervention
	Blinding of outcome assessment	High	Primary outcome (RTW) was self-report. “As a small-scale pilot study, blinding of the single researcher involved in the study was not considered feasible.”
	Incomplete outcome data	High	3/16 (19%) did not complete any follow-up
	Selective outcome reporting	Low	Outcomes pre-specified in clinical trials register and appropriately reported
	Other sources of bias	High	Very low levels of recruitment
Overall RoB	Unclear		

D.2.8 Netterstrom 2013

Bibliographic reference	**Netterstrøm B, Friebel L, Ladegaard Y (2013) Effects of a multidisciplinary stress treatment programme on patient return to work rate and symptom reduction: results from a randomised, wait-list controlled trial. Psychother Psychosom 82:177–186**
Study type	RCT
Aim	To evaluate the efficacy of a multidisciplinary stress treatment programme for employees on sick leave with .work-related stress.
Location & setting	Denmark One hospital outpatient stress clinic (patients referred by GPs in the Copenhagen region)
Study dates	August 2010 to April 2011
Length of follow-up	3 months
Participant characteristics	All GPs in the capital region of Denmark (1.6 million inhabitants) were asked to refer patients with stress to the project. **Inclusion criteria**: • on full- or part-time sick leave; • employed or self-employed; • significant symptoms of work-related stress for months, **Exclusion criteria:** • abuse of alcohol or psychoactive stimulants; • diagnosed with a major psychiatric disorder • suffers from a significant somatic disorder assumed to be the primary cause of their stress condition. **Baseline characteristics of study participants:**

	IG intervention (n=69)	TAU control group (n=71)	Wait list control group (n=58)
Age (years) – mean (range)	42.5 (27-68)	44.8(25-58)	44.8(28-68)
% male	25	22	16
Sickness absence: mean sick leave (range), days	71.1(7-355)	64.7(1-448)	77.9(11-210)
Full time sick leave - %	68.3	71.2	76.1

Bibliographic reference	**Netterstrøm B, Friebel L, Ladegaard Y (2013) Effects of a multidisciplinary stress treatment programme on patient return to work rate and symptom reduction: results from a randomised, wait-list controlled trial. Psychother Psychosom 82:177–186**
	<table><tr><td>Occupation % - Workers - Medium education - Academics</td><td> 30.4 50 19.6</td><td> 25.5 49.1 25.4</td><td> 11.1 37.8 51.1</td></tr><tr><td>Public sector employee - %</td><td>53.3</td><td>57.6</td><td>77.8</td></tr><tr><td>Moderate/severe depression %</td><td>33.9</td><td>45.5</td><td>42.2</td></tr></table> No significant differences between groups.
Number of study subjects	Total randomised N= 198 (Intervention= 69; TAU control group = 71; Wait list control group = 58) Total analysed n=165
Intervention details	<u>1.Multidisciplinary stress treatment programme (Hillerod concept)</u> Stress-coping sessions, based on CBT principles and directed at both worker and workplace. Delivered by 4 specialists in occupational medicine and 5 authorised psychologists Consisted: (1) eight 1-hour individual stress treatment sessions during 3 months (2) workplace dialogue – conducted only if patient agreed (3) participation in a group-based MBSR course including eight 2-hour sessions every week over 8 weeks Treatment was given according to a manual. Individual sessions focused on the following factors: - Identification of relevant stressors both at work and at home - Changing the coping strategies of the participant - Restoring balance - Identifying obstacles for RTW - Adjustment of work load and tasks throughout the treatment - Gradual increases in working hours - Physical exercise - Assessment by a psychiatrist when needed (e.g. high score on the Major Depression Inventory (MDI) or suspected personality disorder).

Bibliographic reference	**Netterstrøm B, Friebel L, Ladegaard Y (2013) Effects of a multidisciplinary stress treatment programme on patient return to work rate and symptom reduction: results from a randomised, wait-list controlled trial. Psychother Psychosom 82:177–186**
	There was a constant focus on RTW and if the participant did not agree to a direct dialogue with the workplace, the participant's dialogue with her or his employer and workplace was addressed and supported during the sessions. Only 19 participants received direct workplace dialogue, while the others preferred to address the work place themselves. *Adherence* N=60 (87%) completed; (n=6 excluded due to psychiatric disorder; n=3 excluded due to absences)
Comparison details	(1) Treatment-as-usual control group (TAUCG) *Details* - 12 conventional, individual sessions during a 3-month period at one of two psychologist practices in Copenhagen. - Delivered by 14 psychologists (each treated approximately 5 participants). - Treatment content varied: may have included CBT, narrative methods and other techniques, - Reflected treatment currently only offered to patients with stress symptoms in the Copenhagen area on a paid-for basis (i.e. not covered by National Health Insurance, but often private insurance companies or employers will pay for the treatment). *Adherence* N=59 (83%) completed (n=3 excluded due to psychiatric disorder; n=4 did not attend; n=5 excluded due to absences) (2) Wait-listed control group (WLCG) - Placed on a waiting list for 3 months before receiving the same treatment as those in intervention group. - Two thirds of participants consulted a psychologist outside of the study or consulted with their GP during the waiting period. *Adherence* N=46 completed 3 months wait list period (n=2 excluded due to psychiatric disorder; n=8 did not attend consultation after 3 months; n=2 excluded due to absences)
Methods and analysis	**Power** No calculation reported. **Data collection**

<table>
<tr><td>Bibliographic reference</td><td>Netterstrøm B, Friebel L, Ladegaard Y (2013) Effects of a multidisciplinary stress treatment programme on patient return to work rate and symptom reduction: results from a randomised, wait-list controlled trial. Psychother Psychosom 82:177–186</td></tr>
<tr><td></td><td>At 3 months (end of treatment for intervention and TAUCG; first consultation for WLCG), participants and their treating psychologists jointly completed a questionnaire that examined work status. There were five of the following possible treatment outcomes: (1) working full time; (2) increased working hours; (3) unemployed but available in the labour market; (4) unemployed and on sick leave, and (5) no changes in sick leave. RTW was treated as two binary variables, which were coded in the following way: (A) full-time work; yes = 1 + 3, no = 2 + 4 + 5 and (B) increased work hours from baseline; yes = 1 + 2 + 3, no = 4 + 5. In addition, analyses were conducted that excluded those participants who were unemployed at follow-up.
Analyses
RTW rates were also compared by the χ^2 test. Logistic regression analyses were conducted to examine the main effects of group and to estimate the odds ratios (Ors) controlling for age, gender, occupation, and days of sick leave before treatment as possible confounders.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Work status at 3 months
<table>
<tr><th></th><th>Intervention (n=60)</th><th>TAU control (n=59)</th><th>Wait-list control (n=46)</th></tr>
<tr><td>Return to full-time work by 3 months (post-treatment) – n (%)</td><td>40 (67)</td><td>21 (36)</td><td>11 (24)</td></tr>
<tr><td>- Adjusted [a] OR (95%CI) for RTW [Intervention vs. WLCG]</td><td>4.3 (1.7 to 10.5)</td><td>n/a</td><td>1</td></tr>
<tr><td>- Adjusted [a] OR (95%CI) for RTW [Intervention vs. TAUCG]</td><td>4.8 (1.7 to 13.8)</td><td>1</td><td>n/a</td></tr>
<tr><td>Increased working hours – n (%)</td><td>58 (97)</td><td>42 (71)</td><td>29 (64)</td></tr>
<tr><td>- Adjusted [a] OR (95%CI) for increased work [Intervention vs. WLCG]</td><td>10.2 (12.1 to 49.2)</td><td>n/a</td><td>1</td></tr>
<tr><td>- Adjusted [a] OR (95%CI) for increased work [Intervention vs. TAUCG]</td><td>2.3 (1.4 to 3.7)</td><td>1</td><td>n/a</td></tr>
</table>
[a] All regression results calculated after exclusion of the unemployed at follow-up; Ors adjusted for age, gender, occupation, sick leave days before treatment, depression severity, stress, and work ability rating at baseline and end of treatment, private or public sector employment, and whether workplace dialogue was received (intervention group).</td></tr>
</table>

Bibliographic reference	**Netterstrøm B, Friebel L, Ladegaard Y (2013) Effects of a multidisciplinary stress treatment programme on patient return to work rate and symptom reduction: results from a randomised, wait-list controlled trial. Psychother Psychosom 82:177–186**		
	Other outcomes reported (data not extracted): Psychological symptoms (SCL-92 symptom scores and global severity index) Self-assessed work ability (Work Ability Score)		
Source of funding	This study was supported financially by the TrygFonden and Helsefonden		
Related publications	None identified		
Comments	**Limitations noted by authors:** ○ Likely selection bias (see quality assessment): affects generalisability to the working population in general. Participants primarily recruited from a group of public sector employees with medium to long education histories (e.g. social and healthcare workers) – likely to be more motivated to use the type of treatment offered compared with other occupational groups ○ Short follow-up and lack of objective register-based data on longer-term absence – unclear if the effect of treatment is long-term or just acceleration compared to TAU ○ Lack of true 'control' group: intervention participants received more treatment hours than participants in the TAUCG group; two-thirds of WLCG reported that they had received some form of treatment while waiting **Limitations noted by reviewer:** Nothing further		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	High	Described only as "drawing lots"
	Allocation concealment	High	"The outcome of the randomisation procedure was known to the physician or psychologist who obtained the participant's informed consent, and this procedure might have biased the manner in which the information was given"
	Blinding of participants and personnel	High	Participants and personnel could not be blinded

Bibliographic reference	**Netterstrøm B, Friebel L, Ladegaard Y (2013) Effects of a multidisciplinary stress treatment programme on patient return to work rate and symptom reduction: results from a randomised, wait-list controlled trial. Psychother Psychosom 82:177–186**		
	Blinding of outcome assessment	Unclear	Not reported
	Incomplete outcome data	High	33/198 (16.7%) dropouts excluded from analyses. Possible selection bias as there were more male, low skilled employees among the dropouts, and these participants also had more severe symptoms compared with those who completed the treatment.
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Unclear	Recruitment to the wait-list control group was terminated early due to lack of resources
Overall RoB	High		

D.2.9 Noordik 2013

Bibliographic reference	**Noordik E, van der Klink J, Geskus R, de Boer M, van Dijk F, Nieuwenhuijsen K. (2013) Effectiveness of an exposure-based return-to-work program for workers on sick leave due to common mental disorders: a cluster-randomized controlled trial Scand J Work Environ Health 39:144–154**
Study type	Cluster randomised trial
Aim	Evaluation of the effect of an exposure-based return-to-work (RTW-E) intervention on time-to-full return to work (RTW) among workers who were on sick leave
Location & setting	Netherlands Occupational health services throughout the Netherlands (56 OPs randomised)
Study dates	November 2006- December 2007
Length of follow-up	12 months
Participant characteristics	**Inclusion criteria:** • workers who were on sick leave due to CMD for ≥2 and ≤8 weeks (CMD were defined as stress-related, adjustment, anxiety or depressive disorders. Stress-related disorders were classified according to the

Bibliographic reference	**Noordik E, van der Klink J, Geskus R, de Boer M, van Dijk F, Nieuwenhuijsen K. (2013) Effectiveness of an exposure-based return-to-work program for workers on sick leave due to common mental disorders: a cluster-randomized controlled trial Scand J Work Environ Health 39:144–154**

Dutch guidelines for OP. Anxiety, depressive, and adjustment disorders were classified by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).)

Exclusion criteria:

- Workers with a primary somatic disorder according to the OP
- those who were not able to speak Dutch

Baseline characteristics of study participants:

	RTW-E intervention (n=75)	**CAU control (n=85)**
Age (years) – mean(SD)	44.9(9.8)	45.9(9.8)
% male	24.3	33.3
Duration of sick leave before inclusion (days)- mean (SD)	36(13.2)	34.1(13.3)
Education level %		
- Low	8.7	17.9
- Middle	24.6	23.1
- High	66.7	59
Diagnosis inclusion %		
- Stress-related disorder	15.1	29.8
- Depressive disorder	24.7	22.6
- Anxiety disorder	23.3	23.8
- Mixed anxiety-depressive disorder	37	23.8
- Adjustment disorder	0	0

Number of study subjects	Total n=160 35/56 OPs who were randomised (63%) recruited patients who met criteria and agreed to participate: RTW-E n= 75 workers (21 OPs)

Bibliographic reference	**Noordik E, van der Klink J, Geskus R, de Boer M, van Dijk F, Nieuwenhuijsen K. (2013) Effectiveness of an exposure-based return-to-work program for workers on sick leave due to common mental disorders: a cluster-randomized controlled trial Scand J Work Environ Health 39:144–154**
	CAU n= 85 workers (14 OPs)
Intervention details	RTW exposure intervention (RTW-E) plus care as usual: • Workers gradually exposed in vivo to more demanding work situations structured by a hierarchy of tasks evoking increasing levels of anxiety, stress, • Gradual exposure only concerns stressful work situations that cannot be prevented and are an intrinsic part of the job (e.g. a nurse anxious about injecting patients could start exposure by watching a colleague who is injecting a patient, i.e. being exposed to a similar situation but with a lower level of perceived stress). • Patient is motivated and counselled by the OP in order to prepare and evaluate an exposure-based RTW plan. • Process is structured by giving patients several 'homework' assignments to support the patient in thinking about and describing: - different work tasks and current feasibility of performing these - list of stressful work situations relevant to RTW, extent to which these are avoided and could be influenced - deciding which alternative (active) coping behaviours could be more effective in reducing negative feelings in the long term - describing and ranking various work situations similar to the stressful work situation but with lower levels of perceived stress to produce a stress hierarchy - making realistic and acceptable RTW arrangements in cooperation with supervisor (had to consist of a gradual increase in the amount of working hours, feasible tasks, and exposure to increasing levels of stress associated with the previously listed work situations) - evaluation of the RTW arrangements in cooperation with supervisor - new additional RTW arrangements in cooperation with his supervisor after evaluating the results of earlier RTW arrangements Patients also received usual OP care according to Dutch guidelines for CMD *Training* OPs received two days of training in the RTW-E program and three follow-up tutorial sessions during the inclusion period.
Comparison details	OP care as usual:

<table>
<tr><td>Bibliographic reference</td><td>Noordik E, van der Klink J, Geskus R, de Boer M, van Dijk F, Nieuwenhuijsen K. (2013) Effectiveness of an exposure-based return-to-work program for workers on sick leave due to common mental disorders: a cluster-randomized controlled trial Scand J Work Environ Health 39:144–154</td></tr>
<tr><td></td><td>- Aim is to help workers regain control and rebuild social and occupational contacts and activities, according to Dutch guidelines for CMD.
- OP motivates patient to prepare, draw up, and evaluate a RTW plan in co-operation with the supervisor.
- This RTW plan is based solely on a gradual and time-contingent increase in the amount of working hours and feasible tasks. It was not based on gradual exposure in vivo or on a stress hierarchy of work situations at the workplace (as for the intervention group).
Training
OP in the control group received one day of training to update their skills in counselling workers with CMD according to the Dutch guidelines</td></tr>
<tr><td>Methods and analysis</td><td>Power
Planned to include 60 OP who would in turn include 200 workers to be able to detect a statistically significant difference between groups on time-to-full RTW (not based on a power analysis as software for an analysis of survival data was not available at the time of recruitment (2006); instead based on comparable intervention study by van der Klink et al (2003) which found significant differences on time-to-full RTW in a study with 33 OP and 192 patients).
Data collection
Primary outcome = time to full RTW (contracted work hours, sustained for ≥4 weeks). Measured in calendar days from first day of sick leave. Based on workers’ diaries and medical records of OP.
Analyses
To evaluate differences between groups, intention-to-treat and multilevel Cox’s regression analysis were undertaken. Time-to-full return to work (lasting ≥28 days) presented as Kaplan-Meier time-to-event curves.
Data was corrected for clustering in the Cox models by including a “frailty” random effect.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Time to full RTW (sustained for ≥28 days) over 12 month follow-up
<table>
<tr><th></th><th>RTW-E intervention (n=63)</th><th>CAU control (n=80)</th></tr>
<tr><td>No. of days to full RTW – median (95%CI)</td><td>209 (162 to 256)</td><td>153 (128 to 178)</td></tr>
</table></td></tr>
</table>

Bibliographic reference	Noordik E, van der Klink J, Geskus R, de Boer M, van Dijk F, Nieuwenhuijsen K. (2013) Effectiveness of an exposure-based return-to-work program for workers on sick leave due to common mental disorders: a cluster-randomized controlled trial Scand J Work Environ Health 39:144–154

- HR (95%CI) – ITT analysis	0.55 (0.33 to 0.89)
- HR (95%CI) – per protocol analysis (Intervention restricted to n=28 completers)	0.71 (0.42 to 1.19)

Kaplan-Meier curve describing cumulative probability of time-to-full return to work (RTW) lasting ≥28 days for both the intervention (RTW-E) (N=63) and control (CAU) group (N=80).

Data were censored if the time-to-full RTW was >365 days or if full RTW was not accomplished before the working hours stopped being registered.

Outcome: Time to partial RTW over 12 month follow-up

	RTW-E intervention (n=68)	CAU control (n=77)
No. of days to partial RTW – median (95%CI)	78 (60 to 95)	70 (60 to 80)
- HR (95%CI	0.89 (0.62-1.29)	

Outcome: Full RTW – status at 12 months

	RTW-E intervention (n=63)	CAU control (n=80)
Achieved full RTW by 12m – n (%)	56 (89)	79 (99)

Outcome: Recurrence of sick leave within 12 months follow-up

	RTW-E intervention (n=33)	CAU control (n=58)
Number of recurrences – median (IQR)	0 (0,2)	0 (1,2)

Bibliographic reference	**Noordik E, van der Klink J, Geskus R, de Boer M, van Dijk F, Nieuwenhuijsen K. (2013) Effectiveness of an exposure-based return-to-work program for workers on sick leave due to common mental disorders: a cluster-randomized controlled trial Scand J Work Environ Health 39:144–154**
	Other outcomes reported (data not extracted): Components of the 4DSQ (4-dimensional symptom questionnaire) measured at baseline, 3m, 6m, 9m and 12m
Source of funding	The trial is registered as ISRCTN72643128.
Related publications	**Study protocol** Noordik E, et al. (2009) Effectiveness and cost-effectiveness of an exposure-based return-to-work programme for patients on sick leave due to common mental disorders: design of a cluster-randomized controlled trial. BMC Public Health 9:140-151
Comments	**Limitations noted by authors:** • Validity of the results may have been limited due to a selection bias because of the absence of allocation concealment of the OP and attrition of workers • Less stress-related disorder and more mixed anxiety-depression in the intervention group compared with control • Majority of participants were working in the healthcare, education, or public governance sectors – generalisability to other sectors is unclear • May be too little contrast with control condition ('OP treatment-as-usual') which is already very focused on RTW and effective at reducing time to full RTW • No external validity checks of intervention sessions to ensure treatment integrity • Worker engagement / motivation may be an important moderator: no significant difference between groups when per protocol analysis was conducted (removing participants who failed to complete the intervention). Suggests that intervention may be better suited to those who have been absent (and removed from stressful work situation) for longer (e.g. >3 months) and have already received CAU **Limitations noted by reviewer:** None further

Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	High	No description of sequence generation
	Allocation concealment	Unclear	Randomisation at level of OP: potential for selection bias as OPs are not blind to group allocation and have a role in patient recruitment.

Bibliographic reference	Noordik E, van der Klink J, Geskus R, de Boer M, van Dijk F, Nieuwenhuijsen K. (2013) Effectiveness of an exposure-based return-to-work program for workers on sick leave due to common mental disorders: a cluster-randomized controlled trial Scand J Work Environ Health 39:144–154		
	Blinding of participants and personnel	Unclear	OPs could not be blinded; participants were blind to the different treatment conditions.
	Blinding of outcome assessment	Unclear	Researchers were blind to allocation and outcome measurement, however sickness absence data were based on workers' diaries and medical records of OP (OPs were not blinded to allocation)
	Incomplete outcome data	Unclear	"Analyses of the primary outcome were based on workers' diaries and medical records of OP and could be performed in both groups for 63 (18% lost to follow-up) and 80 (11% lost to follow-up) workers in the RTW-E and CAU groups, respectively". Differential attrition may impact validity of findings
	Selective outcome reporting	Low	Primary outcome pre-specified in study protocol and appropriately reported.
	Other sources of bias	Low	None reported
Overall RoB	High		

D.2.10 Rebergen 2009

Bibliographic reference	Rebergen D, Bruinvels D, Bezemer P, van der Beek A, van Mechelen W. (2009) Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomised controlled trial. J Occup Environ Med 51: 305-312
Study type	RCT
Aim	Evaluate the effectiveness of guideline-based care (GBC) of workers with mental health problems which promotes counselling by the occupational physician (OP) to facilitate return to work (RTW).
Location & setting	The Netherlands Two Dutch police departments employing 2,500 workers using same OHS provider.
Study dates	January 2002- January 2005
Length of follow-up	12 months

<table>
<tr><td>Bibliographic reference</td><td>Rebergen D, Bruinvels D, Bezemer P, van der Beek A, van Mechelen W. (2009) Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomised controlled trial. J Occup Environ Med 51: 305-312</td></tr>
<tr><td>Participant characteristics</td><td>Any employee on sick leave due to mental health problems during the study recruitment period was invited to meet a case manager of the OHS within one week. Case manager informed employee about the study and planned a consultation with an OP in the first two weeks of sick leave, at which inclusion criteria were assessed:
Inclusion criteria:
- Continued absence from work due to mental health problems (according to OP diagnosis)
- Sick leave period did not start prior to January 2002
Exclusion criteria:
- Mental health symptoms that were caused by somatic illness
- Disagreement between OP and employee about the diagnosis
- Lack of confidence in OP-employee relationship (OP judgement)

Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (GBC) (n=125)</th><th>Control (UC) (n=115)</th></tr>
<tr><td>Age (years) – mean (SD)</td><td>38.8(8.4)</td><td>40 (9.5)</td></tr>
<tr><td>% male</td><td>51.2</td><td>60.5</td></tr>
<tr><td>Sickness absence
- N sick leave periods previous year, mean (SD)
- Days of sick leave in previous year, mean (SD)</td><td>
2.7 (2.2)

56.9 (61.4)</td><td>
2.5 (1.9)

56.1 (86.0)</td></tr>
</table>
</td></tr>
<tr><td>Number of study subjects</td><td>N= 240 randomised
GBC n= 125
UC n= 115</td></tr>
<tr><td>Intervention details</td><td><u>Guideline based OP care (GBC)</u>:
• Delivered by occupational physician (OP)
• OPs received 3 days training by experienced OPs and psychologists</td></tr>
</table>

Bibliographic reference	**Rebergen D, Bruinvels D, Bezemer P, van der Beek A, van Mechelen W. (2009) Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomised controlled trial. J Occup Environ Med 51: 305-312**
	• Guideline is based on an activating approach, time contingent process evaluation, and cognitive behavioural principles. • The cognitive behavioural element mainly concerned stress inoculation training and graded activity, aiming to enhance the problem-solving capacity of patients in relation to their work environment. • Proposed work-related interventions were gradual RTW, regular contact with the supervisor, work accommodations, especially when there was stagnation in RTW. • OPs were encouraged to use specific tools, such as symptom questionnaires, patient information leaflets on stress, and day structuring exercises. No. of OP consultations – mean (SD): 3.4 (2.3)
Comparison details	<u>Usual care (UC):</u> • Minimal involvement of the OP and easy referral to a psychologist, which represents daily practice of the OHSs of the Dutch police force. • Psychological treatment in secondary care was fully funded by the Health Insurance agency for the Dutch Police force. No. of OP consultations – mean (SD): 3.3 (2.3)
Methods and analysis	**Power** Power calculation was based on sick leave data of the police constabularies in 1999: 6.6 % of total sick leave registrations were due to mental health problems, with a 35.5 % of the total volume of sick leave duration (an average of three months per case). With a power of 90%, at a 0.05 level, a two-sided log-rank test for equality of survival curves was done, assuming a difference between the intervention and control group proportion still on sick leave after one year of 0.25. This test indicated that a sample size was needed of 107 in each group. Assuming a dropout rate of 20%, inclusion of a total of 268 patients was necessary to statistically detect a clinically relevant difference. **Data collection** Primary outcome = productivity loss, consisting of first RTW, full RTW, and total productivity loss. First and full RTW are defined as the duration of sick leave due to mental health problems in calendar days from the moment of inclusion to first (partial or full) and full RTW, respectively, in own or equal earnings.

<table>
<tr><td>Bibliographic reference</td><td>Rebergen D, Bruinvels D, Bezemer P, van der Beek A, van Mechelen W. (2009) Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomised controlled trial. J Occup Environ Med 51: 305-312</td></tr>
<tr><td></td><td>Total productivity loss is the duration of sick leave days until full RTW added to number of days of recurrences of sick leave over the 1-year follow-up. Sick leave data were gathered from records of the police departments.
Analysis
ITT and performed on an individual level. Primary outcome compared using Cox proportional hazard models.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Time to RTW
<table>
<tr><th></th><th>Intervention (n=125)</th><th>Control (n=115)</th><th>Adjusted* hazard ratio</th></tr>
<tr><td>Time to full RTW (days) – median (95%CI)</td><td>105 (84 to 126)</td><td>104 (81 to 127)</td><td>0.96 (0.73 to 1.27)</td></tr>
<tr><td>Time to partial RTW (days) – median (95%CI)</td><td>50 (34 to 66)</td><td>47 (31 to 63)</td><td>0.99 (0.75 to 1.31)</td></tr>
</table>
*Adjusted HR for OP, HADS (total score), whether participant has children, and n sick leave periods previous year

Outcome: RTW over 12 month follow-up
<table>
<tr><th></th><th>Intervention (n=125)</th><th>Control (n=115)</th></tr>
<tr><td>(Immediate) full RTW – n (%)</td><td>39 (31)</td><td>53 (46)</td></tr>
<tr><td>Partial RTW – n (%)</td><td>86 (69)</td><td>62 (54)</td></tr>
<tr><td>- Duration (in days) of partial RTW – mean (SD)</td><td>53.1 (56.3)</td><td>50.6 (78.4)</td></tr>
</table>

Outcome: total sickness absence over 12 month follow-up (includes recurrences)
<table>
<tr><th></th><th>Intervention (n=125)</th><th>Control (n=115)</th></tr>
<tr><td>Total sickness absence in days – mean (SD)</td><td>151 (97)</td><td>147 (102)</td></tr>
</table>

Outcome: sickness absence recurrence
<table>
<tr><th></th><th>Intervention (n=125)</th><th>Control (n=115)</th></tr>
</table></td></tr>
</table>

Bibliographic reference	**Rebergen D, Bruinvels D, Bezemer P, van der Beek A, van Mechelen W. (2009) Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomised controlled trial. J Occup Environ Med 51: 305-312**

N recurrences – mean (SD)	1.7 (1.9)	1.4 (1.5)
- Duration of recurrences in days – mean (SD)	19.4 (39.0)	18.6 (39.1)

Other outcomes reported (data not extracted):

- Treatment satisfaction

Source of funding	The study was funded by the Dutch Ministry of Internal Affairs and Kingdom Relations, the Health Insurance agency for the Dutch Police force (DGVP) and the VU University Medical Center.
Related publications	
Comments	**Limitations noted by authors:** • Inclusion criteria may have been too broad • Training may have been too minimal/training hours too short • As all participating OPs received the training course and randomization was performed on patient level, OPs treated patients from both groups. The advantage was that all participants were diagnosed in the same way. Nevertheless, this situation created a risk of treatment contamination between the groups. We tried to maximize the contrast by creating a situation in which referral to the psychologist in UC was always granted by the insurance company (DGVP). By this preauthorization, OPs were instigated to refer immediate to a secondary care psychologist in UC and initiated to deliver GBC in the intervention group. **Limitations noted by reviewer:** • Comparison is not true 'usual care' as OPs were instigated to refer immediate to a secondary care psychologist in UC: during 1-year follow-up, 98 (85%) control group workers received psychological treatment, compared with 58 (46%) intervention group participants.

Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	High	No details of how sequence was generated.
	Allocation concealment	Unclear	Refers to sealed envelopes but not if these were opaque and sequentially numbered
	Blinding of participants and personnel	High	Participants, employers, and OPs were not blinded for the intervention.

Bibliographic reference	**Rebergen D, Bruinvels D, Bezemer P, van der Beek A, van Mechelen W. (2009) Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomised controlled trial. J Occup Environ Med 51: 305-312**		
	Blinding of outcome assessment	Low	"Researchers were blinded for the treatment allocation and protocol compliance". Sick leave data were obtained from central administrative source (police department records).
	Incomplete outcome data	Low	16/240 (7%) loss to follow-up
	Selective outcome reporting	Low	Outcomes pre-specified in study protocol and appropriately reported.
	Other sources of bias	Unclear	Potential risk of treatment contamination – all OPs were trained in intervention and delivered treatment to patients in both groups.
Overall RoB	Unclear		

D.2.11 Salomonsson 2017

Bibliographic reference	**Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst L, Ingvar M, Lekander M, Hedman-Lagerlöf E (2017) Cognitive–behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial Occup Environ Med 74:905–912.**
Study type	RCT (3-arm superiority trial)
Aim	To evaluate CBT, a return-to-work intervention (RTW-I) and a combination of the two (COMBO) for primary care patients on sick leave due to CMDs in relation to sick leave duration and psychiatric symptoms.
Location & setting	Sweden Four primary healthcare centres in Stockholm County
Study dates	September 2012 until October 2014.
Length of follow-up	1 year
Participant characteristics	GPs consecutively referred all patients with mild to moderate mental disorders, interested in receiving psychological treatment, to the study. Potential patients underwent a structured psychiatric assessment conducted by licensed psychologists using the full Mini International Neuropsychiatric Interview (MINI)22 with additional criteria for exhaustion disorder (ICD code 43.8)

Bibliographic reference	**Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst L, Ingvar M, Lekander M, Hedman-Lagerlöf E (2017) Cognitive–behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial Occup Environ Med 74:905–912.**

Inclusion criteria:

- aged 18-65 years
- current 50%-100% sick leave for between 1 month and 6 months due to a mental disorder
- diagnosis of major depression, social phobia, generalised anxiety disorder (GAD), post-traumatic stress disorder (PTSD), panic disorder (with or without agoraphobia), obsessive compulsive disorder (OCD), specific phobia, insomnia, adjustment disorder or exhaustion disorder
- a score of 4–6 on the 0–8 Clinician's Severity Rating (CSR)
- if on medication for CMDs, stable dosage for at least 12 weeks and kept constant throughout the study
- low risk of suicide

Exclusion criteria:

- current psychosis, bipolar disorder, dementia, self-harm or eating disorder
- current substance abuse

Baseline characteristics of study participants:

	CBT only (n=64)	**RTW-I only (n=67)**	**COMBO (n=80)**
Age (years) – mean (SD)	42.5 (9.2)	42.2 (9.5)	41.5 (10.4)
% male	16	21	16
Education - %			
- Compulsory (school)	14	12	13
- Secondary school 2-3yrs	50	42	54
- College / university ≤4yrs	34	34	20
- College / university >4 yrs	2	12	14
Sickness absence in 12m prior to treatment			
- Full day equivalents – mean (SD)	80.0 (61.5)	85.4 (59.5)	73.9 (50.8)
Principle disorder - %			
- Exhaustion disorder	63	63	54
- Adjustment disorder	19	10	10

Bibliographic reference	**Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst L, Ingvar M, Lekander M, Hedman-Lagerlöf E (2017) Cognitive–behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial Occup Environ Med 74:905–912.**
	- Depression: 11 / 15 / 13 - GAD: 3 / 3 / 8 - Social phobia: 3 / 2 / 4 - Panic disorder: 0 / 2 / 4 - PTSD: 2 / 5 / 4 - OCD: 0 / 2 / 3 - Insomnia: 0 / 0 / 3 Duration of disorder (years) – mean (SD): 5.5 (11.7) / 3.7 (6.5) / 5.6 (9.1) Psychotropic medication (%) - Antidepressants: 22 / 22 / 16 - Anxiolytics: 8 / 22 / 13 - Hypnotics: 23 / 28 / 31
Number of study subjects	N=211
Intervention details	(1) Return-to-work intervention alone Delivered by psychologists in primary care setting. Aim: to facilitate return to a sustainable and healthy work situation. *Details* o Intervention design incorporated basic CBT principles and was based on previous literature and clinical experience of working with sick-listed patients with CMDs. o Graded exposure to the workplace and early contact with the workplace were included components o Treatment consisted of 10 sessions over a period of 20 weeks, initially weekly then follow-ups more sparsely o Four central modules: - (1) conceptualisation: examine causes for sick leave, work-related goals and perceived barriers to RTW. With patient's consent therapist collected similar information from their employer - (2) psychoeducation about potential pros and cons with sick leave, the national social security system and medical guidelines for prescribing sick leave - (3) planning: therapist and patient formulated a RTW plan, agreed with the employer, patient's GP and the social insurance agency

Bibliographic reference	**Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst L, Ingvar M, Lekander M, Hedman-Lagerlöf E (2017) Cognitive–behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial Occup Environ Med 74:905–912.**
	- (4) monitoring of steps taken, and supporting patient in dealing with difficulties. CBT techniques were taught to the patient when deemed suitable to aid RTW, including behavioural activation, principles of exposure, role of recuperation for reducing stress, problem solving and motivational interviewing. The CBT techniques were specifically tailored to address work-related issues and barriers to RTW and not applied to other areas of the patient's life. The therapist had an active, problem-solving and motivating role but also encouraged the patient to take command of his or her situation. (2) Combination treatment (RTW-I plus CBT – see below for details of CBT component) *Details* In COMBO, the control and RTW interventions were combined, starting with three RTW-I sessions (the first three modules), followed by CBT for the specific disorder where a brief follow-up on the RTW progress was added at the end of each session. RTW-I sessions were then scheduled flexibly according to the needs of the individual patient. Depending on the specific disorder and CBT protocol, the COMBO treatment thus varied between 10 and 25 sessions during a period of maximum 25 weeks. *Adherence* RTW-I – patients completed 93.8% of the sessions (M no. of sessions=9.1; SD=2.8) COMBO – patients completed 92.3% of the sessions (M no. of sessions=16.1; SD=5.2). Eleven patients (5%) completed fewer than 50% of the sessions and were considered non-completers: CBT (n=4), RTW-I (n=3) and COMBO (n=4).
Comparison details	CBT alone Psychologist-delivered treatments (in primary care setting) based on available evidence-based CBT protocols for each specific disorder (see below)

Disorder	CBT manualised treatment	No. of sessions
Depression	Brief behavioural activation	10
GAD	Applied relaxation	8
Social phobia	Cognitive therapy	14

Bibliographic reference	**Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst L, Ingvar M, Lekander M, Hedman-Lagerlöf E (2017) Cognitive–behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial Occup Environ Med 74:905–912.**
	OCD – Exposure with response prevention – 20 Panic disorder – Cognitive therapy – 10 PTSD – Cognitive therapy – 16 Insomnia – CBT – 6 Adjustment and exhaustion disorder – CBT – 10 *Adherence* CBT – patients completed 93.3% of the sessions (M no. of sessions=10; SD=2.7)
Methods and analysis	**Power** A priori power analysis showed that, with 70 patients in each group and an alpha level of 0.05, the power was 90% to detect a 20% difference regarding the proportion of patients on sick leave. **Data collection** Sick-leave data were obtained from the registry of the Swedish social insurance agency. All sick leaves in Sweden exceeding 2 weeks are registered in this national registry, making it a reliable data source. Sick-leave data were collected 12 months after treatment start. In the present study, all sick-leave data are presented as full-day equivalents. For example, a person on sick leave 50% during 14 days is counted as having seven full sick- day equivalents **Analysis** In the analysis of between-group differences using mixed models, the interaction effect of group and time was the central estimate of treatment effect. Analyses of sick leave were adjusted for sick-leave days 1 year before randomisation. Data were analysed using intention to treat.
Outcomes measures and effect sizes	**Results** **Outcome: Time to RTW over 12 month follow-up**

OUTCOME	CBT only (n=64)	RTW-I only (n=67)	COMBO (n=80)
Total days sick leave 0-12months after randomisation			
- mean (SD)	146.5 (124.3)	123.5 (104.5)	133.0 (109.2)
- median (IQR)	135.3 (216.6)	102.0 (88.3)	96.8 (162.3)

Bibliographic reference	Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst L, Ingvar M, Lekander M, Hedman-Lagerlöf E (2017) Cognitive–behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial Occup Environ Med 74:905–912.

Adjusted difference in days of sick leave*: RTW-I vs. CBT	-27 (-8.7 to 62.8)	
Adjusted difference in days of sick leave*: RTW-I vs. COMBO		-18 (-15.8 to 52.1)
Adjusted difference in days of sick leave*: COMBO vs. CBT	-9 (-25.4 to 43.14)	

* adjusted for sick-leave days 1 year before randomisation

Outcome: RTW: Work status at follow-up

OUTCOME	CBT only (n=64)	RTW-I only (n=67)	COMBO (n=80)
At 6 months post-randomisation			
- RTW (not on sick leave) – n (%)	33 (52)	36 (54)	42 (53)
- Part-time sick leave – n (%)	15 (23)	22 (33)	23 (29)
- Full-time sick leave – n (%)	16 (25)	9 (13)	15 (19)
- Test of difference in proportions:	$\chi 2=3.36$; df=4; p=0.499		
At 12 months post-randomisation			
- RTW (not on sick leave) – n (%)	49 (77)	53 (79)	64 (80)
- Part-time sick leave – n (%)	7 (11)	5 (7)	9 (11)
- Full-time sick leave – n (%)	8 (13)	9 (13)	7 (9)
- Test of difference in proportions	$\chi 2=1.48$; df=4; p=0.831		

Other outcomes reported (data not extracted):

- Clinician-assessed psychiatric symptoms (measured using CSR alongside the MINI diagnostic interview by psychologist blind to patient's principal disorder and allocation)
- Hospital and Anxiety Rating Scale (HADS) score
- Montgomery Åsberg Depression Rating Scale-Self-Rated (MADRS-S)
- Perceived Stress Scale (PSS) score
- Quality of Life Inventory (QOLI) score
- Work Ability Index (WAI) score
- Treatment satisfaction (Client Satisfaction Questionnaire)

Bibliographic reference	**Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst L, Ingvar M, Lekander M, Hedman-Lagerlöf E (2017) Cognitive–behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial Occup Environ Med 74:905–912.**		
Source of funding	Funded by Karolinska Institutet and by research grants from Stockholm County Council.		
Related publications	None identified.		
Comments	**Limitations noted by authors:** o Interventions delivered by psychologists delivering interventions in primary care setting – may have had too little expertise or connection to actual workplace to affect sick leave (e.g. compared with occupational therapists / physicians) o High proportion of participants with adjustment or exhaustion disorders where prior evidence is limited concerning treatment o Lack of an untreated control group o Adherence to protocols and competence of therapists was not measured o Therapists treated patients in all conditions, which may have led to contamination between treatments **Limitations noted by reviewer:** None		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Unique randomisation sequences were generated for each participating primary care centre using a random number generator by an independent researcher prior to inclusion of any patient into the study.
	Allocation concealment	Low	Randomised study condition (CBT, RTW-I or COMBO) was written on a card and placed into an opaque envelope marked with a unique consecutive serial number. Envelopes kept in a locked filing cabinet by a research secretary and only opened when a new patient had been included in the study so assignment was concealed from the referring general practitioners (GPs), therapists and patients.
	Blinding of participants and personnel	High	Not reported but unlikely given nature of interventions

Bibliographic reference	**Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst L, Ingvar M, Lekander M, Hedman-Lagerlöf E (2017) Cognitive–behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial Occup Environ Med 74:905–912.**		
	Blinding of outcome assessment	Low	Primary outcome is objective – data from centralised administrative source.
	Incomplete outcome data	Low	100% complete sick leave data
	Selective outcome reporting	Low	Primary outcome pre-specified on ClinicalTrials.gov (NCT01636791) and appropriately reported
	Other sources of bias	Low	None reported
Overall RoB	Low		

D.2.12 Schene 2007

Bibliographic reference	**Schene A, Koeter M, Kikkert M, Swinkels J, McCrone P. (2007) Adjuvant occupational therapy for work-related major depression works: randomized trial including economic evaluation. Psychological Medicine 37: 351-362**
Study type	RCT
Aim	To examine whether it is possible to improve treatment outcomes by focusing on a relevant and specific life domain such as work through the addition of occupational therapy (OT) for patients with work-related depression.
Location & setting	The Netherlands One hospital outpatient psychiatry department
Study dates	Not reported
Length of follow-up	4 years
Participant characteristics	**Inclusion criteria:** - Age 18 years and over - Major depressive disorder (single episode or recurrent) without psychotic features (DSM-IV criteria) - Beck Depression Inventory (BDI) score >15 - Working ≤50% of regular hours per week because of work-related depression for between 10 weeks and 2 years (senior psychiatrists estimated clinically if contribution of work to the onset and/or continuation of depression was >50% of supposed causal factors)

Bibliographic reference	**Schene A, Koeter M, Kikkert M, Swinkels J, McCrone P. (2007) Adjuvant occupational therapy for work-related major depression works: randomized trial including economic evaluation. Psychological Medicine 37: 351-362**

Exclusion criteria:

- history of psychosis, manic, hypomanic or cyclothymic features
- history of active drug or alcohol abuse or dependence

Baseline characteristics of study participants:

	Intervention (n=30)	Control (n=32)
Age (years) – mean	46.6 (7.4)	45.2 (7.5)
% male	50	47
Education - %		
- ≤High school	63	59
- > High school	37	41
Employment		
- Working hours before illness (hours/week) – mean (SD)	36.4 (7.8)	36.5 (10.4)
Current work status – n (%)		
- Working full-time hours	0	0
- Working partial hours	7 (23)	5 (16)
- Not working due to depression	23 (77)	27 (84)
Sickness absence		
- Total sick leave days at baseline – mean (SD)	263 (179)	242 (170)
Clinical status: major depressive disorder (MDD) – (%)		
- Single episode	37	53
- Recurrent, full inter-episode recovery	37	25
- Recurrent, without full-inter-episode recovery	17	19
- Chronic	10	3
Clinical status: major depressive disorder (MDD) severity– (%)		
- Mild-moderate	57	72
- Severe	43	28

Number of study subjects	N=62

Bibliographic reference	**Schene A, Koeter M, Kikkert M, Swinkels J, McCrone P. (2007) Adjuvant occupational therapy for work-related major depression works: randomized trial including economic evaluation. Psychological Medicine 37: 351-362**
Intervention details	Occupational therapy (OT) + usual outpatient psychiatric treatment for depression (latter delivered by the same senior residents as for control group) OT element delivered by 2 occupational therapists, consisted of three manual-based phases : o Diagnostic phase (4 weeks): five contacts with a detailed occupational history, video observation in a role-played work situation, contact with an OP from patient's employer and a plan for work reintegration. o Therapeutic phase (24 weeks): - 24 weekly 2-hr group sessions (8–10 patients) focused on: preparation for work reintegration, contacting place of work, starting to work. First half of sessions spent discussing individual progress. Second half focused on seven themes: being passive, workplace stress, personal bounds and limits, being powerful and powerless, perfectionism, conflicts and prevention. - 12 individual sessions focused on: further analyses of the relationship between work and depression, exploration of work problems, support and evaluation of work resumption. Specific individual issues from group sessions were discussed further. o Follow-up phase (20 weeks): three individual visits. Decisions about work resumption were made by the patient's occupational physician *Adherence* 4/30 (13%) only received the 4-week diagnostic phase (felt this was adequate); 25/30 (83%) completed OT intervention according to protocol.
Comparison details	Usual outpatient treatment for depression *Details* - Clinical management according to the APA Guideline (APA, 2000) and antidepressants, if indicated and accepted by patients, according to a standardised stepwise drug treatment algorithm - Patients treated by three supervised senior psychiatric residents - Visits lasted 30 min every 2–3 weeks, consisted of: symptom assessment, psychoeducation, general support and cognitive behavioural techniques and, if indicated, medication prescription - Decisions regarding treatment type, intensity and duration were made by patients and treating physicians.

<table>
<tr><td>Bibliographic reference</td><td>Schene A, Koeter M, Kikkert M, Swinkels J, McCrone P. (2007) Adjuvant occupational therapy for work-related major depression works: randomized trial including economic evaluation. Psychological Medicine 37: 351-362</td></tr>
<tr><td></td><td>Decisions about work resumption were made by the patient’s occupational physician</td></tr>
<tr><td>Methods and analysis</td><td>Power
Not reported
Data collection
Measured psychopathology (depression), behaviour (work resumption), work stress, service use and costs by patient assessment and questionnaires. Work resumption data (dates and amount of work resumption in days per week and hours per week) were assessed at 3 months, 6 months, 12 months and 42 months. The final questionnaire covered 6-month periods from 12 to 42 months.
Analysis
Treatment effect of OT was tested using t-test for continuous measures and Chi-square test for categorical variables (using ITT analysis). For longitudinal analysis, used the generalized estimating equations (GEE) method for dichotomous outcomes and a generalized linear model approach for continuous outcomes. For both analyses, time and condition effects were defined as follows: time = effect over time for pooled TAU and TAU+OT data; condition = effect of condition for pooled time data.
The following RTW indices were calculated: (1) time till any work resumption, (2) total hours worked during each 6-month period, and (3) the proportion of patients working at least 2 days or 16 hours per week.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Time until any RTW for patients not working at baseline
<table>
<tr><th></th><th>Intervention (n=23)</th><th>Control (n=27)</th></tr>
<tr><td>Days from baseline until any work resumption – mean</td><td>207</td><td>299</td></tr>
<tr><td>Difference between groups: Cox regression, relative risk (95%CI)</td><td colspan="2">RR 2.71 (1.16–6.29)</td></tr>
</table>

Outcome: Work status per 6-month follow-up period – hours worked; % working part-time (≥16 hours per week)
<table>
<tr><th>Time period</th><th>Intervention (n=30)</th><th>Control (n=32)</th><th>Chi-square p-value</th></tr>
<tr><td>Month 1-6</td><td></td><td></td><td></td></tr>
</table></td></tr>
</table>

Bibliographic reference	**Schene A, Koeter M, Kikkert M, Swinkels J, McCrone P. (2007) Adjuvant occupational therapy for work-related major depression works: randomized trial including economic evaluation. Psychological Medicine 37: 351-362**

- Hours worked (median)	20.45	0.0	0.02
- % working part-time	9	11	
Month 7-12			
- Hours worked (median)	261.75	0.85	0.04
- % working part-time	39	15	
Month 13-18			
- Hours worked (median)	456.25	156.42	0.04
- % working part-time	52	22	
Month 19-24			
- Hours worked (median)	456.25	91.25	0.23
- % working part-time	52	37	
Month 25-30			
- Hours worked (median)	397.58	0.00	0.51
- % working part-time	52	37	
Month 31-36			
- Hours worked (median)	391.07	130.35	0.29
- % working part-time	52	41	
Month 37-42			
- Hours worked (median)	404.10	0.00	0.43
- % working part-time	57	41	

Other outcomes reported (data not extracted):

- Proportion meeting criteria for DSM-IV major depressive disorder at follow-up assessments
- Depression symptoms (BDI score)
- Work stress (11-item Psychic Strains section of the Questionnaire Organisation Stress, QOS)

Source of funding	Funded by Landelijk Instituut Sociale Verzekering (LISV), currently Uitvoering Werknemersverzekeringen (UWV) Amsterdam, The Netherlands.
Related publications	None identified

Bibliographic reference	**Schene A, Koeter M, Kikkert M, Swinkels J, McCrone P. (2007) Adjuvant occupational therapy for work-related major depression works: randomized trial including economic evaluation. Psychological Medicine 37: 351-362**		
Comments	**Limitations noted by authors:** ○ Small sample size and large loss of follow-up data ○ limited contact between TAU and OT staff (in order to measure the add-on effect of OT to TAU objectively) was evaluated negatively by patients: recent rehabilitation research suggests that in more severe populations, a strong integration between both treatment approaches shows a cumulative effect **Limitations noted by reviewer:** None		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Randomly assigned in blocks of 20 (10:10) by use of computer-generated cards
	Allocation concealment	Low	Cards stored as concealed assignment codes in consecutively numbered sealed envelopes under the responsibility of an independent research associate.
	Blinding of participants and personnel	High	Not reported but not possible due to nature of intervention.
	Blinding of outcome assessment	High	Outcomes measured by patient self-report. Participants not blinded to group allocation.
	Incomplete outcome data	Low High	9% loss to 12month follow-up 23% loss to 42 month follow-up
	Selective outcome reporting	Unclear	No published study protocol
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.2.13 van der Feltz-Cornelis 2010

Bibliographic reference	**van der Feltz-Cornelis C, Hoedeman R, de Jong F, Meeuwissen J, Drewes H, van der Laan N, Adèr H (2010) Faster return to work after psychiatric consultation for sick-listed employees with common mental disorders compared to care as usual. A randomized clinical trial. Neuropsychiatric Disease and Treatment 6:375–385**
Study type	Cluster RCT
Aim	To test the effectiveness of psychiatric consultation aimed at diagnosis and treatment of common mental disorders in employees on sick leave with a focus on RTW, as compared to care as usual (CAU).
Location & setting	Netherlands Two occupational health services (OHS) related to various companies which together cover almost half the working population of the Netherlands.
Study dates	Not reported
Length of follow-up	3 months and 6 months after study inclusion
Participant characteristics	All patients who had visited the OP within the last 6 months were selected from files and received an information letter describing the purpose of the study together with an informed consent letter for the screening procedure and baseline questionnaires. Additionally, OPs could recommend patients to participate. **Inclusion criteria:** - Employees with ≥6 weeks absenteeism and no plan for RTW within another six weeks - Positive screen on either the Patient Health Questionnaire (PHQ; >8 on the depression subscale, >8 on the subscales for PD or >3 on the GAD subscale) or the Whitely Index (WI; >3 for somatoform disorders). **Exclusion criteria:** - Suicidal thoughts - Addicted to drugs or alcohol - Psychotic, or suffering from dementia. - Involved in a legislative procedure for unemployment compensation - On sick leave >52 weeks **Baseline characteristics of study participants:**

<table>
<tr><td>Bibliographic reference</td><td>van der Feltz-Cornelis C, Hoedeman R, de Jong F, Meeuwissen J, Drewes H, van der Laan N, Adèr H (2010) Faster return to work after psychiatric consultation for sick-listed employees with common mental disorders compared to care as usual. A randomized clinical trial. Neuropsychiatric Disease and Treatment 6:375–385</td></tr>
<tr><td></td><td>
<table>
<tr><th></th><th>Intervention
(N=29)</th><th>Control
(N=31)</th></tr>
<tr><td>Age (years) – mean</td><td>42</td><td>42</td></tr>
<tr><td>% male</td><td>48</td><td>36</td></tr>
<tr><td>Level of education:
- Low
- Middle
- High</td><td>
7
50
43</td><td>
17
47
37</td></tr>
<tr><td>Major depressive disorder*
Other depressive disorder*</td><td>37
17</td><td>35
13</td></tr>
<tr><td>Generalised anxiety disorder*
Panic disorder*</td><td>7
21</td><td>19
29</td></tr>
<tr><td>Somatoform disorder</td><td>62</td><td>55</td></tr>
</table>
*assessed with Patient Health Questionnaire
</td></tr>
<tr><td>Number of study subjects</td><td>N=60</td></tr>
<tr><td>Intervention details</td><td>Consultation with trained psychiatrist to guide and support care delivered by the OP

Details
- Psychiatrist sees employee once – formulates a treatment plan together with employee including suggestions for RTW adapted to the needs of the patient due to their specific disorder
- Psychiatrist informs the OP about recommended treatment by consultation letter
- OP coordinates care and evaluates the treatment steps
Training</td></tr>
</table>

Bibliographic reference	**van der Feltz-Cornelis C, Hoedeman R, de Jong F, Meeuwissen J, Drewes H, van der Laan N, Adèr H (2010) Faster return to work after psychiatric consultation for sick-listed employees with common mental disorders compared to care as usual. A randomized clinical trial. Neuropsychiatric Disease and Treatment 6:375–385**
	(1) All OPs given training (3 sessions by a study psychiatrist and OP) in use of tools for screening and CBT and reattribution techniques for treating employees with depressive disorders, anxiety disorders or somatoform disorders; (2) training of consultant psychiatrists (n=6) to provide not only a diagnosis and treatment plan, but also to provide suggestions for successful strategies aimed at improvement of work functioning in view of the limitations of their mental disorder. *Delivery* Psychiatric consultation was performed most often between baseline assessment and 3 month follow-up. Two of the six trained psychiatrists were available for the consultations. They would see the patient for the diagnostic interview or perform the interview by telephone, depending on which was more convenient for the patient.
Comparison details	OP care as usual (1) As above, all OPs given training (3 sessions by a study psychiatrist and OP) in use of tools for screening and CBT and reattribution techniques for treating employees with depressive disorders, anxiety disorders or somatoform disorders. *Delivery* Referral to specialty mental health care professionals was the most frequent treatment mode. This occurred most often between baseline assessment and assessment at three months follow up.
Methods and analysis	**Power** We assumed that half of the sick listed employees would not return to work during the follow up time of six months, and that of the remainder, a hazard ratio (HR) of 2.0 (ratio of RTW rates of the intervention group versus the CAU group) would be the smallest clinical and societal relevant ratio. In a multi-level analysis (MLA) study such as this one, with a standard deviation (SD) of 1.0, and a mean number of six patients per OP, this would result in a design effect of six. That would mean that N should be multiplied by six as compared to the number needed for a power of 0.90 in patient-randomised GLM analysis. If in such a study a standardized difference of 1.0 should be detected, a sample size of 2 × 60 would be needed in order to detect a clinically relevant significant HR of 2.0 of RTW rates as compared to the rates in the control group.

<table>
<tr><td>Bibliographic reference</td><td>van der Feltz-Cornelis C, Hoedeman R, de Jong F, Meeuwissen J, Drewes H, van der Laan N, Adèr H (2010) Faster return to work after psychiatric consultation for sick-listed employees with common mental disorders compared to care as usual. A randomized clinical trial. Neuropsychiatric Disease and Treatment 6:375–385</td></tr>
<tr><td></td><td>Data collection
All clinical outcome measures were self-administered and assessed at baseline, 3 months, and 6 months. Primary outcome was time to full RTW assessed with item nine of the Medical Outcomes Study Short-Form-20 in combination with the follow up assessment date on the questionnaire (checked where necessary against OHS database or in patient interview).
Time to (lasting) RTW is defined as the period between the onset of sickness leave due to the mental disorder at hand and full RTW, for at least four weeks without partial or full relapse. The total number of days of sick leave at entrance in the study was checked by baseline questionnaire.
Secondary outcome was quality of life assessed with the EuroQol (EQ-5D).49–51 Another outcome was severity of the depressive, anxiety and/or somatoform symptoms measured with the subscales of the Symptom Checklist (SCL-90).
Analysis
Intention to treat analysis was performed. Propensity scores were calculated using logistic regression analysis in order to correct for possible bias introduced by the cluster randomization process. After that, MLA was performed with three hierarchical levels: practice level, patient level and time level, with correction for propensity in order to check for possible randomization or selection bias. MLA was applied in order to establish the variance at practice level. Kaplan–Meier analyses were used to describe the association between the sick leave duration in both groups until full RTW and the group allocation. To analyse the HR of the RTW rates the Cox proportional hazard model was used. Chi square tests and a survival analysis were performed on time to RTW in both experimental conditions with the parameters onset of sick leave, and RTW assessed at 3 and 6 months follow up. In the analysis, time lag between onset of sick leave and the intervention was considered as an effect modifier.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: RTW (full, sustained)
<table><tr><th></th><th>Intervention (n=26)</th><th>Control (n=25)</th></tr><tr><td>At 3m follow-up – n (%)</td><td>15 (58)</td><td>11 (44)</td></tr><tr><td>At 6m follow-up – n (%)</td><td>22 (85)</td><td>21 (84)</td></tr></table>
Outcome: Time to RTW (full, sustained)</td></tr>
</table>

Bibliographic reference	**van der Feltz-Cornelis C, Hoedeman R, de Jong F, Meeuwissen J, Drewes H, van der Laan N, Adèr H (2010) Faster return to work after psychiatric consultation for sick-listed employees with common mental disorders compared to care as usual. A randomized clinical trial. Neuropsychiatric Disease and Treatment 6:375–385**
	<table><tr><th></th><th>Intervention (n=26)</th><th>Control (n=25)</th></tr><tr><td>Number of days to RTW – mean (95%CI)</td><td>122 (77 to 166)</td><td>190 (134 to 246)</td></tr><tr><td>Difference (in days) between groups</td><td colspan="2">- 68; χ^2= 3.101, df=1, p=0.078</td></tr></table> Kaplan-Meier curve describing the probability of absenteeism in the two groups over time **Other outcomes reported (data not extracted):** ○ QALY (measured with EuroQol; EQ-5D) ○ Severity of depressive, anxiety and/or somatoform symptoms (measured with the Symptom Checklist (SCL-90)). ○ Psychological symptoms (measured with PHQ)
Source of funding	STECR-Alladin Research Foundation in the Netherland
Related publications	**Study protocol** van der Feltz-Cornelis C, Meeuwissen J, de Jong F, Hoedeman R, Elfeddali I. (2007) Randomised controlled trial of a psychiatric consultation model for treatment of common mental disorder in the occupational health setting. BMC Health Services Research, 7:29
Comments	**Limitations noted by authors:** • One of the collaborating occupational health companies included in the study had to stop collaboration due to serious recurring reorganisations. • The target number of included participants could not be recruited, resulting in the study not being adequately powered. • In the control group, participants could be referred to mental health specialists, likely resulting in smaller effect sizes. • Participants were absent from work for a long time before inclusion in the study, making return to work more difficult than it may have been for people who had been absent for a shorter period. • There was a shorter follow-up period than necessarily needed to observe effects.

Bibliographic reference	**van der Feltz-Cornelis C, Hoedeman R, de Jong F, Meeuwissen J, Drewes H, van der Laan N, Adèr H (2010) Faster return to work after psychiatric consultation for sick-listed employees with common mental disorders compared to care as usual. A randomized clinical trial. Neuropsychiatric Disease and Treatment 6:375–385**		
	• Possible selection bias due to encouragement from occupational physician to participate. • Dates of return to work could only be obtained in terms of weeks and not days • No active supervision was performed over the compliance of the occupational physician with the intervention **Limitations noted by reviewer:** No further limitations		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	OPs were allocated to the intervention or control group by cluster randomization which was executed after baseline measurement by an independent blinded assistant, using consecutive envelopes with computer-generated random allocation. The sequence was concealed until interventions were assigned by an independent blinded research assistant.
	Allocation concealment	Low	In order to reduce selection bias as much as possible, OPs were informed about their randomization status after inclusion of at least four patients or after a maximum time lag of four weeks after the first inclusion.
	Blinding of participants and personnel	High	Not possible given nature of intervention
	Blinding of outcome assessment	High	All outcome measures were self-report; risk of bias as workers not blinded to group allocation.
	Incomplete outcome data	Low	Primary outcome available for 51/60 (85%)
	Selective outcome reporting	Low	Outcomes pre-specified in published study protocol and appropriately reported
	Other sources of bias	Unclear	
Overall RoB	Low		

D.2.14 van der Klink 2003

Bibliographic reference	**van der Klink J, Blonk R, Schene A, van Dijk F. (2003) Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomised controlled design. Occup Environ Med, 60:429–437**
Study type	Cluster RCT
Aim	To compare the effects on symptom intensity, psychological resources and sick leave duration of an innovative activating intervention with “care as usual” (control group) for the guidance of employees on sickness leave because of an adjustment disorder.
Location & setting	Netherlands In-company OHS of one large private postal and telecoms organisation with approximately 100 000 employees. OPs were geographically spread over the country and served fixed company divisions and employee populations.
Study dates	Recruitment: May 1995 to July 1996
Length of follow-up	1 year
Participant characteristics	All employees referred to their OP after 2 weeks sick leave; OPs informed participants and recruited to the study. **Inclusion criteria:** - a recent (<3 months) identifiable psychosocial stressor plus ≥8 (of 17) distress symptoms representing the main symptom categories of the DSM IV adjustment disorder - first sickness leave because of an adjustment disorder **Exclusion criteria:** - DSM IV exclusion criteria for adjustment disorder (e.g. patient had depression) - received guidance for an adjustment disorder in the preceding year - physical comorbidity that could affect absenteeism - pregnant <6 months post-partum - if employment at the organisation was expected to end within six months **Baseline characteristics of study participants:**

	Intervention (n=109)	Control (n=83)

<table>
<tr><td>Bibliographic reference</td><td>van der Klink J, Blonk R, Schene A, van Dijk F. (2003) Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomised controlled design. Occup Environ Med, 60:429–437</td></tr>
<tr><td></td><td>
<table>
<tr><td>Age (years) – mean</td><td>39 (8.0)</td><td>42 (8.8)</td></tr>
<tr><td>% male</td><td>66</td><td>59</td></tr>
<tr><td>Educational level (%)
- Elementary
- Secondary
- Higher
- Other</td><td>
7
70
12
11</td><td>
17
66
4
13</td></tr>
<tr><td>Sickness absence
- No. of episodes in previous year – mean (SD)</td><td>
2.2 (71.9)</td><td>
2.3 (1.6)</td></tr>
</table>
</td></tr>
<tr><td>Number of study subjects</td><td>N=192</td></tr>
<tr><td>Intervention details</td><td><u>Activating intervention</u>
Early intervention delivered by OPs to facilitate acquisition of coping skills and regaining control. Comprised a graded activity approach, based on a 3-stage model:
1. understand the origin and cause of loss of control; stimulate patient to do more non-demanding daily activities
2. patient asked to list stressors and develop problem solving strategies for them
3. patient puts problem solving strategies into practice and extends activities to include more demanding ones. The patients’ own responsibility and active role in the recovery process is emphasised
Training and delivery
○ Intervention OPs underwent three-day training with an OP/psychologist, a psychological therapist, a GP-researcher on emotional distress, and a psychiatrist.
○ OPs were trained in multiple cognitive-behavioural, prescriptive interventions to stimulate patients’ acquisition of problem solving skills and structuring daily activities: OPs were free to choose the specific tools they used in each phase of the process.
○ Standardised aspects of the intervention protocol: OPs had to plan 4-5 individual consultations in the first 6 weeks of sick leave with a total length over these sessions of ≥ 90 minutes.
○ At least three contacts with company management were prescribed in the first three months, plus at least one session prescribed after work resumption, focused on relapse prevention.
○ To ensure treatment integrity, use of tools was supervised by trainers – OPs recorded their activities on forms.</td></tr>
</table>

Bibliographic reference	**van der Klink J, Blonk R, Schene A, van Dijk F. (2003) Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomised controlled design. Occup Environ Med, 60:429–437**
Comparison details	Usual OP care No professional or company guideline for the care of patients with adjustment disorders but OPs had undertaken several courses on MH problems in preceding years and there was a shared concept of diagnosis and guidance. OPs were aware of the three stage model, but most had not been trained in its use and did not structure their guidance according to it. In general, "usual care" was based on empathic counselling, instruction about stress, lifestyle advice, and discussion of work problems with the patient and company management. Usual care group OPs received a three hour session on use of the inclusion and exclusion criteria and on how to record their guidance activities relevant for this study.
Methods and analysis	**Power** No calculation reported. **Data collection** Primary outcome – absenteeism, measured as: - Time to return to work – the period between onset of sick leave and first full or partial RTW - Time to full RTW - Duration of sick leave – number of days lost until full return to work with a correction for partial return - Time to recurrence – the period between point of full return to work and recurrence of sick leave for any reason - Incidence of recurrence – number of episodes in a period of 12 months from full return to work. Absenteeism data were obtained from the company's computerised record system and collected until one year after full RTW, with a maximum of two years after study entry. **Analysis** Analyses on ITT basis. Mann-Whitney U tests used to analyse the rate of partial and of full return after three months and the incidence of recurrence in the year following full return to work. Kaplan-Meier survival analyses and Cox's proportional hazards regression analyses were used to analyse the absenteeism data. As terminal events in separate analyses, "time to return to work", "time to full return to work", and "time to recurrence" were used. Kaplan-Meier analyses were used to obtain means, medians, and confidence intervals. The statistical testing of significance was conducted with Cox regression analyses. These multivariate analyses made it possible to introduce significant differences in the baseline variables between intervention and control groups as covariates in the analyses.

Bibliographic reference	van der Klink J, Blonk R, Schene A, van Dijk F. (2003) Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomised controlled design. Occup Environ Med, 60:429–437
Outcomes measures and effect sizes	**Results**

Outcome: Return to work rates (individual employee-level analyses)

	Intervention (n=109)	Control (n=83)
At 3 months		
No return to work – n (%)	3 (3)	12 (14)
Partial return to work – n (%)	21 (19)	19 (23)
Full return to work – n (%)	85 (78)	52 (63)
12 months		
Full return to work – n (%)	109 (100)	83 (100)

Outcome: Time to RTW (days) over 12 month follow-up

	Intervention (n=109)	Control (n=83)
Time to return to full or partial work (days)		
- Median (95%CI)	33 (29 to 37)	38 (30 to 46)
- Mean (95%CI)	36 (32 to 40)	53 (43 to 62)
- Adjusted HR [a] (95%CI)	1.61 (1.18 to 2.19)	
Time to full return to work (days)*		
- Median (95%CI)	47 (41 to 53)	63 (43 to 83)
- Mean (95%CI)	69 (58 to 80)	91 (75 to 107)
- Adjusted HR [a] (95%CI)	1.41 (1.04 to 1.92)	

[a] model adjusted for employee age and working hours

Outcome: Duration of sickness absence (days) [a]

	Intervention (n=109)	Control (n=83)

Bibliographic reference	van der Klink J, Blonk R, Schene A, van Dijk F. (2003) Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomised controlled design. Occup Environ Med, 60:429–437

Duration of sickness absence (days)		
- Median duration of sickness absence (95%CI)	41 (35 to 46)	50 (44 to 56)
- Mean duration of sickness absence (95%CI)	49 (43 to 55)	70 (58 to 82)

[a] duration of sickness absence = number of days lost until full return to work with a correction for partial return

Outcome: Recurrence of sickness absence (for any reason)

	Intervention (n=109)	Control (n=83)
Mean incidence (no. of spells) of recurrence in a one-year period after full return to work	1.8	2.3
Time to sickness absence recurrence (days)		
- Median time to recurrence (95%CI)	186 (143 to 229)	170 (121 to 219)
- Mean time to recurrence (95%CI)	194 (174 to 213)	173 (152 to 195)

Other outcomes reported (data not extracted):

Symptoms:

- Four-Dimensional Symptom Questionnaire (4DSQ): four self-report scales measuring distress, depression, anxiety, and physical symptoms
- The Symptom Checklist-90 items (SCL-90) – a measure of psychopathology (one overall score)

Psychological resources:

- Mastery Scale (one overall score)

Source of funding	• Grants from: The Occupational Health Service of Royal KPN; Netherlands Organisation of Scientific Research (I): Netherlands Concerted Research Action “Fatigue at Work”; TNO Work and Employment; and Foundation for Quality in Occupational Health
Related publications	None identified
Comments	**Limitations noted by authors:** • Baseline questionnaire was given to participants at the end of their first visit, not before intervention had begun. Some participants did not return baseline questionnaire until third consultation

Bibliographic reference	**van der Klink J, Blonk R, Schene A, van Dijk F. (2003) Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomised controlled design. Occup Environ Med, 60:429–437**		
	• There was a potential selective dropout with differences between the intervention and control groups at 3- and 12-months follow-up • Occupational physicians knew which treatment they provided • Random allocation on the individual participant level was not possible as unacceptable to the company • Some differences were found between groups on baseline outcomes • Analysis performed at cluster level which may have underestimated the effect size • Care as usual (control) was an active control, potentially reducing effect size **Limitations noted by reviewer:** No further limitations		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Unclear	"Randomisation conducted blindly by an independent research assistant who assigned occupational physicians, stratified by experience and number of years working for the company to the two study groups." Method of sequence generation not reported.
	Allocation concealment	Unclear	Randomisation at level of OPs: potential for selection bias as OPs are not blind to group allocation and have a role in patient recruitment.
	Blinding of participants and personnel	Unclear	OPs could not be blinded but reports that patients were not aware which treatment they received.
	Blinding of outcome assessment		Objective data obtained from the company's computerised record system
	Incomplete outcome data	Low	"Absenteeism analyses could be performed for all included patients (n = 192)" p.433
	Selective outcome reporting	Low	Outcomes pre-specified in published study protocol and appropriately reported
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.2.15 Vlasveld 2013

Bibliographic reference	**Vlasveld M, van der Feltz-Cornelis C, Adèr H, Anema J, Hoedeman R, van Mechelen W, Beekman A. (2013) Collaborative care for sick-listed workers with major depressive disorder: a randomised controlled trial from the Netherlands Depression Initiative aimed at return to work and depressive symptoms. Occup Environ Med, 70: 223–230.**
Study type	RCT
Aim	To evaluate the effectiveness of collaborative care, with a focus on return to work (RTW), in its effect on depressive symptoms and the duration until RTW in sick-listed workers with MDD in the occupational health setting.
Location & setting	Netherlands One large occupational health provider
Study dates	Not reported (recruitment lasted 22 months)
Length of follow-up	1 year
Participant characteristics	**Inclusion criteria:** - Workers on sickness absence between 4 and 12 weeks whose absence was diagnosed by the OP as due to mental disorders - Screened positive (≥10) on the 9-item depression subscale of the Patient Health Questionnaire (PHQ; score range: 0-27) - met the DSM-IV criteria for major depressive disorder (MDD) on the mini-International Neuropsychiatric Interview (MINI) administered by research assistant by telephone **Exclusion criteria:** - Pregnant - In legal dispute with employer - Suicidal, psychotic or with a primary diagnosis of substance abuse or dependence, as assessed by the MINI. **Baseline characteristics of study participants:**

	Intervention (n=65)	**Control (n=61)**
Age (years) – mean (SD)	41.9 (11.4)	43.4 (11.4)

Bibliographic reference	**Vlasveld M, van der Feltz-Cornelis C, Adèr H, Anema J, Hoedeman R, van Mechelen W, Beekman A. (2013) Collaborative care for sick-listed workers with major depressive disorder: a randomised controlled trial from the Netherlands Depression Initiative aimed at return to work and depressive symptoms. Occup Environ Med, 70: 223–230.**

% male	46.2	45.9
Dutch nationality	95.4	91.8
Educational level (%): -High - Average - Low	 36.1 36.0 27.9	 35.0 30.0 35.0
- Depressive symptoms (range 0-27) - Somatic symptoms (range 0-30) - Generalised anxiety (%) - Panic disorder (%) - Number of comorbid chronic medical conditions (range 0-27)	15.9 (4.9) 13.6 (5.1) 51.6 15.9 1.2 (1.1)	16.0 (5.4) 12.3 (5.1) 50.8 16.9 1.3 (1.3)
- Psychological job demands (range 12-48) - Physical job demands (range 5-20)	34.3 (5.7) 9.5 (3.5)	35.8 (5.4) 11.3 (3.8)
Job insecurity (range 3-12)	7.8 (0.9)	7.9 (1.0)
Social support (range 8-32)	20.5 (3.8)	20.5 (3.8)

Number of study subjects	N=126
Intervention details	Collaborative care intervention Applied by the occupational physician care-manager (OP-CM) Comprised the following elements: • 6–12 sessions of PST (brief, structured psychological intervention aimed at teaching problem solving skills)

Bibliographic reference	**Vlasveld M, van der Feltz-Cornelis C, Adèr H, Anema J, Hoedeman R, van Mechelen W, Beekman A. (2013) Collaborative care for sick-listed workers with major depressive disorder: a randomised controlled trial from the Netherlands Depression Initiative aimed at return to work and depressive symptoms. Occup Environ Med, 70: 223–230.**
	• prescription of antidepressant medication, depending on patient preference, according to a treatment algorithm • manual-guided self-help (based on existing self-help books, focused on cognitive restructuring, RTW, and healthy lifestyle • a workplace intervention – involving worker, OP-CM and employer: consisted of a workplace assessment of barriers to RTW from perspective of worker and employer and agreeing a plan for implementation of solutions. The workplace intervention was aimed at reaching consensus about the RTW plan. Therefore, active participation and commitment of the worker and employer were essential. In the workplace intervention, the role of the OP-CM was that of process mediator. All kinds of solutions for RTW may be chosen, as long as both the worker and the employer participated in the decision process and both agree in the chosen solutions. The collaborative care treatment was closely monitored by the OP-CM, using the PHQ-9 as monitoring instrument. In order to enhance adherence to the treatment model, ongoing supervision and psychiatric consultation was provided to the OP-CMs. Also, a web-based tracking system was developed to support the OP-CM in monitoring treatment outcomes and in adhering to the stepped care protocol. In case of questions regarding the treatment, prescription of antidepressants, or (lack of) progress of the worker, the OP-CM was prompted by the web-based tracking system to consult the psychiatrist. In both groups, the participants received sickness guidance and certification as usual by their company's OP. In addition, participants allocated to the intervention group received the collaborative care treatment from an OP-CM.
Comparison details	Usual OP care • Participants allocated to the usual care group were not referred to the OP-CM. • Participants received sickness guidance and certification as usual by their company's OP and were free to engage in any other additional treatment.
Methods and analysis	**Power** Calculation was based on depressive symptom response (not RTW): response rates of 14.76% in the usual care group and 31.8% in the collaborative care group were assumed, requiring 126 participants to detect a standardised difference of 0.5 SD **Data collection**

<table>
<tr><td>Bibliographic reference</td><td>Vlasveld M, van der Feltz-Cornelis C, Adèr H, Anema J, Hoedeman R, van Mechelen W, Beekman A. (2013) Collaborative care for sick-listed workers with major depressive disorder: a randomised controlled trial from the Netherlands Depression Initiative aimed at return to work and depressive symptoms. Occup Environ Med, 70: 223–230.</td></tr>
<tr><td></td><td>Data were collected by self-report questionnaires at baseline and 3, 6, 9 and 12 months after baseline. The questionnaires were returned to the Netherlands Institute of Mental Health and Addiction by mail and were processed anonymously by the researchers. Sickness absence data were derived from the register of the occupational health service 1 year after randomisation.
Analysis
Primary outcome measure in this study was time to first response on depressive symptoms (reduction in depressive symptoms of at least 50%).
Secondary outcome = time until lasting, full RTW – defined as the duration of sickness absence due to MDD in calendar days, from the day of randomisation until full RTW for at least 4 weeks without partial or full recurrence. Total number of sickness absence days for the entire follow-up period was also assessed.
Analyses undertaken according to ITT principles. Duration until lasting RTW was analysed using accelerated lifetime (log-duration) models. Covariates were considered an effect modifier if the interaction term had a significant p value ($p<0.05$). The total number of sickness absence days during the entire follow-up period was compared between both groups by using the Mann-Whitney U test</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Work status at 1 year follow-up
<table>
<tr><th></th><th>Intervention (n=65)</th><th>Control (n=61)</th></tr>
<tr><td>No (%) RTW by 1 year</td><td>42 (64.6)</td><td>36 (59.0)</td></tr>
<tr><td>No (%) still off sick</td><td>14 (21.5)</td><td>17 (27.9)</td></tr>
<tr><td>No (%) who had resigned*</td><td>9 (13.8)</td><td>8 (13.1)</td></tr>
</table>
* employees who resigned during follow-up were censored in the time to RTW analysis

Outcome: Time until lasting full RTW
<table>
<tr><th></th><th>Intervention (n=65)</th><th>Control (n=61)</th></tr>
<tr><td>Duration (days) to sustained RTW – mean (SD)</td><td>190 (120)</td><td>210 (124)</td></tr>
</table></td></tr>
</table>

Bibliographic reference	**Vlasveld M, van der Feltz-Cornelis C, Adèr H, Anema J, Hoedeman R, van Mechelen W, Beekman A. (2013) Collaborative care for sick-listed workers with major depressive disorder: a randomised controlled trial from the Netherlands Depression Initiative aimed at return to work and depressive symptoms. Occup Environ Med, 70: 223–230.**
	- Log-duration model – β-coefficient, SE (95%CI): -0.198, SE=0.234 (-0.657 to 0.261) **Outcome: Quality of life (EQ-5D utility score; range -1 to 1)*** **Intervention (n=65) / Control (n=61)** Baseline – mean utility score (SD): 0.60 (0.21) / 0.56 (0.27) After 3 months – mean utility score (SD): 0.67 (0.22) / 0.70 (0.20) After 12 months – mean utility score (SD): 0.77 (0.17) / 0.80 (0.18) Utility score improvement (baseline to 12 months) - mean improvement (95%CI): 0.11(0.07 to 0.14) / 0.16 (0.11 to 0.19) * data extracted from Goorden et al. 2014 **Other outcomes reported (data not extracted):** - Proportion achieving remission and response on depression symptoms - Time to first remission and response on depression symptoms - Healthcare utilisation
Source of funding	Funded by the Foundation for Innovation of Health Insurers (’Innovatiefonds Zorgverzekeraars’) in the Netherlands
Related publications	**Economic evaluation** Goorden M, Vlasveld M, Anema J, van Mechelen W, Beekman A., et al. (2014) Cost-utility analysis of a collaborative care intervention for major depressive disorder in an occupational healthcare setting. Journal of Occupational Rehabilitation, 24: 555-562.
Comments	**Limitations noted by authors:** - Implementation issues: a substantial number of intervention participants did not visit the occupational physician–care manager due to waiting lists (may be realistic to expect physicians to provide an intervention - of this magnitude) - Despite training and close supervision of the OP-CMs, the workplace intervention was applied to a low extent; OP-CMs felt uncomfortable with the workplace intervention in their treatment role - Low uptake of the screening procedure, limiting the generalisability of the findings: participants may not have felt the need for a treatment for MDD within an OH setting, or low response may be because workers are not

Bibliographic reference	**Vlasveld M, van der Feltz-Cornelis C, Adèr H, Anema J, Hoedeman R, van Mechelen W, Beekman A. (2013) Collaborative care for sick-listed workers with major depressive disorder: a randomised controlled trial from the Netherlands Depression Initiative aimed at return to work and depressive symptoms. Occup Environ Med, 70: 223–230.**
	used to a treatment role of the OP-care manager due to separation of treatment and sickness certification in Dutch legislation, so may have lacked confidence in the intervention - Study likely to be underpowered to detect differences in RTW: in studies on RTW of workers with low back pain, hazard rates of 2.0 are often assumed. But for workers with MH disorders, particularly MDD, RTW may be more difficult than for workers with low back pain so smaller HRs and larger sample sizes may be applicable. **Limitations noted by reviewer:** No further limitations

Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	"The randomisation scheme was prepared by computer, with blocks of four, by an independent statistician." P.224
	Allocation concealment	Low	"While assessing eligibility for the study, both the research assistant and the participant were blinded for the allocation. Then, the participant was informed about the computer generated allocation status by the research assistant." (p.224) Infers independent centralised allocation.
	Blinding of participants and personnel	High	Not reported but unlikely due to nature of intervention
	Blinding of outcome assessment	High	All outcome data were collected by self-report questionnaires (participants unblinded to group allocation)
	Incomplete outcome data	High	Relatively high attrition. "With regard to the self-report questionnaires, the loss to follow-up rates at 3, 6, 9 and 12 months were respectively 22.2%, 28.6%, 33.3% and 41.3%." However, states that groups did not differ significantly from each other on the loss to follow-up rates ($p>0.05$) – p.226
	Selective outcome reporting	Low	Outcomes pre-specified in published study protocol and reported appropriately.
	Other sources of bias	Low	None reported

Bibliographic reference	**Vlasveld M, van der Feltz-Cornelis C, Adèr H, Anema J, Hoedeman R, van Mechelen W, Beekman A. (2013) Collaborative care for sick-listed workers with major depressive disorder: a randomised controlled trial from the Netherlands Depression Initiative aimed at return to work and depressive symptoms. Occup Environ Med, 70: 223–230.**
Overall RoB	Unclear

D.2.16 Volker 2015

Bibliographic reference	**Volker D, Zijlstra-Vlasveld M, Anema J, Beekman A, Brouwers E, Emons W, van Lomwel AGC, van der Feltz-Cornelis C. (2015) Effectiveness of a blended web-based intervention on return to work for sick-listed employees with common mental disorders: Results of a cluster randomized controlled trial. J Med Internet Res, 17: e116**
Study type	Cluster RCT
Aim	To evaluate the effects of a guided eHealth intervention (E-health module embedded in Collaborative Occupational healthcare (ECO)) versus care as usual on time to RTW and mental health outcomes of sick-listed employees with common mental disorders.
Location & setting	The Netherlands One large occupational health service (OHS) serving employees of small- to medium-sized companies in 12 regions (n=60 OPs), plus one large mental health service employer (n=2 OPs). Cluster randomization took place at the level of the occupational physicians to prevent contamination.
Study dates	Recruitment: July 2011 and January 2013
Length of follow-up	1 year
Participant characteristics	**Inclusion criteria:** - Employees (aged ≥18 years) on sickness absence between 4 and 26 weeks - Screened positive (score ≥10) on either the depression scale of the PHQ-9 and/or the somatization scale of the PHQ-15 and/or the GAD-7 **Exclusion criteria:** - Pregnancy - Involved in legal action against employer - No access to the internet

<table>
<tr><td>Bibliographic reference</td><td>Volker D, Zijlstra-Vlasveld M, Anema J, Beekman A, Brouwers E, Emons W, van Lomwel AGC, van der Feltz-Cornelis C. (2015) Effectiveness of a blended web-based intervention on return to work for sick-listed employees with common mental disorders: Results of a cluster randomized controlled trial. J Med Internet Res, 17: e116</td></tr>
<tr><td></td><td>Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (n=131)</th><th>Control (n=89)</th></tr>
<tr><td>Age (years) – mean</td><td>43.4 (9.5)</td><td>45.5 (10.7)</td></tr>
<tr><td>% male</td><td>41</td><td>40</td></tr>
<tr><td>Educational level – (%)
- Low
- Average
- High</td><td>
36
35
29</td><td>
37
36
27</td></tr>
<tr><td>Dutch national – (%)</td><td>99</td><td>97</td></tr>
<tr><td>Number of chronic medical conditions, mean (SD)</td><td>2.4 (3.0)</td><td>1.9 (1.7)</td></tr>
<tr><td>Sickness absence
- Duration at baseline in days – median (IQR)
- Partial sickness absence at baseline – n (%)</td><td>
73.0 (56.0,110.0)
36 (27.5)</td><td>
70.0 (55.5,106.5)
27 (30)</td></tr>
<tr><td>Intention to RTW despite symptoms (range 1-5), mean (SD)</td><td>2.8 (1.2)</td><td>2.7 (1.3)</td></tr>
</table>
None of the baseline characteristics differed significantly between the intervention (ECO) and control (CAU) group, including measures of common mental disorder symptoms and job characteristics (data not extracted).</td></tr>
<tr><td>Number of study subjects</td><td>N=220</td></tr>
<tr><td>Intervention details</td><td><u>Guided eHealth intervention + OP collaborative care</u> (e-health module embedded in Collaborative Occupational healthcare (ECO)) encouraging sick-listed employees to a faster return to work.

Comprised 2 elements:
• Return@Work eHealth Module, which included:
○ a psychoeducation module
○ a CBT-based module aimed at cognitions with regard to RTW while having symptoms</td></tr>
</table>

Bibliographic reference	Volker D, Zijlstra-Vlasveld M, Anema J, Beekman A, Brouwers E, Emons W, van Lomwel AGC, van der Feltz-Cornelis C. (2015) Effectiveness of a blended web-based intervention on return to work for sick-listed employees with common mental disorders: Results of a cluster randomized controlled trial. J Med Internet Res, 17: e116
	○ a problem-solving skills module with problem-solving treatment (PST) exercises ○ a module for pain and fatigue management and reactivation ○ a module for relapse prevention. In total, the modules included 16 sessions. The content of Return@Work was tailor-made to the individual employee, depending on symptoms and cognitions about RTW so not every employee received all modules; therefore, the total number of sessions ranged from 6 to 17. Functioning and symptoms were monitored on a regular basis in Return@Work. Employees worked through Return@Work individually, but were free to discuss topics or assignments with the OP. As in control group, OPs were asked to follow published guidelines of the Dutch Board for Occupational Medicine, requiring OP and employee to meet face-to-face on a regular basis. Intervention OPs were instructed to inquire about the employee's progress in Return@Work during those meetings and support the employee if necessary (2) Email decision aid for the occupation physician (OP) OPs received automated email messages based on a decision aid with principles of stepped collaborative care. Supported OP in the sickness guidance of the employee, monitoring of symptoms, functioning, and RTW. The outcomes of the monitor in Return@Work were used in the fully automated email messages for OPs to give advice for stepped care treatment (including access to a consultant psychiatrist who, when needed, gave advice in case of stagnation). Training OPs in the intervention group were trained by the researchers and a consultant psychiatrist before recruitment of participants began. The training lasted half a day. OPs were taught about the background and content of Return@Work and instructed on how to guide employees through Return@Work and how to work with the decision aid. They were taught the basic principles of PST and CBT and how to apply these principles in the guidance of the employee. *Adherence* 31/131 (23.7%) participants randomised to intervention never logged in at Return@Work. Of the 100 participants who did log in at Return@Work, 10.0% (10/100) did not finish the introduction (which included information about Return@Work and a questionnaire). The mean number of total log-ins of the 90 participants who finished the introduction and actually started Return@Work was 7.8 (SD 6.1). Furthermore, 40% (36/90) of the participants minimally completed half of the modules of Return@Work.

<table>
<tr><td>Bibliographic reference</td><td>Volker D, Zijlstra-Vlasveld M, Anema J, Beekman A, Brouwers E, Emons W, van Lomwel AGC, van der Feltz-Cornelis C. (2015) Effectiveness of a blended web-based intervention on return to work for sick-listed employees with common mental disorders: Results of a cluster randomized controlled trial. J Med Internet Res, 17: e116</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Comparison details</td><td><u>OP care as usual</u>
OPs in the control group were asked to follow published guidelines of the Dutch Board for Occupational Medicine, requiring OP and employee to meet face-to-face on a regular basis.

A process evaluation was conducted assessing actual provided care, by questionnaire to participants in both groups.</td></tr>
<tr><td>Methods and analysis</td><td>Power
200 participants were needed to detect differences in time to RTW given a hazard ratio (HR) of 1.6 (assumed as the smallest clinically and societally important ratio) and accounting for clustering.
Data collection
Primary outcome = duration until first RTW defined as the duration of sickness absence in calendar days from day of randomisation until the moment of first partial or full RTW. Subsequently, full RTW sustained for ≥4 weeks was also analysed. Furthermore, the total number of days of sickness absence in the first year follow-up period was tracked. All data on sickness absence / RTW derived from OHS computerised records.
Secondary outcome measures were the severity of depression, anxiety, and somatization symptoms as measured with the PHQ-9, GAD-7, and PHQ-15 in terms of response and remission. Data from self-completed online questionnaires at baseline (T0) and at 3 (T1), 6 (T2), 9 (T3), and 12 months (T4) after inclusion.
Analyses
Analyses of the primary outcomes, time to partial and full RTW, were performed with Kaplan-Meier time-to-event curves and Cox proportional hazards models. The shared-frailty procedure was used to account for clustering in the Cox proportional hazard models.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: RTW at 1-year follow-up
<table><tr><th></th><th>Intervention (n=130)</th><th>Control (n=86)</th></tr><tr><td>RTW within 1 year – n (%)</td><td>114 (87.7)</td><td>72 (84.0)</td></tr></table>
Outcome: Time to RTW (ITT analysis *)</td></tr>
</table>

Bibliographic reference	Volker D, Zijlstra-Vlasveld M, Anema J, Beekman A, Brouwers E, Emons W, van Lomwel AGC, van der Feltz-Cornelis C. (2015) Effectiveness of a blended web-based intervention on return to work for sick-listed employees with common mental disorders: Results of a cluster randomized controlled trial. J Med Internet Res, 17: e116

	Intervention (n=131)	Control (n=89)
Time in days to first (full / partial) RTW		
- mean (SD)	72.5 (71.1)	99.0 (78.8)
- median (IQR)	50.0 (20.8, 99.0)	77.0 (29.0, 152.3)
- unadjusted hazard ratio (95%CI)	1.39 (1.03 to 1.87)	
Time in days to full sustained RTW (≥4 weeks)		
- mean (SD)	146.3 (91.2)	164.8 (93.4)
- median (IQR)	131.0 days (68.5-198.0)	178.0 days (72.0-243.3)
- unadjusted hazard ratio (95%CI)	1.29 (0.91 to 1.81)	

* analyses on the primary outcomes were repeated, comparing the participants in the ECO condition who finished the introduction of Return@Work (n=90) with the CAU participants (n=89). The results of the per-protocol analyses did not differ from the results of the intention-to-treat analyses.

Outcome: Total sickness absence days over 1-year follow-up period

	Intervention (n=131)	Control (n=89)
Mean days (SD)	198.3 (116.0)	225.3 (118.1)
Median days (IQR)	174.0 (100.0, 321.0)	228.0 (111.0, 365.0)
- p-value (Mann-Whitney)	p=0.10	

Subgroup analyses

Having a depression (score ≥10 on the PHQ-9), somatization (score ≥10 on the PHQ-15), or anxiety disorder (score ≥10 on the GAD-7) at baseline were added separately as potential effect modifiers in the Cox proportional hazard model for first RTW and in the model for full RTW. No significant interaction effects were found.

Other outcomes reported (data not extracted):

Bibliographic reference	**Volker D, Zijlstra-Vlasveld M, Anema J, Beekman A, Brouwers E, Emons W, van Lomwel AGC, van der Feltz-Cornelis C. (2015) Effectiveness of a blended web-based intervention on return to work for sick-listed employees with common mental disorders: Results of a cluster randomized controlled trial. J Med Internet Res, 17: e116**		
	• Severity of depression, anxiety and somatisation symptoms in terms of response and remission (measured with PHQ-9, GAD-7 and PHQ-15 questionnaires).		
Source of funding	Funded by The Netherlands Organization for Health Research and Development (ZonMw) and by Achmea, a Dutch insurance company.		
Related publications	**Economic evaluation** Lokman S, Volker D, Zijlstra-Vlasveld MC, et al. Return-to-work intervention versus usual care for sick-listed employees: health-economic investment appraisal alongside a cluster randomised trial. BMJ Open 2017;7:e016348. Doi:10.1136/bmjopen-2017-016348		
Comments	**Limitations noted by authors:** • A large population was screened for eligibility for participation in this study (N=14,615) and 10,269 employees did not respond, which might limit the generalizability of the findings of this study • adherence of the occupational physician to the ECO intervention was not optimal. **Limitations noted by reviewer:** • 32% of intervention participants did not use the eHealth module		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	"Occupational physicians working in the same region were clustered to reduce contamination due to OPs taking over each other's caseloads when necessary. The clusters of OPs were randomized by an independent statistician using a computer algorithm for randomization."
	Allocation concealment	Unclear	Randomisation at level of OPs: potential for selection bias as OPs are not blind to group allocation and have a role in patient recruitment
	Blinding of participants and personnel	High	Not possible due to nature of intervention (Volker et al. 2013)
	Blinding of outcome assessment	Low	Primary outcome data were objective, derived from central computerised sources.
	Incomplete outcome data	Low	Data about RTW were obtained from the registers of the OHS or employer – not available for 1 (0.07%) intervention and 3

Bibliographic reference	**Volker D, Zijlstra-Vlasveld M, Anema J, Beekman A, Brouwers E, Emons W, van Lomwel AGC, van der Feltz-Cornelis C. (2015) Effectiveness of a blended web-based intervention on return to work for sick-listed employees with common mental disorders: Results of a cluster randomized controlled trial. J Med Internet Res, 17: e116**		
			(3.4%) control participants for unknown reasons. These 4 participants did not differ significantly on average at baseline on sickness absence duration or CMD symptoms from the other participants
	Selective outcome reporting	Low	Outcomes pre-specified in published study protocol and reported appropriately.
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.3 Effectiveness evidence for mixed populations

D.3.1 Fleten 2006

Bibliographic reference	**Fleten N, Johnsen R (2006) Reducing sick leave by minimal postal intervention: a randomised, controlled intervention study Occup Environ Med, 63:676–682.**
Study type	RCT
Aim	To determine whether minimal postal intervention had any effect on the length of sick leave for people absent from work with musculoskeletal or mental health disorders.
Location & setting	Norway Two cities in the north of the country: participants consecutively recruited via the National Sickness Benefit Register
Study dates	The enrolments were performed during two periods: October and November 1997, and March and April 1998
Length of follow-up	1 year (from start of index sick leave episode)
Participant characteristics	**Inclusion criteria:** - employees certified as sick for longer than 14 days - diagnosis of musculoskeletal or mental health disorder **Exclusion criteria:**

<table>
<tr><td>Bibliographic reference</td><td>Fleten N, Johnsen R (2006) Reducing sick leave by minimal postal intervention: a randomised, controlled intervention study Occup Environ Med, 63:676–682.</td></tr>
<tr><td></td><td>- Not on full-time disability pension

Baseline characteristics of study participants:
<table>
<tr><th></th><th>Intervention (n=495)</th><th>Control (n=495)</th></tr>
<tr><td>Age in years– mean (median, range)</td><td>40.9 (41, 17-66)</td><td>39.9 (39, 18-66)</td></tr>
<tr><td>% male</td><td>38.8</td><td>39.8</td></tr>
<tr><td>Education [a] - %
- ≤12 years
- >12 years</td><td>
54.1
45.9</td><td>
56.4
43.6</td></tr>
<tr><td>Diagnoses - %
- Low back pain
- Rheumatic disorders / arthritis
- Other MSK
- Mental health disorders</td><td>
22.8
10.7
50.5
16.0</td><td>
24.8
9.3
47.7
18.2</td></tr>
</table>
[a] Education level was estimated according to professional titles on sickness certificates.
No significant between-group differences in characteristics at baseline.</td></tr>
<tr><td>Number of study subjects</td><td>N=1000 randomised
n=990 analysed (n=10 sick-listed subjects were later excluded: 3 did not meet the inclusion criteria; National Sickness Benefits Register information was not available in 4 cases, and 3 cases in the intervention group never received their intervention envelope).</td></tr>
<tr><td>Intervention details</td><td><u>Minimal postal intervention</u> (+ usual care)
• Awareness-raising intervention package posted 14 days after the start of actual sick leave to subjects in the intervention group
• Contained a letter and reply-paid questionnaire with consent form
• Letter contained brief general information on possible work related measures if sick-listed:
○ Opportunity to return to adjusted job on sickness benefits for 12 weeks after approval by the National Insurance Office (NIO)
○ Cooperation between employee, employer, and NIO on modified work measures</td></tr>
</table>

Bibliographic reference	Fleten N, Johnsen R (2006) Reducing sick leave by minimal postal intervention: a randomised, controlled intervention study Occup Environ Med, 63:676–682.
	○ Obligate formal approval by NIO to receive sickness benefits for more than 12 weeks • Questionnaire relating to the actual sick leave episode, as follows: ○ Are you familiar with the use of modified work measures at your workplace? ○ Do you think that modified work measures could reduce your actual sick leave? (visual analogue scale (VAS) (''certainly no'' to ''certainly yes'') ○ Do you think that modified work measures could reduce future sick leave? (VAS) ○ Do you think you could return to work immediately if modified work measures were offered? (VAS) ○ Which measures do you think could reduce the duration of this or future sick leave(s)? (eight alternatives including 'none' and 'others') ○ How long do you expect this sick leave episode to last? (seven categories) ○ Are you anticipating new episodes of sick leave within the next year? ○ Do you agree to your answers being copied to your local NIO? One third (32% of intervention group subjects responded to the questionnaire, indicating they had read and most likely reflected on the questions. Use of a National Insurance Office envelope is likely to have reduced the probability of the post being disposed of without opening, as subjects might assume that the payment of benefits depends on their response to a letter from the NIO. The information letter was headed ''Follow up of sick-listed'' and stated that participation was voluntary. Although answering the questionnaire was voluntary, the authors believe that most intervention subjects would have read at least part of the information and questionnaire in order to decide whether or not they should respond. In this way they were exposed to the intervention strategy, whether or not they returned the questionnaire.
Comparison details	No postal intervention "Usual activities in relation to GPs and the National Insurance Office". No further information provided.
Methods and analysis	**Data collection** Primary outcome: Reduction in length of sick leave in days. Secondary outcomes: Risk of receiving benefits at one year follow-up. Data obtained from registers of local National Insurance Offices (NIOs). **Analysis** Differences in the length of sick leaves—as a continuous but not normally distributed variable—were analysed by the Mann-Whitney two-sample test and Kaplan-Meier analyses. Cox proportional hazards models were used to calculate the hazard ratio with 95% CI, of returning to work. Continuous calendar days (or weeks) with benefits due to sickness were used in the analysis of length. If benefits changed from sickness benefits to maternity benefits or

<table>
<tr><td>Bibliographic reference</td><td>Fleten N, Johnsen R (2006) Reducing sick leave by minimal postal intervention: a randomised, controlled intervention study Occup Environ Med, 63:676–682.</td></tr>
<tr><td></td><td>old age pensions, the sick-leave period was ended and censored in survival analyses. The maximum length was set to 365 days and right censored in survival analysis. The time of formal decision regarding further sickness benefits after 12 weeks was used as a cut-off for evaluating possible short or long term effects.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: Hazard ratio of return to work over 1 year follow-up
<table>
<tr><th>Intervention vs. Control</th><th>Intervention (n=495)</th><th>Control (n=495)</th></tr>
<tr><td>Unadjusted hazard ratio (95%CI)</td><td colspan="2">1.09 (0.95 to 1.25)</td></tr>
<tr><td>Adjusted [a] hazard ratio (95%CI)</td><td colspan="2">1.07 (0.93 to 1.23)</td></tr>
</table>
[a] adjusted for: gender, age group, educational level, occupation, and current diagnostic group

Outcome: Length of sickness absence (in calendar days) over follow-up
<table>
<tr><th></th><th>Intervention (n=495)</th><th>Control (n=495)</th></tr>
<tr><td>Length of sickness absence (days) – mean</td><td>97.0</td><td>105.3</td></tr>
<tr><td>- mean difference in days (95%CI)</td><td colspan="2">-8.3 (-22.5 to 6.0)</td></tr>
<tr><td>- ITT analysis[a] : mean difference in days (95%CI)</td><td colspan="2">-8.6 (-5.6 to 22.8)</td></tr>
</table>
[a] Intention-to-treat analysis includes 3 subjects whose intervention envelopes were returned by the postal service without reaching the addressee; all 3 had much shorter-than-average sickness absences.

Outcome: Risk of receiving any benefits due to sickness[a] at 1 year of follow-up from start of sick leave
<table>
<tr><th></th><th colspan="2">No. at risk</th></tr>
<tr><th>Intervention vs. Control</th><th>Intervention (n=450)</th><th>Control (n=451)</th></tr>
<tr><td>Odds ratio (95%CI)</td><td colspan="2">0.69 (0.51–0.93)</td></tr>
</table>
[a] Includes sickness benefits and rehabilitation benefits or disability pension

Subgroup analyses: Length of sickness absence (in calendar days) by gender, age and diagnosis</td></tr>
</table>

Bibliographic reference	Fleten N, Johnsen R (2006) Reducing sick leave by minimal postal intervention: a randomised, controlled intervention study Occup Environ Med, 63:676–682.

	Number		Mean length of absence (days)		Difference in mean length (days)
Subgroup	**Intervention**	**Control**	**Intervention**	**Control**	**Intervention – Control (95%CI)**
Gender					
- Males	192	197	92.0	97.4	-5.4 (-27.0 to 17.1)
- Females	303	298	100.1	110.5	-10.3 (-28.7 to 8.1)
Age group					
- <41 yrs	246	260	88.8	93.2	-4.4 (-22.6 to 13.7)
- >40 yrs	249	230	105.1	118.6	-13.5 (-35.2 to 8.5)
Diagnosis					
- Low back pain	113	123	109.9	92.7	17.2 (212.5 to 46.9)
- Rheumatic disorders & arthritis	53	46	111.4	179.6	-68.3 (-123.3 to -13.3)
- Other MSK	250	236	93.3	92.7	0.5 (-18.1 to 19.1)
- MH disorders	79	90	80.7	117.2	-36.6 (-71.9 to -1.2)

Subgroup analysis: Hazard ratios of return to work (intervention vs. control) for all sickness absences and for absences of 12 weeks or longer by diagnostic group

Model	Total n in analysis (censored)*	Hazard ratio (95% CI) unadjusted	Hazard ratio (95% CI) adjusted [a]
Diagnosis			
- Low back pain	236 (61)	0.87 (0.65 to 1.18)	0.79 (0.58 to 1.08)
- Rheumatic disorders & arthritis	99 (25)	1.62 (1.02 to 2.57)	1.57 (0.98 to 2.51)
- Other MSK	486 (87)	1.00 (0.82 to 1.22)	1.01 (0.83 to 1.24)
- MH disorders	169 (19)	1.42 (1.03 to 1.96)	1.36 (0.98 to 1.89)
Total (all included cases)	990 (192)	1.09 (0.95 to 1.25)	1.07 (0.93 to 1.23)

Bibliographic reference	**Fleten N, Johnsen R (2006) Reducing sick leave by minimal postal intervention: a randomised, controlled intervention study Occup Environ Med, 63:676–682.**

Sick leaves ≥ 12 weeks			
Diagnosis			
- Low back pain	76 (41)	0.49 (0.25 to 0.98)	0.25 (0.10 to 0.60)
- Rheumatic disorders & arthritis	45 (23)	0.61 (0.24 to 1.55)	0.56 (0.21 to 1.49)
- Other MSK	155 (59)	2.00 (1.30 to 3.08)	2.03 (1.30 to 3.19)
- MH disorders	55 (18)	2.54 (1.32 to 4.87)	3.96 (1.46 to 6.00)
Total (cases with ≥12 weeks absence)	332 (142)	1.39 (1.04 to 1.85)	1.42 (1.06 to 1.92)

* Sick leaves were censored if benefits changed to maternity benefits or old age pensions, changed by death, and if sick leave reached 365 days

[a] Adjusted for: gender, age group, educational level, occupation, and current diagnostic group.

Summary: intervention significantly reduced length of sick leaves in subgroups with mental disorders, and with rheumatic disorders and arthritis (RDA), and overall for sick leaves lasting 12 weeks or more. Evidence of earlier intervention effect in RDA subjects than other diagnostic groups possibly reflects greater preparedness of those with chronic conditions to work with impairment. Conversely, the minimal postal intervention might introduce passive expectations and have the side effect of prolonged sick leave in other subgroups. Young people with low back pain showed a negative effect in relation to the intervention. The overall relative risk of receiving benefits due to sickness after one year was lower for the intervention group compared to controls. Gender and occupation did not significantly influence the intervention effect.

Other outcomes reported:

None

Source of funding	Funded by: Royal Ministry of Health and Social Affairs (project no 13345).
Related publications	None identified
Comments	**Limitations noted by authors:** ○ Design did not take account of what actually happened in workplaces (whether and how employers responded to requests for modified work or active sick leave). ○ Register data do not give valid information on part-time sick leave, missing the possible reduction of sickness absence due to change from full-time to part-time sick leave in the analysis. **Limitations noted by reviewer:**

Bibliographic reference	**Fleten N, Johnsen R (2006) Reducing sick leave by minimal postal intervention: a randomised, controlled intervention study Occup Environ Med, 63:676–682.**		
	○ Lack of clear definitions, or detailed information on baseline characteristics makes it difficult to rule out confounders such as history of repeated sick-leave. ○ Intervention context not directly comparable to the UK, in that disability legislation in the UK pre-empts awareness of modified work for both employers and employees. In Norway, sick-listed also have the option of returning to work with full benefits, which may mitigate the effect of minimal postal intervention.		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	High	"To reduce the risk of selection bias, the sick-listed persons were assigned consecutive numbers at enrolment and then randomised into the intervention or control group according to the pre-drawn randomisation list." No details of how randomisation sequence was generated.
	Allocation concealment	High	Not reported
	Blinding of participants and personnel	High	Not possible to blind intervention participants; control group were blind to group allocation.
	Blinding of outcome assessment	High	Objective sick leave data obtained from National Insurance Office (NIO) database. The local NIOs undertook normal follow up activities during this period – were unaware of group status except for 61 sick-listed intervention subjects who provided their NIO officers with a copy of their questionnaire. However, potential 'Hawthorne' effect among intervention group who – in contrast to controls, were aware that their sickness absence would be studied over the following year.
	Incomplete outcome data	Low	"The total length of sickness absence, the first year after start of the inclusion sick leave, was collected from the National Sickness Benefit Register for 996 of the included persons."
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Low	None reported
Overall RoB	High		

D.3.2 Osteras 2010

Bibliographic reference	**Osteras N, Gulbrandsen P, Kann I C, and Brage S. (2010). Structured functional assessments in general practice increased the use of part-time sick leave: A cluster randomised controlled trial. Scandinavian Journal of Public Health, 38(2), pp.192-199.**
Study type	Cluster-RCT
Aim	To analyse effects of structured functional assessments of persons with long-term sick leave on general practitioner (GP) sick-listing practice and patient sick leave.
Location & setting	Primary care practices in the south-eastern part of Norway
Study dates	2003 – 2006, 8 month intervention period 1st March to 31st October 2005
Length of follow-up	1 year
Participant characteristics	**Cluster randomisation:** 57 GPs randomised. Intervention GPs were requested to apply the functional assessment intervention to 10 consecutive patients with long-term sick leave consulting during the intervention period. Five intervention group GPs did not receive the training (withdrew due to workload). **Inclusion criteria (patients):** - part-time or full-time sick-listed for between 8 and 26 weeks (57 - 182 days) - good prospects of a return to work. **Exclusion criteria:** Candidates for permanent disability benefits **Baseline characteristics of GPs and their patients with long-term sick leave**

Characteristics	**Intervention group (n=23 GPs)**	**Control group (n=29 GPs)**	**General practice Norway (N=3,757 GPs)**
Females (n,%)	8 (34.8%)	11 (38%)	1145 (30.5%)
Males (n,%)	15 (65.2%)	18 (62.1%)	2612 (69.5%)
Specialists in family medicine (n,%)	16 (69.6%)	24 (82.8%)	2217 (59%)
Age in years (mean, sd)	49.3 (10.4)	49.5 (8.7)	47.9

Bibliographic reference	**Osteras N, Gulbrandsen P, Kann I C, and Brage S. (2010). Structured functional assessments in general practice increased the use of part-time sick leave: A cluster randomised controlled trial. Scandinavian Journal of Public Health, 38(2), pp.192-199.**

Weekly hours worked (mean, sd)	37.5 (4.7)	41.3 (8.5)	-
Daily consultations (n, sd)	21.8 (7.2)	21.0 (4.8)	-
List size (n, sd)	1254.1 (397.4)	1309.8 (210.0)	1189.0

Patients with long term sick leave during intervention period	**Intervention n=939**	**Control n=1231**	**National datac**
Females (n,%)	576 (61.3%)	776 (63.0%)	(62.5%)
Males (n,%)	363 (38.7%)	455 (37.0%)	(37.5%)
Severe disease (n,%)	20 (2.1%)	33 (2.7%)	
Age in years (mean, sd)	43.7 (11.8)	44.2 (11.5)	42.0 (-)

[a] Numbers from The Norwegian Labour and Welfare Administration

[b] Data extracted from the register of The Norwegian Labour and Welfare Administration

[c] Numbers from The Norwegian Insurance Administration. For reasons of anaonymity, it was not possible to obtain data for the individual sick-listed patients included by the GP so all sick leave episodes for participating GPs reaching 8-26 weeks duration between March – October 2005 were collected.

There was no difference between the GPs in the intervention and control group at baseline. Compared to all GPs in Norway, the study GPs were more likely to be female and slightly older ($p > 0.05$)

Number of study subjects	N=52 GPs randomised (n=28 to intervention and n=29 to control group).
Intervention details	<u>GP training in functional capacity assessments of persons with long-term sick leave</u> Method developed by researchers. - Training in functional assessment provided to intervention group GPs at a 1-day workshop which included teamwork and role playing and was accredited by the Norwegian Medical Association for continuing medical education points. - Intervention GPs were requested to apply the intervention method on 10 consecutive persons with long-term sick leave. - The intervention included two patient questionnaires, a GP consultation with key questions on motivation, and the end-product, the function assessment report.

Bibliographic reference	**Osteras N, Gulbrandsen P, Kann I C, and Brage S. (2010). Structured functional assessments in general practice increased the use of part-time sick leave: A cluster randomised controlled trial. Scandinavian Journal of Public Health, 38(2), pp.192-199.**
	- Prior to consultation, patients self-reported functional abilities on the 39 items in the Norwegian Function Assessment Scale, and work exposures and perceived stressors at work on the Work Description Form. - During the consultation, the GP assessed the patient's functional abilities on basis of the questionnaires, key questions, the patient's medical history, and clinical findings. The assessment was formalised in the functional assessment report and the whole procedure took about 40 minutes. <u>Adherence</u> GPs in intervention group applied the intervention method on a total of 133 sick-listed patients (range: 2-10 per GP)
Comparison details	Control group GPs were requested to assess functional ability as usual during the intervention period
Methods and analysis	**Data collection** There were four outcome measures in this study: (1) Duration of patient sick leave episodes: (i.e. the number of calendar days from the first day of sick leave until reported off the sick list; continuous variable with range 57-365 days (8 weeks – maximum sick leave). (2) Part-time sick leave: coded as a binary response variable, as whether the GP prescribed part-time sick leave or not during the sick leave episode (since prescription dates not were available). (3) Active sick leave: coded as number of calendar days to GP prescription, measured from when the sick leave episode started; continuous variable with range 57-365 days. (4) Vocational rehabilitation: coded as number of calendar days to GP prescription, measured from when the sick leave episode started; continuous variable with range 57-365 days. Individual data on the duration of absence, part-time sick-leave, active sick-leave, and vocational rehabilitation were extracted and linked from three different nation-wide registers of The Norwegian Labour and Welfare Administration. For reasons of anonymity, it was not possible to identify the individual sick-listed persons included by the GPs. Therefore, all sick leave episodes for the participating GPs were extracted from the registers. Of these sick leave episodes, only episodes reaching duration between 8 and 26 weeks in the intervention period from 1 March to 31 October 2005 were included in the analysis file. For historical reference data, corresponding sick leave episodes in 2004 were also included in the analysis file. Each sick leave episode was followed until the person was reported off the sick list or until 365 days. **Analysis**

<table>
<tr><td>Bibliographic reference</td><td>Osteras N, Gulbrandsen P, Kann I C, and Brage S. (2010). Structured functional assessments in general practice increased the use of part-time sick leave: A cluster randomised controlled trial. Scandinavian Journal of Public Health, 38(2), pp.192-199.</td></tr>
<tr><td></td><td>Cox proportional hazards survival analysis with standard errors adjusted for GP clusters was used to analyse the duration of patient sick leave episodes and GP prescription of active sick leave and vocational rehabilitation. The patients reported off the sick list before reaching their maximum date and the patients prescribed to active sick leave or vocational rehabilitation, were coded as complete and the others as censored. Part-time sick leave was analysed by a binary response two-level regression model with 4562 sick leave episodes (level 1) nested within the 52 GPs (level 2). All estimates were adjusted for GP and patient gender and age, as well as being classified with a severe disease.</td></tr>
<tr><td>Outcomes measures and effect sizes</td><td>Results

Outcome: sickness absence days / time to RTW
Although intervention group GPs significantly increased their prescribing of part-time sick leave, there was no difference in mean number of patient sick leave days per episode between the intervention (n= 190) and the control groups (n=191; SDs not reported).

Duration of patient sick leave episodes analysed by Cox proportional hazards survival analysis adjusted for 52 GP clusters
<table>
<tr><td>Duration of sick leave episodes</td><td>Intervention (n=939)</td><td>Control group (n=1231)</td></tr>
<tr><td>Intervention vs. control – Hazard ratio (95%CI)</td><td>0.89 (0.79 to 1.01)</td><td>1.0</td></tr>
</table>

Other outcomes (data not extracted)
○ GP probability of prescribing part-time sick leave
○ GP probability of prescribing full sick leave
○ GP probability of referring patient for vocational rehabilitation</td></tr>
<tr><td>Source of funding</td><td>The study is part of The Functional Assessments Project financed by The Ministry of Labour and Social Inclusion.</td></tr>
<tr><td>Related publications</td><td>None identified</td></tr>
<tr><td>Comments</td><td>Limitations noted by authors:
- Rate of GPs' completion and submission of functional assessments was 26% (target:10 sick-listed patients per GP = 520; actual = 133)</td></tr>
</table>

Bibliographic reference	**Osteras N, Gulbrandsen P, Kann I C, and Brage S. (2010). Structured functional assessments in general practice increased the use of part-time sick leave: A cluster randomised controlled trial. Scandinavian Journal of Public Health, 38(2), pp.192-199.**		
	- Low implementation of intervention probably related to time-consuming nature of doing a functional assessment compared with normal GP consultation - Self-selection bias could have resulted in a highly selective group of GPs more interested in functional assessment than other GPs. - Five intervention GPs withdrew after randomisation - not possible to do a drop-out analysis or an intention to treat analysis. - Patient sick leave used as an indirect measure of GPs' sick-listing practice; for reasons of anonymity, had to include all sick leave episodes for participating GPs and not just the 133 patients who were assessed by the intervention GPs which may have weakened intervention results but may also provide a more valid picture of how GPs' sick-listing practice was changed. **Limitations noted by reviewer:** Nothing further		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	Low	Computer-generated randomisation list, made by an independent researcher.
	Allocation concealment	High	Not reported.
	Blinding of participants and personnel	High	Potential selection bias as GPs were cluster randomised (not blinded) and then responsible for deciding which patients to apply the intervention method to (although analyses were conducted over all patients sick-listed over intervention period)
	Blinding of outcome assessment	Low	Objective sick leave data obtained from three nationwide registers of the Norwegian Labour.
	Incomplete outcome data	Low	GPs: 5/57 withdrew. No loss of sickness data for sick-listed patients.
	Selective outcome reporting	Unclear	No published protocol, registration of trial not reported.
	Other sources of bias	Low	None reported
Overall RoB	Unclear		

D.3.3 Purdon 2006

Bibliographic reference	**Purdon S, Stratford N, Taylor R, Natarajan L, Bell S, Wittenburg D (2006) 'The Impacts of the Job Retention and Rehabilitation Pilot (JRRP)', DWP Research Report No. 342**
Study type	RCT
Aim	To evaluate three alternative interventions aimed at increasing the return to work rate of those off sick for six weeks or more.
Location & setting	UK Six pilot areas and four service providers, two covering single areas and two covering two areas. University of Glasgow Public Health Department covering Greater Glasgow; Northumbria University covering Newcastle and North Tyneside as well as Teesside; Sheffield Occupational Health Advisory Service covering Sheffield; and 'Human Focus' covering Birmingham and West Kent.
Study dates	Recruitment: April 2003 to December 2004
Length of follow-up	Variable (depending on duration of sick leave at baseline). All participants had a 10-week intervention period. For employment, a 42 week reference period since first going off sick was used to derive the primary outcome of a 13-week RTW.
Participant characteristics	Potential participants were identified by various methods, including recruitment by GPs and employers, and general advertising (posters, radio, etc.). Potential participants needed to self-refer by calling a contact centre or sending their details on a freepost slip for call-back. In addition, branded Med3 forms (used at the time by GPs when completing sick notes for patients) with issued with detachable slips to send to the contact centre from the end of June 2004. **Inclusion criteria:** • employed or self-employed and working for 16 hours a week or more • off work sick for between six and 26 weeks • living and working within one of the pilot areas; • not within 18 weeks of planned retirement • >50% chance of job loss without intervention (see below) **Exclusion criteria:** A specially developed screening instrument was used to exclude those considered to be reasonably likely to return to work without intervention (>50% chance). However, the instrument is not documented in this report **Baseline characteristics of study participants:**

Bibliographic reference	Purdon S, Stratford N, Taylor R, Natarajan L, Bell S, Wittenburg D (2006) 'The Impacts of the Job Retention and Rehabilitation Pilot (JRRP)', DWP Research Report No. 342
	No comparison of baseline characteristics by treatment group is presented. Total study population at baseline (n=2,845) • Age - 16-17yrs: 0% (compared with 2% of 2003/04 UK labour force) - 18-24yrs: 3% (vs.12% of 2003/04 UK labour force) - 25-34yrs: 17% (vs.22% of 2003/04 UK labour force) - 35-49yrs: 48% (vs.38% of 2003/04 UK labour force) - 50-state pension age: 31% (vs.22% of 2003/04 UK labour force) - Over state pension age (65+(m), 60+(f)): 1% (vs.4% of 2003/04 UK labour force) • Gender – 43% male (compared with 54% of 2003/04 UK labour force) • Ethnicity - 92% White - 3% Bangladeshi/Pakistani /Indian - 2% Black Caribbean - 1% Black African - 2% Other • Education - No qualifications: 20% - O level/GCSE/(S)NVQ level 1 or 2: 34% - AS/A levels/(S)NVQ level 3: 21% - Undergraduate or higher degree/NVQ4 or 5/professional qualification: 26% • Job sector – Public sector (administration, education, health): 49% (vs. 28% of UK working population) • Sickness absence immediately preceding entry to the trial: - 6-12 weeks: 58%

Bibliographic reference	Purdon S, Stratford N, Taylor R, Natarajan L, Bell S, Wittenburg D (2006) 'The Impacts of the Job Retention and Rehabilitation Pilot (JRRP)', DWP Research Report No. 342
	- 13-19 weeks: 27% - 20-28 weeks: 15% • Primary health issue (reason for work absence): - musculoskeletal: 33% - mental and behavioural: 30% - injury: 14% - other: 23%
Number of study subjects	N=2,845 randomised Outcome data available for N=2,161 (76%)
Intervention details	Three intervention groups: 1) Workplace intervention – aimed at addressing ergonomic and other issues in the workplace Defined in the following way: • could be delivered in any location; • must be delivered by an appropriately qualified professional or organisation; • could involve contact with the recipient's employer; • must focus on bringing about some degree of change within the individual's workplace environment; • advice could only be about the workplace or how people work. *Delivery* • aimed at addressing issues in the workplace, typically through an ergonomic assessment (42%) and employer liaison/mediation (22%) • median time spent on these interventions was between two and four hours 2) Health intervention – aimed at providing additional interventions addressing health issues Defined in the following way: • must be delivered away from the workplace; • must deliver a treatment to the mind or body of the recipient; • must not contact or seek to influence the employer or the workplace; • could not be delivered by an Occupational Health Nurse; • advice could only be about the health condition and focus on the physical body/ mind.

Bibliographic reference	**Purdon S, Stratford N, Taylor R, Natarajan L, Bell S, Wittenburg D (2006) 'The Impacts of the Job Retention and Rehabilitation Pilot (JRRP)', DWP Research Report No. 342**
	Delivery: • tailored to individual need • typically involving physiotherapy (36%), complementary therapy (30%), psychotherapy (26%) or referral to a medical specialist (23%) • median length of time of four to six hours 3) Combined intervention • involving a mix of workplace and health interventions (any or all of the above) • lasting a median of six to ten hours *Adherence* Withdrawal rates: health intervention only- 10%, workplace only – 22%, combined – 12%; overall – 15%. Reported non-receipt of intervention: health – 11%, workplace – 24%, combined – 11%; overall – 15%. Refusal of specific interventions: Of those participants who did not withdraw from the trial, 12% said they turned down some of the interventions offered, most commonly: counselling and CBT, contact with the employer, and complementary therapies.
Comparison details	'Treatment as usual' – no further details.
Methods and analysis	Primary outcome = return to work (to either the same job or a different one) of 16 hours or more for 13 consecutive weeks. Measured via a work history collected via a voluntary face-to-face survey of all randomised clients, including the control group (the Outcome Survey, OCS) which covered what people were doing each week between going off sick and being interviewed (between ten and 11 months later). A 42 week reference period since first going off sick was used to derive the primary outcome of a 13-week RTW.
Outcomes measures and effect sizes	**Results** **Outcome: Return to full work (lasting ≥13 weeks) at any time over 42 week period from 1st sickness absence day**

	Health Intervention	Workplace intervention	Combined intervention	Control (n=458)

Bibliographic reference	Purdon S, Stratford N, Taylor R, Natarajan L, Bell S, Wittenburg D (2006) 'The Impacts of the Job Retention and Rehabilitation Pilot (JRRP)', DWP Research Report No. 342

	(n=587)	(n=545)	(n=571)	
13 week spell of full-time work – n (%)	255 (43.5)	246 (45.1)	254 (44.4)	205 (44.7)

Outcome: Return to full work (lasting ≥6 weeks) at any time over 42 week period from 1st sickness absence day – *note: post-hoc analysis*

	Health Intervention (n=587)	Workplace intervention (n=545)	Combined intervention (n=571)	Control (n=458)
6 week spell of full-time work – n (%)	327 (55.7)	307 (56.4)	323 (56.5)	243 (53.0)

Outcome: work status during last week of 42 week reference period

	Health Intervention (n=587)	Workplace intervention (n=545)	Combined intervention (n=571)	Control (n=458)
In work – n (%)	328 (55.9)	307 (56.3)	326 (57.1)	244 (53.3)

Outcome: Health-related quality of life (SF36)

Subscale score (0 to 100): higher = better health	Health Intervention (n=571)	Workplace intervention (n=531)	Combined intervention (n=556)	Control (n=543)
Physical functioning – mean (SD)	62.7 (31.0)	64.0 (30.4)	64.2 (30.4)	60.9 (30.8)
Mean diff (SE)	-1.8(1.85), p=0.33	-3.1 (1.87), p=0.098	-3.3 (1.87), p=0.08	-
Role: physical – mean (SD)	42.8 (43.2)	40.0 (42.5)	41.9 (42.3)	38.4 (40.9)
Mean diff (SE)	-4.4 (2.52), p=0.08	-1.6(2.55), p=0.53	-3.5 (2.54), p=0.17	-
Role: emotional – mean (SD)	54.2 (42.6)	52.8 (43.9)	52.8 (43.1)	49.9 (43.4)

Bibliographic reference	**Purdon S, Stratford N, Taylor R, Natarajan L, Bell S, Wittenburg D (2006) 'The Impacts of the Job Retention and Rehabilitation Pilot (JRRP)', DWP Research Report No. 342**

Mean diff (SE)	-4.3 (2.58), p=0.09	-2.9 (2.67), p=0.28	-2.9 (2.64), p=0.27	-
Energy/fatigue – mean (SD)	42.0 (23.3)	40.7 (22.6)	42.5 (23.2)	38.8 (22.4)
Mean diff (SE)	-3.2 (1.37), p=0.02	-1.9 (1.37), p=0.17	-3.7 (1.39), p=0.01	-
Mental health – mean (SD)	60.3 (22.5)	56.6 (23.2)	59.4 (22.7)	56.6 (22.9)
Mean diff (SE)	-3.7 (1.36), p=0.01	0.0 (1.41), p=1.0	-2.8 (1.39), p=0.045	-
Social functioning – mean (SD)	57.8 (30.1)	53.5 (31.0)	57.6 (30.7)	54.3 (30.0)
Mean diff (SE)	-3.5 (1.80), p=0.05	0.8 (1.86), p=0.67	-3.3 (1.85), p=0.08	-
Bodily pain – mean (SD)	56.0 (31.2)	54.7 (30.6)	56.8 (31.3)	52.9 (30.6)
Mean diff (SE)	-3.1 (1.85), p=0.09	-1.8 (1.87), p=0.34	-3.9 (1.89), p=0.04	-
General health – mean (SD)	49.8 (22.6)	47.0 (22.1)	50.4 (23.9)	46.7 (22.9)
Mean diff (SE)	-3.1 (1.36), p=0.02	-0.3 (1.37), p=0.83	-3.7 (1.43), p=0.01	-

Other outcomes reported (data not extracted):

- Self-assessed general health (5-point rating scale)
- Mental health symptoms (Hospital Depression and Anxiety scale, HADS)

Source of funding	Study carried out by the National Centre for Social Research and the Urban Institute on behalf of the Department for Work and Pensions
Related publications	None identified in search
Comments	**Limitations noted by authors:** ○ Recruitment issues – far fewer participants recruited than the 5,400 necessary for statistical power ○ The intervention period and follow-up period depended on the number of weeks on sick leave at recruitment and therefore were not necessarily consistent ○ High withdrawal rate. Although the authors used weighting to adjust for this, the outcomes or motivations for withdrawal of a large proportion (15%) of the initial sample is not known. Additionally a further 15% report that

Bibliographic reference	Purdon S, Stratford N, Taylor R, Natarajan L, Bell S, Wittenburg D (2006) 'The Impacts of the Job Retention and Rehabilitation Pilot (JRRP)', DWP Research Report No. 342		
	they did not receive an intervention. This means that, in the most extreme case, 46% of workplace intervention sample either withdrew or said they did not receive an intervention. Any ITT analysis would be invalid. ○ Generalisability issues – self-selected study population (older, more female, more educated, less ethnically diverse and over-representative of public sector compared with general UK workforce). ○ Lack of UK centralised sickness absence database giving reasons for absence means representativeness of study sample cannot be tested against population data. **Limitations noted by reviewer:** ○ Return to work is self-reported; reliability cannot be verified. ○ No details of how the intervention groups and control group compared at baseline ○ Insufficient detail on mode of delivery of interventions (who, how and where)		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	High	Sequence generation not described
	Allocation concealment	High	Not reported
	Blinding of participants and personnel	High	Not possible
	Blinding of outcome assessment	High	Work status was self-reported by participants who were not blinded to group allocation
	Incomplete outcome data	High	High levels of attrition – outcome data available for 76% of those initially randomised
	Selective outcome reporting	Unclear	No published protocol
	Other sources of bias	Unclear	No comparative baseline data are reported: groups may have differed on prognostic factors
Overall RoB	High		

D.3.4 Smedley 2013

Bibliographic reference	Smedley J, Harris EC, Cox V, Ntani G, Coggon D. (2013) Evaluation of a case management service to reduce sickness absence. Occupational Medicine 63: 89–95.
Study type	Controlled before and after study
Aim	Organisational-level evaluation of a new case management return-to-work service at an English hospital trust.

Bibliographic reference	**Smedley J, Harris EC, Cox V, Ntani G, Coggon D. (2013) Evaluation of a case management service to reduce sickness absence. Occupational Medicine 63: 89–95.**
Location & setting	UK – two NHS hospital trusts
Study dates	Data collection spanned the year prior to the intervention (2008), the year during which the service was being developed (2009), and the year after full implementation (2010)
Length of follow-up	Each ≥4 week absence episode was followed for up to 26 weeks (all absence episodes were censored after 26 weeks)
Participant characteristics	**Inclusion criteria:** - All employees with a continued absence lasting more than 4 weeks **Exclusion criteria:** None reported **Baseline characteristics of study participants:**

Characteristic	Intervention NHS trust			Control NHS trust		
	2008	2009	2010	2008	2009	2010
Employed population:						
– Full-time	5025	5367	5540	1827	1940	1959
– Part-time	3193	3291	3507	2270	2183	2158
– Total	8218	8658	9047	4097	4123	4117
Number (rate per 1000 employed) of 4-week absences:						
– Musculoskeletal disorders	84 (10.2)	150 (17.3)	203 (22.4)	85 (20.7)	84 (20.4)	74 (18.0)
– Mental illness	103 (12.5)	127 (14.7)	146 (16.1)	34 (8.3)	34 (8.2)	42 (10.2)
– Other	452 (55.0)	382 (44.1)	335 (37.0)	192 (46.9)	164 (39.8)	181 (44.0)
– Unknown	36 (4.4)	44 (5.1)	22 (2.4)	27 (6.6)	16 (3.9)	24 (5.8)
– Total	675 (82.1)	703 (81.2)	706 (78.0)	338 (82.5)	298 (72.3)	321 (78.0)

Bibliographic reference	**Smedley J, Harris EC, Cox V, Ntani G, Coggon D. (2013) Evaluation of a case management service to reduce sickness absence. Occupational Medicine 63: 89–95.**
Number of study subjects	N = not known (analyses not conducted at individual employee level)
Intervention details	Return2Health (R2H) - a new joint working initiative between the NHS Trust's occupational health (OH) and human resources (HR) departments. Details: • intensive case management for hospital employees who had been absent on sick leave for longer than four weeks • aimed to restore function through a goal-directed and enabling approach based on a biopsychosocial model. Employees could self-refer to the intervention or be referred by line manager. Delivered by a core clinical multi-disciplinary team (MDT) based within the OH service comprising case managers, occupational physicians and physiotherapists, who were trained in motivational interviewing and cognitive behavioural therapy (CBT) techniques. Focused on drawing out the employee's ideas, motivations and skills for change. Case managers were occupational health nurses, except for one occupational therapist. They acted as the service gateway and co-ordinators of care. <u>Process:</u> • Following initial assessment, case managers supported employees to plan a series of goals, leading to gradual increase of activities at home in preparation for a return to work. • Case managers signposted / provided input from a broad portfolio of support and treatments, including: on-line CBT, fast-tracked medical or surgical care, physical therapies and advice on exercise. • Occupational physicians were involved early in management of complex cases and in case reviews, including all cases who had not RTW within 8 weeks. • Both case managers and occupational physicians interacted with line managers and HR advisers, depending on complexity of the case. • Physiotherapists administered early physical treatments for clients with musculoskeletal disorders, but also exercise therapy for all clients – including those with non-MSK conditions. Strong emphasis on optimising communication outside the core team, particularly with the line manager, the HR team, and treating clinicians. Evidence of conflicting messages from treating clinicians in respect of increasing

Bibliographic reference	Smedley J, Harris EC, Cox V, Ntani G, Coggon D. (2013) Evaluation of a case management service to reduce sickness absence. Occupational Medicine 63: 89–95.
	activities or return to work was addressed by constructive discussion with general practitioners or specialists (with the employees' consent). Case managers or occupational physicians gave practical interactive input into the planning of adjustments to work, especially where managers were having difficulty because of operational constraints. Regular active meetings with divisional HR advisors were a key part of the intervention. In providing these inputs, R2H was radically different from the previous OH service, which delivered traditional fitness for work assessments, fast track physiotherapy treatment, counselling, and advice to managers about adjustments to support return-to-work plans, but without active case management. Adherence At the intervention trust, the proportion of 4-week absences referred to the R2H service increased from 34.7% in 2009 to 44.8% in 2010, the highest rates of referral being for absences attributed to mental illness and musculoskeletal disorders.
Comparison details	A neighbouring hospital trust which had a similar style of occupational health service at baseline, and where no intervention was made during the study period, supplied absence data for comparison analyses. The two trusts had similar proportions of 4-week absences due to musculoskeletal problems (around 20%), but the contribution of mental illness was higher at the intervention (12.5% to 16.1%) than at the control trust (8.2% to 10.2%).
Methods and analysis	**Power** Not reported **Data collection** Main source of data was the Electronic Staff Record (ESR), a computerised database, which includes information about sickness absence, and which since 2007 has been widely used in the NHS. HR departments at each trust (intervention and control) gave researchers downloads of anonymised information from the ESR, including numbers of employees (full- and part-time) by year, and for each period of absence beginning in a year of study and lasting for longer than four weeks (4-week absences), the start and finish dates (or information that the absence continued beyond 26 weeks), and the medical reason for absence. At the intervention trust, a coded employee number was used to link spells of absence with occupational health records and check whether and at what stage in the absence episode the employee was referred to the R2H service. Other trust databases provided data that were not held on ESR, covering numbers of terminations of employment (including whether they were because of ill-health) by year.

Bibliographic reference	**Smedley J, Harris EC, Cox V, Ntani G, Coggon D. (2013) Evaluation of a case management service to reduce sickness absence. Occupational Medicine 63: 89–95.**
	Analyses Calculated rates of new 4-week absences for each trust, by calendar year and medical cause, and also the proportions of 4-week absences at the intervention trust that were referred to the R2H service. Then calculated proportions of 4-week absences continuing beyond 8 weeks, changes in this measure from the baseline year (2008) to each of the subsequent years, and the difference in the changes over time between the intervention and the control Trust (difference in changes between 2008 and 2010 was the primary outcome measure). Secondary outcomes; a) mean number of days lost beyond four weeks and up to 26 weeks for all 4-week absences beginning in each calendar year at each trust; b) the change in this measure from 2008 to subsequent years; and c) the difference in these changes over time between the intervention and the control trust. Also compared changes over time in the outcome of 4-week absences at the intervention trust, according to the medical reason for absence and numbers of ill-health retirements at the two trusts. Durations of absence were censored at 26 weeks in order to make an unbiased comparison between earlier and later years. However, another rationale was that after 26 weeks employees would normally incur a reduction in sick pay, so would be increasingly likely to leave their job on grounds of ill-health
Outcomes measures and effect sizes	**Results** **Outcome: Rates of long-term sickness absence (≥4 weeks)**

	Intervention hospital			**Control hospital**		
	2008 (pre-)	2009 (Yr 0)	2010 (Yr 1)	2008 (pre-)	2009 (Yr 0)	2010 (Yr 1)
Number (%) of 4-week absences continuing beyond 8 weeks	349 (51.7)	345 (49.1)	324 (45.9)	173 (51.2)	150 (50.3)	180 (56.1)
Number (%) of 4-week absences continuing beyond 26 weeks	61 (9.0)	51 (7.3)	40 (5.7)	36 (10.7)	21 (7.0)	23 (7.2)
		2.6 (−2.7 to 7.9)	5.8 (0.5 to 11.1) *		0.8 (−6.9 to 8.6)	−4.9 (−12.5 to 2.7)

Bibliographic reference	Smedley J, Harris EC, Cox V, Ntani G, Coggon D. (2013) Evaluation of a case management service to reduce sickness absence. Occupational Medicine 63: 89–95.

Reduction from 2008 in % of 4-week absences continuing beyond 8 weeks (95%CI) – Difference between intervention and control (95%CI)	Pre-intervention to Yr 0: 1.8 (−7.6 to 11.2) Pre-intervention to Yr 1: 10.7 (1.5 to 20.0) *

*p<0.05

Outcome: mean days lost for all long-term sickness absence (≥4 weeks)

	Intervention			Control		
	2008 (pre-)	2009 (Yr 0)	2010 (Yr 1)	2008 (pre-)	2009 (Yr 0)	2010 (Yr 1)
Mean days lost beyond 4 weeks[a]	46.5	45.2	41.7	51.8	46.6	48.5
Reduction from 2008 in mean days lost beyond 4 weeks[a] (95%CI)		1.3 (−3.6 to 6.2	4.9 (0.0 to 9.7) *		5.2 (−2.3 to 12.7)	3.3 (−4.0 to 10.6)
– Difference between intervention and control (95%CI)	Pre-intervention to Yr 0: −3.9 (−12.8 to 5.0) Pre-intervention to Yr 1: 1.6 (−7.2 to 10.3)					

*p<0.05

[a] Mean for all 4-week absences

Note: In the intervention trust, the greatest changes in the proportion of 4-week absences continuing beyond 8 weeks, and also in mean days lost per absence, were in the “other” and “unknown” diagnostic categories. In contrast, there appeared to be relatively little impact on absences attributed to mental illness (data not extracted)

Outcome: Ill-health retirements

Reduced in both trusts between 2008 and 2010, but the reduction was 20% greater at the intervention trust than at the control trust (this difference was not statistically significant)

Other outcomes reported:

None

Bibliographic reference	**Smedley J, Harris EC, Cox V, Ntani G, Coggon D. (2013) Evaluation of a case management service to reduce sickness absence. Occupational Medicine 63: 89–95.**		
Source of funding	The intervention was funded by University Hospital Southampton NHS Foundation Trust, and the evaluation was funded by the British Occupational Health Research Foundation.		
Related publications	None identified		
Comments	**Limitations noted by authors:** • non-randomised controlled B&A study therefore possibility of confounders • quality of data obtained from ESR - medical reasons for absence not always have been recorded accurately • referral to the R2H service took some time to build up, but even in 2010 only 45% of qualifying absences were referred (sub-optimal) – therefore the study may have underestimated the potential benefits of the service. However, likely to be difficulty in achieving high compliance so findings may be representative of what is achievable in practice • initially planned to provide treatment by clinical psychologists and alternative physical therapists, but because of constraints on resources, the design was subsequently simplified and the intervention did not ever entail specialist psychology input to cases within the core team • although reduction in 4-week absences continuing beyond 8 weeks was statistically significant, the estimate of mean days of absence that were saved was subject to major statistical uncertainty • improvement in outcomes at the intervention trust related principally to absences for “other” medical reasons, whereas the highest referral rates to the R2H service were for musculoskeletal disorders or mental illness - calls into question whether observed reductions in absence were fully attributable to the intervention **Limitations noted by reviewer:** None identified		
Quality assessment	**Criterion**	**Judgement**	**Comments**
	Random sequence generation	n/a	Not a randomised study
	Allocation concealment	n/a	Not a randomised study
	Baseline outcome measurements similar	Low	Overall incidence of new 4-week absences was similar at the two trusts
	Baseline characteristics similar	High	Intervention trust was larger than the control trust with approximately twice as many employees, and a higher proportion of full-time workers. Staff numbers grew by approximately 10% over the study period, while that at the

Bibliographic reference	**Smedley J, Harris EC, Cox V, Ntani G, Coggon D. (2013) Evaluation of a case management service to reduce sickness absence. Occupational Medicine 63: 89–95.**		
			control trust remained fairly constant. Higher rates of LTSA due to MH problems at intervention trust
	Incomplete outcome data	Low	Absence data from centralised record (ESR) likely to have been relatively complete (although accuracy of medical diagnosis coding was a limitation noted by the authors)
	Knowledge of allocated interventions adequately prevented	Low	Intervention was applied at organisational level – available to all eligible employees
	Protection against contamination	Low	Employees would not be eligible to use OH services of comparator hospital trust
	Selective outcome reporting	Unclear	No published study protocol
	Other sources of bias	Low	None identified
Overall RoB	Unclear		

D.4 Qualitative evidence tables

D.4.1 Bajorek 2016

Study	**Bajorek 2016**
Bibliographic reference	**Bajorek Zofia. (2016). Employee Assistance Programmes (EAPs): Supporting good work for UK employers?. : Employment Assistance Programme Association/Work Foundation, pp.. Available at: http://www.theworkfoundation.com/wp-content/uploads/2016/10/410_EAP_Supporting-Good-Work.pdf.**
Study type	Qualitative – In-depth telephone interviews (One aspect of a mixed methods study quantitative element provided via online survey with closed questions)
Aim	Background research into the provision and use of Employee Assistant Programmes in the UK, with the aim of understanding the size and shape of, and trends within, the UK EAP market. Understanding facilitators and barriers of use of EAP services.
Workplace setting	Not reported

Study	Bajorek 2016
Bibliographic reference	**Bajorek Zofia. (2016). Employee Assistance Programmes (EAPs): Supporting good work for UK employers?. : Employment Assistance Programme Association/Work Foundation, pp.. Available at: http://www.theworkfoundation.com/wp-content/uploads/2016/10/410_EAP_Supporting-Good-Work.pdf.**
Study dates	Not reported
Research parameters /methods	In-depth telephone interviews were conducted with HR managers either involved with the procurement of their organisations EAP, or who were the EAPs contract manager. Interviews were conducted over the telephone and were thematically analysed.
Population	10 HR managers involved in either procuring or contract managing their organisation's EAP.
Study findings	**Use of EAPs** Having an EAP was seen commonly seen as good practice, as it was recognised that employees may have worries, concerns or questions that employers might not be able to address or that employees may not wish to share with their employers. An EAP service could provide support for these. *'It is also about us being a caring organisation, we do care about our staff in the organisation, we care about their wellbeing and we want to be able to support them with the issues that they may be facing in their day to day lives."* *"As a good employer it is important to provide such a service."* EAPs were seen as offering a service that was distinct from Occupational Health services (OH) as they offered immediate confidential help with both work and non-related work issues. In contrast, OH was often seen as a management referral service for employees who had been on long term sickness absence, through which issues around returning to work, workplace adjustments and fitness for work tests would be discussed. Most interviewees discussed the role of EAPs in preventing or reducing long term sickness absence. *"At the time we had a lot of sickness absence, and the sickness absence rates were very high, in-particular around stress, mental health, anxiety and depression…and therefore the business case (for implementing the EAP) was to try and reduce sickness absence, and this was one of the methods to really try to assist with that."*

Study	Bajorek 2016
Bibliographic reference	Bajorek Zofia. (2016). Employee Assistance Programmes (EAPs): Supporting good work for UK employers?. : Employment Assistance Programme Association/Work Foundation, pp.. Available at: http://www.theworkfoundation.com/wp-content/uploads/2016/10/410_EAP_Supporting-Good-Work.pdf.
	The most common reasons cited by organisations that had not bought into an EAP (12% / 9 organisations) were: a lack of information about EAPs (44%); other wellbeing initiatives already being in place (33%); and cost (22%). Factors that might persuade them to start using an EAP clearly that highlighted evidence of effectiveness was needed, with cost effectiveness (33%) and evidence of improvements to wellbeing and productivity (33%) being most commonly reported. Facilitators Immediacy The immediacy with which the EAP counsellors could be contacted was valued and preferred to previously offered or alternative services. "*It has either helped them get back to work quicker, or prevented them going on sick because they have had counselling that they can access a lot quicker than they could if they went through their GP."* Accessibility Accessibility of the service was important and the best support was seen as that which offered a range of services and versatile options for getting in touch through different modes such as by telephone, or online. Being able to speak to a qualified professional at any time of day was reported as being a key factor in choosing a service, and online facilities were seen as allowing additional confidentiality. *"The beauty of the service is that we have an online facility, so if you are in the office and you can't pick up the phone you can do an online chat which is completely confidential, and they have strengthened this in the course of our contract…you can do that online with the counsellor, nobody around you knows what is going on, and you are getting some immediate support."* Different modes were used for different purposes with a number of interviewees noting that online services focussed on the health and wellbeing aspects of the EAP whereas the telephone service could cover a range of topics. It was suggested that the services used and by whom, may differ according to age.

Study	Bajorek 2016
Bibliographic reference	Bajorek Zofia. (2016). Employee Assistance Programmes (EAPs): Supporting good work for UK employers?. : Employment Assistance Programme Association/Work Foundation, pp.. Available at: http://www.theworkfoundation.com/wp-content/uploads/2016/10/410_EAP_Supporting-Good-Work.pdf.
	"There is a 24/7 telephone service which covers everything from legal advice right through to elderly care…that would just be an interview on the phone. They can have up to six face-to-face counselling sessions…and then there is the health and wellbeing service online, and quite a lot of people just chose that, particularly the younger generation would use something like that." Support for managers EAPs were seen as an important resources for managers providing information and support on managing problems and on occasions providing specific training to help them support employees with a mental health condition or personal issues that may be impacting on their work. *"There is also a specific part, a dedicated part for managers, so if there is a manager and they are dealing with a tricky situation, so for example, they are dealing with a redundancy or dealing with a member of staff who is suffering with mental health issues, there is a dedicated management support section which they can access as well."* <u>Barriers</u> Concerns about confidentiality Managers felt more could be done to reassure employees about the confidentiality of the EAP service, both in terms of the service being used and the reasons why. *"One problem is that the employees are worried about what information the organisation would receive, so if they call and speak to a counsellor I think that they are probably concerned about whether the EAP are going to feed anything back to the organisation."* Despite this, managers often described the EAPs as an 'invaluable benefit' in that it provided an opportunity for independent confidential advice for both work related and personal problems. *"Sometimes staff do not want to discuss their personal matters internally, so the EAP gives them that service, that place to go, where they can be anonymous and discuss their problems."*

Study	Bajorek 2016
Bibliographic reference	**Bajorek Zofia. (2016). Employee Assistance Programmes (EAPs): Supporting good work for UK employers?. : Employment Assistance Programme Association/Work Foundation, pp.. Available at: http://www.theworkfoundation.com/wp-content/uploads/2016/10/410_EAP_Supporting-Good-Work.pdf.**
	Lack of awareness or stigma Interviewees reported that the reasons employees may not use the EAP service were often related to a lack of awareness that such a service was on offer, or a lack of understanding as to what it entailed which may result in an associated stigma that it focused only on counselling and health and wellbeing. *"There is a stigma. I think people don't recognise it as an Employee Assistance Programme, they just recognise it as some counsellors, or a counsellor company, even though it is not marketed like that, but that is what people generally consider it to be."*
Evidence statements Themes/results contributed to	
Source of funding	Not reported
Related publications	
Comments	**Limitations noted by authors:** Possible self-selection bias in that interviewees were selected from a respondents to an online survey who indicated willingness to have a further in-depth discussion. Online survey respondents also included those who did not have an EAP, but these respondents were not willing to be interviewed for this qualitative element of the research. Had they been willing to participate, insight inti why some organisations do not use EAP and what alternatives they offer might have been possible. **Limitations noted by reviewer:** Small sample size (n=10) No indication of the size or type of employer (private or public sector) which may influence ability or incentives to invest in EAPs or alternatives, and the culture around managing long-term sickness absence and returning to work following such absences.
Quality assessment	**Poor**

D.4.2 Coole et al. 2015

Study	Coole 2015
Bibliographic reference	**Coole C, Nouri F, Potgieter I, Drummond A (2015) Completion of fit notes by GPs: a mixed methods study. Perspectives in Public Health: 135(5): 233-242**
Study type	Mixed methods- GP interviews and analysis of fit notes
Aim	To investigate the completion of fit notes by UK GPs.
Workplace setting	**11 GP practices**
Study dates	Interviews conducted November 2013 – May 2014
Research parameters/ Methods	Data collected from copies of fit notes and interviews with GPs. GPs asked to record the 10 "new" fit notes issued to employed patients (i.e. not continuations of previously issued fit notes), including a minimum of five "may be fit" notes. GPs sent copies of fit note to research team with all patient identifiable details removed. 6 weeks after issuing the fit notes GPs were sent a postal questionnaire to rate and comment on the completion of the fit note. Interviews digitally recorded, and topics for interview selected by research team and study steering group. Quantitative data analysed descriptively. And comments analysed using thematic content analysis.
Population	272 GP practices invited to participate, 12 expressed interest and **11 GPs participated.**
Study findings	4 GPs from areas of highest deprivation, 5 represented the least deprived areas. On average GPs had 15 years experience (range 1.5 to 26 years). **Role of the GP** Not all GPs think issuing fit notes are part of their role and several would prefer not to have responsibility for them. Some feel ill-equipped to make effective use of the fit note and have "more important things" to deal with. They also had to accept what the patient said at face value, emphasising their role as patient advocate and were reluctant to anger or upset patients if they held conflicting views, particularly with long-term sickness absence: *"I think that it's probably something that is in the wrong place with GPs. I think it fundamentally misunderstands what GPs do. I don't think we have whether the time or the skills-so the capacity to do the sorts of in depth discussion that we need to do about someone's occupation in the context" (GP_4)*

Study	Coole 2015
Bibliographic reference	Coole C, Nouri F, Potgieter I, Drummond A (2015) Completion of fit notes by GPs: a mixed methods study. Perspectives in Public Health: 135(5): 233-242
	Sometimes fit notes were thought to be unnecessary like in the case of elective surgery where it is perceived to be an expected set period of absence. No quote to support this finding. There is variation in how GPs understand, complete and manage fit notes even in the same practice: *"I think I'm a little less easy going than other members of the practice maybe- I don't have any audits for this but I could imagine one or two of the others being a little bit more happy tha even I am to give sick notes, fit notes" (GP_3)* ***Technology and fit notes*** Computerised forms mad it easier to provide more detailed, higher quality fit notes and facilitated continuity of care between GPs. However in some cases certain sections were missing and GPs had to create their own templates. Some completed paper copies and weren't aware of electronic versions. Computerised versions of fit notes weren't available to all GPs and completion and accuracy was not guaranteed: *"The problem is you do it by hand and you forget to record it. That happens all the time" (GP_10)* **Personal approach** GPs varied in the amount of detail they provide on the patient's condition. Some said that providing less detail would have fewer implications for them and the patient. Sometimes patients challenged what was put in the sick note, particularly if they needed further justification for sick leave. Some GPs gave into the patient's wishes in order to not only maintain a relationship with the patient but due to fear of consequences. *"My principal is as little as possible. The more you offer, the more it can get the patient into deep water and me into deep water because you end up having to justify these things". (GP_3)"* GPs recognise their own beliefs and attitudes about disclosure can influence how they complete sections of the fit note. They frequently use the term "fit note" to refer to 'may be fit' notes and the term 'sick note' to refer to 'not fit' notes. Some were uncertain what to do as there is no longer a "fit for work" note. Choices of modifications were seen as adequate, although some GPs were reluctant to recommend amended duties as they felt they didn't know enough about what these might entail and that 'workplace adaptations' required more specialist knowledge *"Sometimes I have trouble distinguishing between them so 'work adaptations' that's easy isn't it? Altered hours- 'altered hours and a phased return to work' oh no, altered hours are permanent altered hous isn't it, under duties? Yes so I supposed that's a bit obvious really isn't it, it's just me being a bit stupid. Yeah, the*

Study	Coole 2015
Bibliographic reference	**Coole C, Nouri F, Potgieter I, Drummond A (2015) Completion of fit notes by GPs: a mixed methods study. Perspectives in Public Health: 135(5): 233-242**
	phased return to work would be a gradual thing- altered hours would be permanent altered hours, permanent amended duties wouldn't it? (GP_10) **Education and training** Some thought fit note training was important, while others didn't. Many considered it unlikely they would access training that involved their own time and money *"It's not the sort of thing I would go on. I've got a million and one other things I'd prefer to learn, spend an afternoon learning than that, I'm afraid. Sorry" (GP_7)* On the other hand 1 GP who had attended the Royal College of General Practitioners training valued the opportunity to discuss practice with other stakeholders or other GPs which rarely happened: *"If you don't know what the people on the other side of the wall are doing, then you can't address the issues perhaps or you know, you may be sending messages that they don't understand or aren't helpful… often as an experience GP, some of the best learning episodes are when you sit round with other GPs and discuss how you do it. So many things in general practice, you're in your room on your own. (GP_6)* Overall, fit note completion is not meeting expectations for a number of reasons, including limited knowledge and awareness of guidance in fit not completion; problems with the fit note format; lack of mandatory training in completing fit notes; lack of incentive to change practice; incomplete implementation of the electronic fit note; GPs lack of confidence in and doubts about the appropriateness of performing this role.
Evidence statements Themes/results contributed to	
Source of funding	Institution of Occupational Safety and Health
Related publications	
Comments	**Limitations noted by authors:** Small sample of GPs providing responses. Not all GPs submitted the 10 fit notes required. Unable to achieve the intended sample of 'may be fit' notes despite extending the data collection period, but this low proportion is reflective of the national picture. **Limitations noted by reviewer:**

Study	**Coole 2015**
Bibliographic reference	**Coole C, Nouri F, Potgieter I, Drummond A (2015) Completion of fit notes by GPs: a mixed methods study. Perspectives in Public Health: 135(5): 233-242**
Quality assessment	**Overall rating is moderate. Not all participants submitted the required number of fit notes so full complement themes may not have been derived.**

D.4.3 Higgins et al 2015

Study	**Higgins et al 2015**
Bibliographic reference	**Higgins Angela, O'Halloran Peter, and Porter Sam. (2015). The Management of Long-Term Sickness Absence in Large Public Sector Healthcare Organisations: A Realist Evaluation Using Mixed Methods. Journal of occupational rehabilitation, 25(3), pp.451-70.**
Study type	Qualitative –semi-structured interviews (one aspect of a mixed methods realist synthesis)
Aim	The aim of the research was to investigate how organisational context facilitates or hinders interventions intended to manage LTSA, in order to provide evidence for enabling and sustaining effective management approaches in large public sector organisations
Location & setting	Three Trusts that differ in their structure, size, and geographical spread; serving both rural and/or urban communities.
Study dates	Data collection was carried out in two stages between June 2009 and April 2011
Research parameters/ Methods	Participants were purposefully sampled to ensure a wide representation of key stakeholders. All interviews were audio-recorded and transcribed. NVivo 8 software was used to code data in categories Aim of the analysis was to develop 'analytic generalisation' about the relationships between context, mechanism, agency and outcome.
Population	semi-structured interviews (61 participants):

Study	Higgins et al 2015
Bibliographic reference	**Higgins Angela, O'Halloran Peter, and Porter Sam. (2015). The Management of Long-Term Sickness Absence in Large Public Sector Healthcare Organisations: A Realist Evaluation Using Mixed Methods. Journal of occupational rehabilitation, 25(3), pp.451-70.**
	Semi-structured interviews with policy makers (2), General Practitioners (community physicians) (3) HR executives, senior, middle, and OH managers, Trade Union representatives (20), who were key participants in the LTSA process.
Study findings	**Facilitators** (when used appropriately and in the context of good interpersonal and departmental communication and shred goals) **Early intervention** Early intervention with employer-initiated contact can increase the sense of value and support the employee feels, and allows identification of barriers for return to work. Staff feel motivated and confident to return to work, and leads to an earlier return to work. These mechanisms are less likely to occur in a context where there are long waiting times for medical treatment, non-compliance with organisational procedures, inadequate training of line managers and poor communication between people with responsibility for managing LTSA. Early onward referral to specialist medical services – "I believe early intervention does have an overwhelming benefit for both the individual and the department they work in.' (Union Rep) Some employees reported feeling valued "'If I had of been waiting through the channels of my own GP, I might still have been waiting" (Employee) However, there was evidence that managers delayed intervention "'Unfortunately, historically early intervention by occupational health has been seen as a stick to sort of hit staff with …it's the misconception of what it's there for" (Union Rep) **Workplace-based occupational rehabilitation** Workplace-based occupational rehabilitation and workplace adjustments facilitated an easier and earlier return to work, as staff felt motivated and confident. These interventions are likely more effective where programmes are carried out with close collaboration with the workplace. They are inhibited by low commitment from top

Study	Higgins et al 2015
Bibliographic reference	**Higgins Angela, O'Halloran Peter, and Porter Sam. (2015). The Management of Long-Term Sickness Absence in Large Public Sector Healthcare Organisations: A Realist Evaluation Using Mixed Methods. Journal of occupational rehabilitation, 25(3), pp.451-70.**
	management; lack of opportunity for alternative duties in smaller organisations; financial constraints; resentment and resistance from co-workers and line managers; and a belief that employees must be completely fit prior to a return to work (C) '…their [managers] attitude has changed somewhat…a pair of hands is a pair of hands, to answer the telephone or to do project work.' (OHP). 'I found I needed time even just to get used to being back at work.' (Employee 2). she returned to restricted nursing duties whilst awaiting surgery…it was helpful to both of us…' (Ward Manager) '…if it gets someone back I don't see the problem…it's daunting coming back so if you can get someone to come back for a day and then two days, it will build them up rather than landing them back for a whole week… I don't see it as anything counterproductive actually I see it as productive.' (Ward Manager). **Robust sickness absence policies with clear trigger points for action** Policies were seen positively in that managers engage more effectively with people with LTSA as actions required are clearly stated and staff returned to work earlier. Provision of rewards (e.g. attendance bonuses and flexible working) lead to an earlier return in a range of workplaces. Policies with senior management support, are supported by training and are fully implemented are more effective. 'You can create the best policies but unless managers are prepared to implement them it doesn't work (HR Dir) '…the reason we've been able to get our levels down so much as a directorate is because we're really, really implementing the policy (Ass Dir) Proactive approach...

Study	Higgins et al 2015
Bibliographic reference	**Higgins Angela, O'Halloran Peter, and Porter Sam. (2015). The Management of Long-Term Sickness Absence in Large Public Sector Healthcare Organisations: A Realist Evaluation Using Mixed Methods. Journal of occupational rehabilitation, 25(3), pp.451-70.**
	the framework is there, is explicit for everyone to understand, those who are managing it and people who are managed within it.' (Senior HR Executive) '…it's important to have clear parameters so that everyone knows where they stand' (OH Manager). the new policy has been effective in reducing casual absence which is good for staff who are always picking up the slack…(Union Rep). Consistent compliance... 'I would attribute it [lower level of sickness absence] to having one specific policy which we implemented very early on along with you know associated training…' (OH Manager). **<u>Barriers:</u>** **Delayed intervention** '…I was a wee bit miffed to be honest, after this length of time no contact from any management…it does sort of leave you a bit more frightened about going back to work…' (Employee). **Inconsistent implementation of policy and procedure** '…it's difficult to show hard-working staff that they are valued when the Trust tends not to punish bad absence behaviour…saying thank you wears thin after a while…' (Acute Care Manager). **Lack of resources and Organisational complexity**

Study	Higgins et al 2015
Bibliographic reference	**Higgins Angela, O'Halloran Peter, and Porter Sam. (2015). The Management of Long-Term Sickness Absence in Large Public Sector Healthcare Organisations: A Realist Evaluation Using Mixed Methods. Journal of occupational rehabilitation, 25(3), pp.451-70.**
	'The line manager has to be able to get the balance right between supporting the member of staff and helping the member of staff to understand that it is appropriate for an organisation to manage and control attendance.' (Senior HR Executive). '…nothing is black and white and there are very much grey areas so what helps is that yes there is accountability down through the system but there is also a method to feed back up through the system…to a more senior level…' (Ass.Dir 2). '…managers are not afraid to address issues with employees because they are supported to do this at senior management level' (Senior Manager) 'In times gone by you would have had the support of the senior manager…now the senior manager wouldn't know the staff in the department.' (Ward Manager). '…in 18 years involved in line management...we have never brought anybody to discipline for sick leave…there tended to be a fear of somebody, somewhere making a decision…' (Community Care Manager). **Misunderstanding motives** 'I don't think it allows them back any earlier, I do feel that some staff will take their six months (statutory sick pay)…' (Ward Manager). '…sometimes these arrangements can go on for months and months and months …never-ending…' (Senior Manager) **Conclusions** Different mechanisms have the potential to encourage common motivations for earlier return from LTSA, such as employees feeling that they have the support of their line manager to return to work and having the confidence to do so. Line managers' proactively engage when they have confidence in the support of seniors and in their own ability to address LTSA. Fostering these motivations calls for a thoughtful, diagnostic process, taking into account the

Study	Higgins et al 2015
Bibliographic reference	**Higgins Angela, O'Halloran Peter, and Porter Sam. (2015). The Management of Long-Term Sickness Absence in Large Public Sector Healthcare Organisations: A Realist Evaluation Using Mixed Methods. Journal of occupational rehabilitation, 25(3), pp.451-70.**
	contextual factors (and whether they can be modified) and considering how a given intervention can be used to trigger the appropriate mechanisms.
Themes/results contributed to	
Source of funding	Ethical approval was granted by the Office for Research Ethics Committees Northern Ireland (application number: 09/NIR03/06). All participants gave written informed consent
Related publications	
Comments	**Limitations noted by authors:** Some limitations of the research were caused by situational factors. For example, authors were unable to gain numerical data on the nature and extent of LTSA, largely because the Trusts themselves had access only to aggregate SA data, which limited our the to quantify outcomes. This is a perennial problem in researching SA and would appear to be an obvious first step in managing a challenging issue for the health and social care sector, as well as other organisations Another situational factor was that the research coincided with a period of major structural change within the HSC Trusts. Whilst this provided a rich environment for information on contextual factors, it could not reflect a stable picture of routine organisational activities in absence management over the duration of the data collection. However, realist evaluation recognises that systems are active and constantly evolving and therefore the study design was able to incorporate the changing inner and outer context as part of the research findings In terms of methodological limitations, we are concerned that the adoption of

Study	Higgins et al 2015
Bibliographic reference	**Higgins Angela, O'Halloran Peter, and Porter Sam. (2015). The Management of Long-Term Sickness Absence in Large Public Sector Healthcare Organisations: A Realist Evaluation Using Mixed Methods. Journal of occupational rehabilitation, 25(3), pp.451-70.**
	realist evaluation resulted in a lack of criticality. Realist evaluation attempts to eschew any social values smacking of utopianism and to stick to piecemeal social engineering [63]which involves explaining the decisions of policy makers, rather than condemning them [28]. The problem with this piecemeal pragmatism is that it can lead to an implicit social conservatism that neglects the issues of power and inequality [64]. In this case, our almost exclusive concentration on mechanisms purported to deal with the 'problem' of LTSA meant that little attention was paid to the highly contested area of social rights during sickness [65]. Instead, our discussion was positioned on the terrain carved out by Talcott Parsons and his view that 'the problem of health is - 44 - intimately involved in the functional prerequisites of the social system ... so that ... too low a general level of health, too high an incidence of illness is dysfunctional' [66]. This perception concentrates on the negative consequences of absenteeism while neglecting the benefits of social security, and fails to interrogate this analytic imbalance. We suggest that the incorporation of critical realist strategies [67] into our research design would have enabled a more robust analysis of the consequences of these policies and procedures for employees in terms of power, equality and autonomy [64]. **Limitations noted by reviewer:**
Quality assessment	**Moderate- Realist evaluation provided rich insights but may not have been entirely appropriate for this context**

D.4.3.1.1 Kotze 2014

Study	Kotze 2014
Bibliographic reference	**Kotze E. (2014). Employers' views on the fit note. *Occupational medicine (Oxford, and England)*, 64(8), pp.577-9.**
Study type	Qualitative study using face-to-face semi-structured interviews
Aim	To explore employers general views on the fit note, opinion on the impact the fit note, quality of the GPs' advice received, organization's ability to implement GP recommendations.
Workplace setting	Various sizes sectors/industries – no detail provided.
Study dates	January and April 2011
Research parameters/ Methods	Purposive sampling was used to identify organisations based on industry sector and company size. Participants were selected from the client base of the researcher's employer, a national occupational health (OH) provider, conducted with participants from a variety of industries Semi-structured interviews were conducted with a variety of personnel, representing their employer. Data collection continued until the researcher felt there was theoretical saturation, i.e. no new relevant data was discovered. Interviews were recorded transcribed and subject to thematic content analysis. Transcripts were searched inductively to distinguish analytical categories from the data. Data were read and re-read to identify and index themes and categories using the constant comparison method. Ethical approval by the University of Manchester's Ethics committee meeting in December 2010
Population	21 participants (Employers): • 12 human resources (HR) professionals • 8 line managers and • 1 payroll officer

Study	Kotze 2014
Bibliographic reference	**Kotze E. (2014). Employers' views on the fit note. *Occupational medicine (Oxford, and England)*, 64(8), pp.577-9.**
Study findings	**Three themes were identified:** **1. Positive views of fit note:** Majority welcomed the introduction of fit note and feel it is an improvement on the sick note, considered that it was enabling them to have RTW conversations earlier and by doing so the employee was returning earlier. **2. Difficulties employers are having with the fit note:** About half reported issues when making return to work decisions, some felt they were unable to adapt roles due to their industry, others felt the responsibility for allowing employees to return had shifted from GPs to them. There were concerns when allowing people to return to hazardous environments or when there were complex health issues. Additionally the legibility of GP handwriting was cited as an issue. About a third indicated that fit notes had caused conflicts with employees when they were unable to accommodate the advice of the GP. Financial implications for the organisation were also cited either due to organising additional OH assessment or accommodating adaptations. **3. Employers views on the role of the GP:** Participants felt that GPs were not using fit notes effectively either having very few 'may be fit' or because fit notes were completed incorrectly. Concern was also raised about GPs providing advice about the workplace without knowing it. The most helpful advice came from fit notes with information on the functional effects of the medical condition, e.g. 'should avoid strenuous activity' or 'no lifting' or 'unable to stand for prolonged periods' Preference also expressed for specific advice on the amount of hours that an employee could work Least helpful were where: • the GP omitted to complete the comments box, if someone was judged as 'may be fit for work' • if they used vague terms such as 'light duties only' or 'to work lesser hours'

Study	Kotze 2014
Bibliographic reference	Kotze E. (2014). Employers' views on the fit note. *Occupational medicine (Oxford, and England)*, 64(8), pp.577-9.
Evidence statements Themes/results contributed to	
Source of funding	Not reported – no conflicts declared
Related publications	n/a
Comments	**Limitations noted by authors:** Small study, so it is not possible to generalise the findings as being applicable to all employers in the UK **Limitations noted by reviewer:** No quotations provided to enable sense checking of themes generated No indication of which type of employer role had contributed to themes No 2nd researcher to check theme generation and come to consensus final themes No data analysis package reported for management of the data
Quality assessment	- overall rating poor : some methodological and analytical issues noted along with lack of quotations to underpinning the themes generated.

D.4.4 Lalani et al. 2012

Study	Lalani et al 2012
Bibliographic reference	Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.
Study type	Qualitative – Semi-structured interviews conducted either face-to-face or by phone.
Aim	To explore the experiences and outcomes of using the fit note from the perspectives of both employers and employees, and to understand how these vary across different businesses and organisations. There was a specific focus on: • if and how the general management of sickness absence had changed since the fit note was introduced

Study	Lalani et al 2012
Bibliographic reference	**Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.**
	• views on the discussion with GPs and the advice they gave on fit notes, as a facilitator for an earlier return to work • use of the fit note and fitness for work discussions on workplace adjustments or adjustments to job role • barriers and facilitators for employers and employees in achieving an earlier return to work and insight into how these may be addressed.
Workplace setting	A range of public, private and third sector organisations of varying size in the UK.
Study dates	Fieldwork was carried out March – July 2011
Research parameters/ Methods	Interviews were carried out by employment researchers using semi-structured discussion guides and were recorded with consent, or otherwise notes were taken by the researcher. In most cases, the 60 minute interviews with employer representatives who had oversight of absence management, were carried out face-to-face, but some were conducted by telephone. Interviews with line managers and employees lasted for 30 minutes. Most interviews with line mangers took place by phone but a few were carried out face-to-face. Interviews with employees were carried out either by phone or face-to-face depending on their availability and their employer's preference. Informed consent was obtained before all interviews commenced. Interviews were recorded, transcribed and analysed thematically. Themes were based on the main issues of prior interest and issues which were identified during discussion by the researchers as appearing to be important. The interviews were analysed together (i.e. those from managers, specialists and employees), except where questions were specific only to certain groups.
Population	87 employees and 98 employers' representatives from 54 organisations (24 private sector; 19 public sector, 11 third sector). Purposive sampling was used to represent a range of different organisational sizes, industries and countries within the UK. The sample was weighted towards the low wage sector due to higher sickness absence rates and included for example, call centres, health and social care, and food processing businesses. To participate all organisations were to have received a fit note. Interviewees among employers were generally the person who had oversight of sickness absence in the organisation, usually an HR specialist. Where possible, line managers whose line managees had received a fit note and employees who had received a fit note, were interviewed as were occupational health staff.

Study	Lalani et al 2012
Bibliographic reference	Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.
Study findings	**Views on the effectiveness of the fit note** Employers views Employers' held varying views about the effectiveness of the fit note on sickness absence. Some believed that the fit note had influenced their management of sickness absence as it focused attention on returning to work, and that this led to adjustments being considered and put into place more frequently. *'I think just changing the name in itself was a huge advantage, yeah. Because I think it's saying to people "you're fit for work" rather than people playing on "I'm sick". So I think putting that change and different spin on it was a good thing from that point of view' (Employer)* *'I think we're beginning to see a bit of a cultural change in terms of something that we've been trying for a long time, of getting line managers to take accountability for managing absence and talking to people about their returns to work. I think the fit note has assisted that cultural change in... giving them a bit of reassurance that [they] have got something to base this discussion on so they perhaps feel more confident about having those discussions.' (Employer)* *'The fit note's advantages are that it does give, I suppose, the GPs the chance to say what they feel. [Previously], if someone is either well or they are not, the chances are they are not going to come back to work. Whereas, this way, if you can at least offer some adaptation to get people back to work then I think that's a good thing.' (Employer)* *'We didn't previously make adjustments. They [employees] just said, "we are off sick so we can't return to work". I've got the doctor's note [fit note] so that's why I am saying it helps a lot more now and I would like to see more people having come back with adjustments' (Employer)*

Study	Lalani et al 2012
Bibliographic reference	Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.
	Other employers felt that the fit note had not changed the way they managed sickness absence and that discussions about adjustments did not necessarily require the fit note. *'It reinforced what we were doing anyway. I think that's good, and I think they're right that they're putting a date, and I won't need to see you again, so I know, for a fact, I can take it from that date (without having to be signed off ['the sick]').'* (Employer) *'I just get the impression from [the company] that they do everything they can to make sure their people are looked after, so regardless of whether it was a fit note or sick note, I think they would have treated me exactly the same.' (Employee from a large organisation)* This may suggest fact that the fit note was more likely to have an influence in organisations with less formal policies and procedures and fewer resources to draw on, many of which are smaller firms. Other reasons the fit note was not thought to have resulted in change related to a perceived lack of information from the GP regarding adaptions to be made. '*..there's not enough information on the fit note. When we bring somebody back to work with restrictions we want to know exactly what they can do so that we feel safe giving them jobs.* (Employer) Some employers felt the fit note made managing sickness absence more difficult. Reasons included having to manage adjustments, some of which were seen as inappropriate, having to deal with employees expectations, and a lack of clarity and detail on any recommended adjustments from the GP on the fit note itself. *'I prefer the sick note, because doctors' recommendations are not necessarily feasible and can result in extra costs.' (Employer)* Employers also believed that the 'may be fit' option wasn't used as often as it could be because GPs didn't have the necessary insight into what the employee's role entailed and so took a risk averse approach. Employers would like

Study	Lalani et al 2012
Bibliographic reference	Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.
	to see more detail on the fit note of issues such as the likely length of illness, and the nature of the employees' incapacity and the adjustments to be made. Vague instructions such as 'light duties' were found particularly unhelpful. *'Doctors write on them 'possibly fit for work with adaptations', but they don't actually tell you what they think those should be. Then the employer is left to kind of read between the lines and sometimes you go down the path of least resistance because you think "what if I get this wrong and I make their situation or their circumstance worse and they could blame me and litigate against me?" So the easiest route is just say actually we can't make any adaptations, so you're off sick, which is wrong because the employee doesn't want to be off sick.'* Many employers felt that GPs tended to follow their patient's wishes regarding fitness for work and would like to see the 'may be fit' for work' option used more often. Some believed that the 'may be fit' option was used mainly when employees specifically wanted to come back to work, for example because they were very motivated to do so. In other cases, employers felt this tended to happen when an employee's Occupational Sick pay was coming to an end. *'I think some people want to come back to work because they're genuinely sick to death of being sat at home and think, "Well, I could do this if I went back to work and I could do a little bit of a job". Others, their money's running out, so if they can get back to work whilst they're still in full pay, they can do a phased return, working less hours for their full salary.' (Employer)* *'It's a complete waste of time and if you wanted, I think it should be abolished, I think it is, we've got to say, it is useless. We will find out what is wrong ourselves - and what GPs write cannot always be trusted.' (Employer)* <u>Employees views</u> Employees views also varied, with some believing the fit note had empowered them in return to work negotiations with their employer who had become more willing to make adjustments.

Study	Lalani et al 2012
Bibliographic reference	Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.
	'A phased return to work statement enabled the GP to spell it out to the employer that it wasn't just my discussion with them, it was actually saying that the doctor has specified this and, until this takes place I will not be returning to work.' (Employee) Others felt they had been negatively affected by returning to work too soon. *'I knew I wanted to get work done and I did too much.... Now I've got to go and have some corrective surgery, additional surgery.....'* *'..... and there'll be other people foolish like me who make the wrong decisions and do too much.' (Employee)* **Feasibility of, and willingness to make, recommended adjustments** Employers believed that GPs' fitness for work advice can be negatively impacted by a lack of occupational health expertise or a lack of detailed information about or understanding of the employee's job roles. This may be related to the finding that consultations did not always cover the nature of the employee's role and the degree to which workplace adjustments were discussed varied. However most employees when interviewed felt the GP had a good understanding of their health condition and felt that their advice was sound. *'I think my GP, whichever practice member I have seen, they have always made a point of asking me exactly what I have done for a job and the nature of how much indoors, how much outdoors and the distances that I have been driving... and they have always been very thorough... and so, it has always been a case of trying to get me back to work as quickly as possible, within my limitations you know.'* (Employee) Employers suggested that the fit note may have greater influence on the length of sickness absence, if GP's understanding of employers needs and the feasibility of adjustments was improved. Various suggestions were made including activities and training to improve GPs' knowledge in this area. It was suggested that certain

Study	Lalani et al 2012
Bibliographic reference	**Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.**
	questions should be asked of employees regarding their role. It was also suggested that occupational health advice acting between the GP and the employer would be helpful. Others suggestions included the fit note not being too prescriptive and focusing on an employee's capabilities and that the employer should work out the adjustments, which would help to avoid raising unrealistic expectations. Employers reported making a range of adjustments but found temporarily adjusted hours the easiest to implement, as they didn't involve too many additional costs or administration. Some reported that they particularly helped with an earlier return to work for committed staff and felt that a gradual return was less likely to be detrimental to the employees' health. *'It's easier to do reduced hours than make physical adaptations If we take the role of a lawyer, it's probably easier for us to say to them for a short period of time "come in for three days a week and then four days a week and then five days a week".' (Employer)* While this worked well for some employees, others reported trying to do all their work in less hours and felt this negatively affected their recovery. While most employers felt it worthwhile making adjustments, it was noted this was not always possible, for reasons such as: availability of alternative roles; suitability of the employee for those roles; concerns as to whether these might help or hinder the employees' recovery; and the need to work certain hours. It was also noted that the fit note could result in unrealistic expectations from some employees regarding the adjustments that were feasible. *'Because of this environment, there's nothing else that people can do that minimises the physical side of the work. You can't send them to the laundry because that's very physical. You can't put them in the kitchen because the minute they bend over a sink they've got a bad back. You give them cleaning, they've got to push a Hoover around and whatever you do actually there isn't any such thing as light work.'* Some employees reported that the recommended adjustments to duties had not been made, even though they had expected them to be, because they were on the fit note.

Study	Lalani et al 2012
Bibliographic reference	Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.
	'I spoke to the boss and she said "Oh God, …..we will have to change it" and wasn't very happy about it. Then they sent another roster through the following week and it was the same'. (Employee) **Costs of making adjustments** The majority of adjustments incurred some cost to the employer, particularly those that involved physical adaptations to the workplace. *If the adaptation is a one week adaptation and what the doctor is suggesting is for us to purchase equipment that's going to be very costly, then I don't think that's a proportionate response. There will be occasions when I'd rather the individual just didn't come in for another week rather than spending two grand on a piece of equipment which is going to be redundant in a week.' (Employer)* For some employees, adaptations such as reduced hours also incurred a cost. While some employees pay while on reduced hours was protected as part of the sickness absence policy, or they used up annual leave to reduce their working hours, others had their pay reduced. Employers noted that this could be a disincentive to an earlier return to work for some employees, when they could remain on sick leave and in receipt of Occupational Sick Pay. **Views of colleagues on adjustments** Most employees found that colleagues were pleased to see them return to work and were understanding about any limitations because of their health, or adjustments that were made *'Most people were very kind with me and warned me to be careful about the coming back thing because, once you're back, you're back and people expect you to be there day to day and do everything that you did before. It was nice to take it easy and not overstretch, everybody was like that'. (Employee)* Others experienced resentment from colleagues, especially if they had had to cover their workload, or felt the adjustments were unfair.

Study	**Lalani et al 2012**
Bibliographic reference	**Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.**
	'They just see the individual as coming in when we do a 12-hour shift, doing light duties and then going home, so it was having an effect on them. It was affecting the team morale. Moving her was just better for the team. They just didn't like seeing the individual coming in and going, they thought [she was] getting off lightly, but she genuinely had no voice, she couldn't speak.' (Employer) **Careful planning for return to work** Where adjustments had worked well it appeared to be the result of careful planning, which included clear arrangements with the employer which may include the GPs advice; a detailed plan of hours to be worked and duties to be carried out over a period of phased return; close supervision and regular review and if necessary amendments. *'I was speaking to [the occupational health adviser] every two weeks, we'd re-visit the plan, we'd make a plan for the next two weeks.' (Employee).*
Evidence statements Themes/results contributed to	
Source of funding	Department for Work and Pensions
Related publications	
Comments	**Limitations noted by authors:** The extent to which findings can be generalised. However, the authors suggest that the issues raised by employers and employees are 'likely to be similar to those shared by others'. **Limitations noted by reviewer:** Minimal details on the methods were reported, particularly the process for thematic analysis and how agreement was reached between researchers or how disagreement was resolved.

Study	**Lalani et al 2012**
Bibliographic reference	**Lalani, Mumtaz, Meadows Pamela, Metcalfe Hilary' Rolfe Heather (2012). Evaluation of the Statement of Fitness for Work: qualitative research with employers and employees. Department for Work and Pensions.**
	Incentives of £100 per employer and £25 per employee were offered, however authors justify this as ensuring that the sample was not restricted to those with strong views on the fit note. Initially the aim was to carry out two distinct elements of fieldwork: case studies (consisting of more than one interview with managers/ employers absence specialists and 'other qualitative research' (consisting of single interviews with managers/ employers absence specialists). Although the case studies were intended to provide more in depth and rigorous detail, it became apparent early in the study that this was not a helpful distinction and all data was analysed together. However, the objectives of both elements and the discussion guides used for both elements, were the same.
Quality assessment	**Overall rating + Moderate**. Strengths: size and diversity of sample and detailed reporting of findings. Main concerns: lack of detail on process of thematic analysis and any potential bias. However not journal a paper but more similar to a grey literature report, so this may a result of the format.

D.4.5 Pittam et al. 2010

Study	**Pittam 2010**
Bibliographic reference	**Pittam G, Boyce M, Secker J, Lockett H, Samele C (2010) Employment advice in primary care: a realistic evaluation. Health and Social Care in the community.18(6), 598-606**
Study type	Realist evaluation using in-depth semi-structured interviews and focus groups
Aim	To evaluate what help people with mental health problems gain work (Regain clients) or retain their current employment (Retain clients).
Workplace setting	**GP surgeries in three locations in the UK (Cambridge, Huntingdon and Fenland)**
Study dates	**October 2007 to March 2008**
Research parameters/ Methods	Realistic evaluation looking to identify a series of context, mechanism and outcome configurations for interventions where context indicates the conditions into which a particular intervention is introduced and the mechanism is the

Study	Pittam 2010
Bibliographic reference	**Pittam G, Boyce M, Secker J, Lockett H, Samele C (2010) Employment advice in primary care: a realistic evaluation. Health and Social Care in the community.18(6), 598-606**
	way in which an intervention works within the given context to produce a particular outcome or change. Data analysed using a coding frame and emerging mechanisms discussed with the research team as a whole to arrive at consensus.
Population	Employment advisers stationed in GP practices sent letters to all 124 clients referred to the service, 36 expressed interest in participating and 22 participated an interview. Practice managers, GPs and employment advisers also invited to participate in interviews.
Study findings	**16 (72.7%) of patients were female** **Contextual factors** Around a third of clients acknowledged having mental health difficulties in the past, mainly related to depression and anxiety and some with physical health conditions. Many retain clients felt that difficulties at work had played a large role in the deterioration of their mental health and subsequent time off work. The difficulties were often multi-faceted with more than one area contributing to adverse pressures and dissatisfaction, including organisational changes, restructuring and new ways of working *"I did tell my manager probably 2 months before I was off that if it carried on I would have to leave because I couldn't put up with it, but it carried on, nobody listened. (P20)"- Retain client* **Mechanisms** 4 mechanisms were identified from the analysis in helping both Retain and Regain clients achieve change: Confidence, taking control, moving forward and broadening horizons. <u>Confidence</u> For retain clients psychometric profiling increased confidence by highlighting their strengths and skills and allowing them to review and reinforce their beliefs about their capabilities. *"I spent time with the EA going through (an occupational health report)…I've written this script…I've brought it in and said, look, this is what I want to say to the boss, what do you think, and he'll go through it with me and said, yes, that's good, no, say it this way, you know offer them some middle ground and all that sort of thing and that's been absolutely invaluable" (P5) Retain client* <u>Taking control</u> Several clients who returned to work from sick leave described how they had been able to take greater control over their working conditions. Examples included becoming more disciplined about managing their workload and working hours to achieve a better balance and developing strategies to identify pressure that could arise. Two GPs talked

Study	Pittam 2010
Bibliographic reference	Pittam G, Boyce M, Secker J, Lockett H, Samele C (2010) Employment advice in primary care: a realistic evaluation. Health and Social Care in the community.18(6), 598-606
	about patients becoming empowered and gaining greater autonomy in terms that echoed the greater control over their lives and work described by clients: *"Patients with mental health problems often find that they feel like everything is controlling them and that's part of the reason they've got depressed or anxious in the first place…Then through seeing [EA] they've kind of now got some control over things and feel that they're more in control of things and that's invaluable. (GP4)* Moving forward Across client groups a sense of moving forward emerged which was linked to the EAs approach of encouraging clients to take responsibility for some of the work required: *"We both go off and look at our different things then come back and reconvene and talk about where we've got to and then see what else we can do to try and progress things (P10)* Broadening horizons Enabling clients to look beyond their current horizons was seen as a key aspect of careers guidance. Many clients who returned to work were exploring alternative careers and the knowledge that moving on to something different in the future was an option that made returning to work more manageable and sustainable: *"It was very hard to go back to work, but I knew I had to do it so I found ways of coping…That kept me going the fact that there was potentially something else that I could move on and do something; that I wasn't going to be stuck and feel trapped in this job forever" (P3)* The following summary statements represent an attempt to describe what works for both retain or regain clients (No quotes to support this section, it is a summary of findings). For people with mild to moderate mental health problems on sick leave return to work was supported by: 1. Practical work focused support 2. Careers guidance 3. Strategies and scripts for negotiating with employers For unemployed people with mild to moderate mental health problems, progress towards returning to work was supported by: 1. Practical support such as job search, CV writing or interview technique practice 2. Careers guidance which increased clients confidence in their abilities and broadened their horizons regarding career choices, with the caveat that test results could be unhelpful if they did not match aspirations for career change 3. Assertiveness training

Study	**Pittam 2010**
Bibliographic reference	**Pittam G, Boyce M, Secker J, Lockett H, Samele C (2010) Employment advice in primary care: a realistic evaluation. Health and Social Care in the community.18(6), 598-606**
Evidence statements Themes/results contributed to	
Source of funding	Not reported
Related publications	
Comments	**Limitations noted by authors:** This study is limited in scale **Limitations noted by reviewer:**
Quality assessment	**Good- Overall qualitative research principles adhered to. No major limitations identified**

D.4.6 Sallis & Birkin 2014

Study	**Sallis and Birkin (2014)**
Bibliographic reference	**Sallis Anna, and Birkin Richard. (2014). Experiences of work and sickness absence in employees with depression: an interpretative phenomenological analysis. Journal of occupational rehabilitation, 24(3), pp.469-83.**
Study type	Qualitative – an interpretive phenomenological analysis (IPA)
Aim	This study explores how individuals' subjective beliefs and experiences of work and depression manifest themselves in moves to and from sickness absence. The aim is to develop our understanding of the type of support these individuals may require to retain their employment and avoid sickness absence.
Workplace setting	A multi-agency national public sector organisation with over 70,000 staff and offices located throughout the United Kingdom.
Study dates	**Not reported**

Study	Sallis and Birkin (2014)
Bibliographic reference	**Sallis Anna, and Birkin Richard. (2014). Experiences of work and sickness absence in employees with depression: an interpretative phenomenological analysis. Journal of occupational rehabilitation, 24(3), pp.469-83.**
Research parameters/methods	Recruitment emails were sent to around 250 staff in specific sections of the organisation requesting volunteers who had: taken more than 5 days diagnosed depression-related sick leave in the previous 2 year (not including postnatal or bipolar conditions); were not senior civil servants; were full-time employees; and did not have a physical disability. Semi-structured interviews took place at the participant's workplace in private and lasted between 35 and 120 minutes. Interviews were recorded and transcribed verbatim. An interview schedule was designed with neutral questions to avoid influencing participants' answers. Three broad areas of discussion were: (i) the experience, impact and management of depression in relation to work (ii) depression-related sickness absence and return to work (iii) reflections on how depression-related sickness absence could have been avoided. Interview questions were used as a guide to aid interview progress. The aim was to allow participants to raise the issues pertinent to their own experiences. Data analysis followed guidelines for IPA. Ethical approval was obtained from City University Ethics Committee. Departmental trade union representatives provided clearance for the study. Participants provided written consent to be interviewed and agreement to publication. Coherence and credibility of themes was addressed through collaboration with the second author, an Occupational Psychologist who was consulted throughout analysis and write-up to ensure the lead researcher's interpretations of participants' accounts were supported by the data and to provide a broader perspective for the interpretation of data
Population	Seven employees participated, 2 females and 5 males aged between 30 and 60. Self-reported sickness absence ranged from 1 day to 4 months. All but one also reported a diagnosis of anxiety. Time since diagnosis ranged from 3 months to 22 years. Three participants were, at the time of interview, moving between work and intermittent, short-term (up to a week) absence. Three participants had one period, and one participant had two periods of absence in the previous 2 years.
Study findings	**Organisational Context and Depression** the experience the organisation's sickness absence policy was applied unfairly and this was an additional

Study	Sallis and Birkin (2014)
Bibliographic reference	Sallis Anna, and Birkin Richard. (2014). Experiences of work and sickness absence in employees with depression: an interpretative phenomenological analysis. Journal of occupational rehabilitation, 24(3), pp.469-83.
	source of stress - Nick *''Yesterday I had the come back to work interview with my line manager and he was very sympathetic and said well he'd had to take advice in terms of what to do and if he was forced to he might have to take official action (…) if you suffer from anxiety and depression these sorts of procedures don't help (…) not only does it not help it's a real contributory factor to a downward spiral to more sickness.''* **Enabling Better Health and Work Outcomes** Where work situations were believed to have contributed to depression, those on longer term absences sought reassurance about how things would be different on return to work. This involved discussing different job roles, working with different line managers, graded returns and agreeing time off for appointments. At the start of his sick leave Mike doubted he would ever be able to do his job again. But as his symptoms improved and he made contact with the workplace, he then began to believe that he could return to work. Mike *''Mentally around that time I was thinking yes I'm ready to kind of go for the challenge again (…) then it just felt like building up my confidence to kind of re-enter the world, because even when I was starting to think about things the idea of going back to work did still scare the shit out of me, and then just gradually over time it became easier to consider in two ways.''* Mike then talks about his line manager suggesting he moves post and a colleague offering him another job. For Patricia when her line manager talked about adjustments to her work role she felt her manager was being more understanding and felt encouraged to go back. Patricia *''We had a reasonable conversation, I think that helped me in going back in a way, in that he was being quite reasonable and we had a conversation about what I could do and maybe work at home more and not have to go to [office location] all the time and stuff like that for just a while and that you know that made me feel that 'okay he's not gonna dump me in it'.''* However, not knowing what to expect at work, and thinking of returning to a similar or worse situation to that which preceded sick leave discouraged participants from going back to work. **Lack of line manager support** Inaction by line managers was thought to compound issues. One participant explained to his line manager that his social phobia makes talking in meetings and going to away days difficult. He would have preferred to be excused from them but this did not happen. This feeling of being unsupported in the workplace is believed to have affected their decisions about work.

Study	Sallis and Birkin (2014)
Bibliographic reference	**Sallis Anna, and Birkin Richard. (2014). Experiences of work and sickness absence in employees with depression: an interpretative phenomenological analysis. Journal of occupational rehabilitation, 24(3), pp.469-83.**
	Leslie *''Never had my objectives set, didn't have a weekly team meeting, we said we were going to have one we didn't, we had one in six months, replies to e-mails from my boss, you know, just really basic stuff that makes you feel supported and appreciated at work, if you get that then you want to come into work.''* Nick ''*If you ask me why I was off for a week I would say probably if I'd have felt valued in a sense of what I was doing and that I had people around me that I could talk to on a minute by minute basis and sort of people that understood what I was doing then it may maybe I wouldn't have been off…*'' Some participants thought their sickness absence could have been prevented with appropriate support, yet they questioned whether their managers had the skills to provide this support
Evidence statements Themes/results contributed to	
Source of funding	Based upon a research project completed in part fulfilment of the lead authors MSc in Health Psychology, funded by the Department for Work and Pensions.
Related publications	**n/a**
Comments	**Limitations noted by authors:** Although the sample size is appropriate for the chosen methodology, caution should be used when considering generalisation as the full range of experiences are unlikely to have been represented within this small sample of participants. The purpose of this type of research is transferability not generalisability. The themes can therefore be expected to be found in other similar samples of employees with depression-related sickness absence. The work contributes to the body of knowledge on depression and sickness absence through comparison with relevant theory and evidence. This enables consideration of psychological and other factors that may have influenced individuals by mediating their behaviour.

Study	Sallis and Birkin (2014)
Bibliographic reference	**Sallis Anna, and Birkin Richard. (2014). Experiences of work and sickness absence in employees with depression: an interpretative phenomenological analysis. Journal of occupational rehabilitation, 24(3), pp.469-83.**
	It is possible that those who volunteered to take part in the study may have less positive experiences of their employers' response to depression and took part in the research to vent frustration or attempt to change their circumstances or organisational policies. **Limitations noted by reviewer:** No description of how specific elements of the organisation were selected – unclear if it was due to sickness absence rates for example
Quality assessment	**++** no significant methodological or analytical concerns, that would affect the outcomes or utility of the evidence

D.4.7 Wainwright 2011

Study	Wainwright et al 2011
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2011). Fit for purpose? Using the fit note with patients with chronic pain: a qualitative study. *The British journal of general practice : the journal of the Royal College of General Practitioners*, 61(593), pp.e794-800.**
Study type	Qualitative – using grounded theory principles for analysis
Aim	To explore GPs' views on the fit note, with particular reference to sickness certification for patients with chronic pain.
Workplace setting	GP practices, same setting that certification takes place
Study dates	Interviews were conducted in the participants' workplaces from April to October 2010: following introduction of the fit note.
Research parameters /methods	Qualitative, in-depth semi-structured interviews were conducted with 13 practising GPs from 11 practices in the south-west of England, recruited at three GP training events and by sending a flyer to practices.

Study	Wainwright et al 2011
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2011). Fit for purpose? Using the fit note with patients with chronic pain: a qualitative study. *The British journal of general practice : the journal of the Royal College of General Practitioners*, 61(593), pp.e794-800.**
	A qualitative approach was deemed most suitable, as this research needed to be conducted with stakeholders going through the process of sickness certification. Participant queries were discussed, and informed consent was given prior to interview. These were audio recorded, transcribed, and coded. Saturation sampling was used, in which new interviews are conducted until no new themes emerge from sequential data analysis. Grounded theory principles were used to analyse the data NVivo 8 software was used to organise the analysis. One researcher used open coding to generate potential codes, accompanied by verbatim quotations. These codes were explored and organised into analytical hierarchies, until core categories were established. A second researcher took a selection of the quotations and categorised them into the previously identified core concepts. Differences in interpretation were discussed until consensus was reached. Ethical approval for this study was granted by Bath Local Research Ethics Committee (09/H0101/72).
Population	The 13 GPs had been practising for a median of 19 years. Four had specialist occupational health qualifications, and 10 were male.
Study findings	**The rationale behind the fit note is sound and may help patients with chronic pain to return to work earlier (acceptability)** All participants expressed that if physical risk factors are controlled, work is beneficial to health and that patients do not have to be 100% fit in order to work: 'Well, I don't think any doctor would disagree that work is good, would they?' (GP1) The great majority liked 'The positive spin on the fit note as they're looking to see what patients can do rather than what they can't and that is a really positive message.' (GP8) Most said that the fit note would help them to focus the consultation on capacity not incapacity, and that this would be particularly useful in cases where they believed the patient should be returning to work and were meeting resistance.

Study	Wainwright et al 2011
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2011). Fit for purpose? Using the fit note with patients with chronic pain: a qualitative study. *The British journal of general practice : the journal of the Royal College of General Practitioners*, 61(593), pp.e794-800.**
	GPs were very aware of the need to negotiate with patients who may not want to return to work. Only one GP was willing to refuse to sign someone off if directly asked, although all GPs had negotiation strategies. These included issuing notes for shorter periods each time, actively engaging patients in target setting, and contacting employers by letter as well as via fit notes to try to get specific support for patients (the latter had not been well responded to). These tactics were summarised by GP 11: 'It's a sort of negotiation, isn't it, you need a lever, and then what you can offer to somebody is being signed off, at least initially. What they can offer back is listening, and being willing to think afresh.' 'They do allow us to make more nuanced comments. The boxes are a useful reminder of the things we can say, so instead of just writing "Phased return to work", which I might have written anyway on the old Med 3, as "Phased return to work" is already written out for me, I have found I am expanding my words and putting in more detail and saying things like "Phased return to work, needs to start with coming in from 10am to 3pm 5 days a week for the first 2 weeks".' (GP10) A minority of GPs were able to give concrete examples of how the fit note might promote return to work: 'The most recent one was a legal secretary who has painful wrists, repetitive strain type injury, so I was able to say I thought she could go back with perhaps reduced hours and not to do the filing, which was particularly heavy on her wrists. Hopefully she's back at work sooner than she might be otherwise and rehabbing.' (GP13) However, some were unenthusiastic, as they believed that they had always used the Med 3 to make return-to-work suggestions: 'I think it's good in some respects because it gets you thinking, but to be honest, most of us think like that anyway, and most of us are trying to encourage a return to work.' (GP8) 'They've not really changed my practice as I was using the old Med 3 comments box anyway, and writing about phased returns.' (GP5) **Barriers to successful fit note use** The need to preserve doctor–patient relationships. The change from sick to fit note had made no overt difference to what any of the study participants believed about preserving the doctor–patient relationship: *'I think the fit note system, the return-to work negotiations, should be patient/employer-led, rather than the doctor, because we are very*

Study	Wainwright et al 2011
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2011). Fit for purpose? Using the fit note with patients with chronic pain: a qualitative study. *The British journal of general practice : the journal of the Royal College of General Practitioners*, 61(593), pp.e794-800.**
	precious about the doctor–patient relationship. I mean, you can push gently, but if someone says "No, definitely not", you know, I haven't the courage to then have an argument with somebody.' (GP7) **Inconsistent engagement from employers (barrier).** GPs reported mixed responses from employers, summed up by GP8's comments that: 'Sometimes you get very, very supportive employers and sometimes you get completely unsupportive employers who don't understand the processes at all.' A minority of GPs believed that employers are usually deficient in their responses to the fit note: '*I think I understand what it's about but I don't think employers do ... this rules is rules business, HR [human resources] say you are not allowed to come back unless you are 100% fit, we have this discussion a lot when I am trying to get people back to work to do something.'* (GP6) Six GPs commented that a positive aspect of the fit note is that: *'It puts the onus on the employer'*. (GP6) and: '*It might send a message to employers concerning their duty of care to their employees.*' (GP11) Most GPs recognised that employers might not always respond to 'amended duties', as these options might simply be unavailable, especially within small organisations. This left some GPs feeling that completing the fit note was: *'Just a waste of time, unless the actual duties are there.*' (GP8) **GPs' lack of specialist occupational health knowledge and knowledge of the workplace (barrier)** *'The trouble is, of course, as a GP, I don't necessarily know much about their work*.' (GP6) Even GPs trained in OH noted too many competing angles within a sickness certification consultation for such consultations to be effective, and that the fit note does not help this: '*The government's asking GPs,who have no OH training and who have no knowledge of the person's workplace, to make judgements about occupational fitness and I'm not sure that we're necessarily the best people for that. We should be the patient's advocate not the occupational health's advocate. We're not really qualified and we don't know enough about the job and we've got 10-minute appointments. Occupational health really needs longer than that and, you know, you're dealing with important issues here; you're dealing with people's livelihoods, sick pay, and all the rest of it. So, although I can see the rationale behind it and I can understand that, I think, we've been put in a slightly difficult position here and we haven't got a choice.'* (GP8)

Study	Wainwright et al 2011
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2011). Fit for purpose? Using the fit note with patients with chronic pain: a qualitative study. *The British journal of general practice : the journal of the Royal College of General Practitioners*, 61(593), pp.e794-800.**
	The large majority of GPs believed that short consultations impede proper use of the fit note, as there isn't time to investigate fully the patient's job or to engage in useful negotiation: '*And the fit note's ideas are great, but we haven't got the time really. And patients often have great difficulty describing what their job is. And it becomes a very generalised discussion really.*' (GP9) **Not sure it's my job...** The majority of GPs also said that they would be blamed if sick-listing rates do not reduce, and that this is unfair as it does not take into consideration factors that influence whether or not a patient returns to work, such as other support on offer and whether work itself exacerbates poor health: '*We are being made to do the government's work for them for nothing. And that's the message that comes across. Loud and clear. And it'll be our fault if we can't change how we handle our patients. But what if there are no good jobs for them, and it takes ages to get referrals through [to specialist pain or rehabilitation services]?*' (GP4) *'I mean most of the time I think work is therapeutic—it's better to get back to work and be normal. But for some people, work is the issue, so then I write them a sick note.*' (GP12) **Issues with fit note training.** A majority of GPs said they simply had no time to read the 18-page DWP training document that was emailed to every practice, and some were resentful: '*I hadn't got time to do that ... we're just bombarded with things to do all the time.*' (GP1) *'We're cross, a lot of us are cross about all the new things we have to do. This is a tiny part of what we have to do.*' (GP10) No GPs were aware of additional online resources available to them, such as DWP leaflets for GPs and patients, and topic headings for GPs to use within consultations. When researchers offered copies of these resources, nine GPs were pleased to accept: *'These are very helpful, because actually sickness certification is a tricky thing.*' (GP8) The other four GPs said they had no time to look at these resources. Only three GPs were aware of the 'work, health, and wellbeing' training sessions on offer from the RCGP, which include the fit note. Suggested payment for attending and double CPD credits would enable this.

Study	Wainwright et al 2011
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2011). Fit for purpose? Using the fit note with patients with chronic pain: a qualitative study. *The British journal of general practice : the journal of the Royal College of General Practitioners*, 61(593), pp.e794-800.**
Evidence statements Themes/results contributed to	
Source of funding	The study was funded by an unrestricted grant from the University of Bath (EA–FH1005). The authors have declared no competing interests.
Related publications	**n/a**
Comments	**Limitations noted by authors:** The semi-structured interviews allowed indepth exploration of complex issues. The authors acknowledge that the purposive sampling strategy probably influenced the findings. Participants were not reimbursed for lost time; GPs stated that they participated because they were interested in chronic pain, and/or return-to-work issues. These GPs may have been more aware of issues to do with sick-listing for patients with chronic pain than would have been the case with stratified or random samples. However, participants gave freely of their time, so were engaged in the interview process, providing detailed responses and commitment to the research. These findings arise from a small sample of south-west GPs in populations experiencing relatively low levels of unemployment and illness-related work absences compared to other areas of the UK. GPs working with different populations need to be examined. Peer audit was used to enable replication and to ensure credibility, as an experienced health-services researcher checked the primary researcher's initial coding. This research specifically focused on chronic pain conditions, but many of the findings may be transferable to patients with other chronic and non-specific health complaints **Limitations noted by reviewer:** May have been useful to understand which GPs self-selected via flyer and who was openly recruited at events, as this could have resulted in GPs with different experiences or positive/negative opinions being recruited – in one way this is good but would have been useful when critically appraising the paper to know who had self-selected, to determine whether there may be some self-selection bias/over positivity/bias towards skills or Occ Health qualifications etc... in those who self-selected via flyer

Study	Wainwright et al 2011
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2011). Fit for purpose? Using the fit note with patients with chronic pain: a qualitative study. *The British journal of general practice : the journal of the Royal College of General Practitioners*, 61(593), pp.e794-800.**
Quality assessment	**++** Overall rating: Good no significant validity, methodological or analytical issues evident, useful outcomes that could transfer to other population groups, consideration of checking coherence with other GP fit note based research recommended.

D.4.8 Wainwright 2013

Study	Wainwright et al 2013
Bibliographic reference	**Wainwright E, Wainwright D, Keogh E, and Eccleston C. (2013). Return to work with chronic pain: employers' and employees' views. *Occupational medicine (Oxford, and England)*, 63(7), pp.501-6**
Study type	A qualitative study, comprising semi-structured interviews with employers who had managed sick leave cases and employees who had experienced sick leave for chronic pain.
Aim	To investigate employers' and employees' experiences of managing RTW when someone has taken sick leave for chronic pain and to explore the perceived efficacy of the fit note
Workplace setting	Various-not reported
Study dates	Interviews were conducted from January to April 2011.
Research parameters/ Methods	Semi-structured interviews were conducted with 13 employers and 13 employees participants had to be at least 18 years old and able to provide informed consent. Recruitment methods: 1. meetings between university and businesses, designed to encourage research collaboration on research into work, health and well-being 2. placing adverts on the websites of four pain charities and one chamber of commerce. Ten participants in each group (employers and employees) were unknown to each other. There were three line manager/employee pairs. Each participant was interviewed separately, but pairs knew that interviews would discuss the same case of sick leave.

Study	Wainwright et al 2013
Bibliographic reference	**Wainwright E, Wainwright D, Keogh E, and Eccleston C. (2013). Return to work with chronic pain: employers' and employees' views. *Occupational medicine (Oxford, and England)*, 63(7), pp.501-6**
	An interview scheduled was used. Interviews were audio-recorded, transcribed and coded. Constructivist grounded theory principles were used to analyse the data. On researcher coded all interviews a proportion were dual coded by 2nd researcher, differences were discussed until broad consensus was reached. NVivo 9 was used to organise the analysis. Ethical approval was given by Bath University's Research Ethics Approval Committee for Health.
Population	Employees had to be in employment and have needed a sick or fit note within the last year, or be on current sick leave; to have consulted their GP in the last year; to have experienced pain lasting over 3 months within the last year and to consider chronic pain to be the major reason for sickness absence. Employers had to have some experience of managing sick leave for an employee with chronic pain.
Study findings	**Five themes were elicited:** **Frequent enquiry after health status was seen as intrusive by some employees but part of good practice by employers and acknowledging this difference was useful.** One employee wanted what she reported as proper understanding rather than her employer simply asking how she was and not really being concerned about the answer. This had initially been seen as a source of tension for both employer and employee, until they discussed how to manage this verbal interchange *'I've had long conversations with [X] saying "d'you want me to ask if you are in pain or d'you want me to ignore it?" You know, we come in and say, "hi, how are you today?" and if [X] isn't feeling well, I understand that, so I say "would you prefer me not to say that?" and [X] says "no, it's fine, it's okay to talk about it", so we try and normalise it as much as possible' Employer 9* **Being able to trust employees due to their performance track record was helpful for employers when dealing with complex chronic pain conditions.** Managers used holistic knowledge of employees to assess the authenticity of illness claims

Study	Wainwright et al 2013
Bibliographic reference	**Wainwright E, Wainwright D, Keogh E, and Eccleston C. (2013). Return to work with chronic pain: employers' and employees' views. *Occupational medicine (Oxford, and England)*, 63(7), pp.501-6**
	It's partly adjusting his hours but also making sure that if he felt he couldn't do two hours, if after one hour 40 minutes he said "that's enough" then he could go home. I know he'll do his best, he always does. For that particular problem of pain I think that helps, but I think the most important thing is that he knew that he could say, and we'd believe him' Employer 10 **Feeling valued increased employees' motivation to RTW.** This mirrored employers' reports of the value of trust, as employees stated that physical adjustments to workstations, flexi-time and sometimes taxis to work were important in enabling them to work, not just practically but also as symbolic gestures of trust and value *'I've got a different chair … and I don't have to twist and turn at all … they [the company] just agreed without question, which really helped me feel valued, and that's really made a huge difference' Employee 1* **Policy about maintaining contact with absent employees were useful if used flexibly.** Both parties reported being flexible with procedures was useful One employee discussed how he encouraged his supervisor to telephone with work queries, although the supervisor was initially unsure *'He wasn't too comfortable with doing that, because, in his eyes I'm signed off sick, and so I shouldn't be doing anything work related, which I understand, but from my point of view, that helps me dread less the return to work. I knew that these things were being taken care of in my absence'* Employee 9 **The fit note is valued for its positive language, interrogative format and biomedical authority** Employers like the positive language and format, which they thought encourages conversation between them and their employees. Several employees also discussed how its format, relative to the old sick note, had benefited RTW negotiations, and was also symbolic of the more detailed discussions now taking place between GP and employees off work. *'I believe the well note* [sic] *is better because it opens things up and is more transparent for us'* Employer 1

Study	Wainwright et al 2013
Bibliographic reference	**Wainwright E, Wainwright D, Keogh E, and Eccleston C. (2013). Return to work with chronic pain: employers' and employees' views. *Occupational medicine (Oxford, and England)*, 63(7), pp.501-6**
	'I think psychologically it makes a difference, because you feel like you're getting somewhere. I mean, with the old sick note, wasn't it just you're sick and can't go to work, or not sick and can go to work? That's pretty categorical, and doesn't appreciate the grey areas. I don't think it's as simple as that. And I think for me, it was nice to see on the back of that note, "fit for work" because it felt like a little bit of a victory, because I'd been unfit for such a long time and that kind of spurred me on to get back to work' Employee 9 *'My own idea about sick notes is that they're not really interrogative - they just sort of say, ok sign, here you go … that doesn't really actually work when you've got to take that to your employer. This note* [fit note] *reflects that you've had a conversation with your GP, and your GP's agreed these things with you … I know I felt more comfortable knowing that there'd been these conversations going to my employers, because I felt I had more to tell them, more than just, oh, I'm off sick … I'm sick because the doctor says I'm sick'* Employee 9
Evidence statements Themes/results contributed to	
Source of funding	University Research Studentship (EA-FH1005); Alumni Fund grant (F1112-09-ASH).
Related publications	Wainwright et al 2011 and Wainwright et al 2015
Comments	**Limitations noted by authors:** small study; its size and recruitment strategy limit the transferability of findings: results from a small non-random sample cannot be generalized; volunteers have certain characteristics that may lead to systematic bias did not explore the demographics collected in detail, which could be done with a larger, more representative study **Limitations noted by reviewer:**

Study	Wainwright et al 2013
Bibliographic reference	**Wainwright E, Wainwright D, Keogh E, and Eccleston C. (2013). Return to work with chronic pain: employers' and employees' views. *Occupational medicine (Oxford, and England)*, 63(7), pp.501-6**
	Knowledge that employee/line manager (i.e. 3 pairs), may have affected the positivity or negativity of the responses in some interviewees. Not described whether there was an consideration or further analysis of this prior to final inclusion of the paired data
Quality assessment	**+ Overall rating: moderate,** overall good methodological approach but small sample plus the paired elements that do not appear to have been overtly considered in terms of the potential bias that may have resulted reduces some certainty

D.4.9 Wainwright 2015

Study	Wainwright et al 2015
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2015). The social negotiation of fitness for work: tensions in doctor-patient relationships over medical certification of chronic pain. *Health (London, and England : 1997)*, 19(1), pp.17-33.**
Study type	Authors judged qualitative interviewing to be the most effective way of accessing these meanings. The research was informed by Grounded Theory and the assumption that there are categories which help us to understand individual realities, making the shared creation of social reality possible and observable
Aim	Not clearly reported – seems to be: To identify and understand the experiences of GP and patients (with chronic pain) of negotiating medical certification for work absence and their views of the new policies (fit note as opposed to sick note).
Workplace setting	Not reported/varied as patients from across UK
Study dates	Interviews with doctors were conducted from April to October 2010, face to- face in their surgeries, every doctor's preference. Interviews with patients were conducted from April to October 2010. A total of 27 out of 30 patients were interviewed over the phone as they lived all over the United Kingdom.
Research parameters /methods	• purposive sampling to select information-rich participants • collected data until saturation occurred, that is, until new data failed to generate new • theory

Study	Wainwright et al 2015
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2015). The social negotiation of fitness for work: tensions in doctor-patient relationships over medical certification of chronic pain. *Health (London, and England : 1997)*, 19(1), pp.17-33.**
	Participants were recruited in two groupings: practising GPs, and patients who had discussed sick-listing for chronic pain. • 13 practising GPs from 11 practices in the south-west of England were recruited at three GP training events and at practice meetings. • 30 patients were recruited by displaying posters in surgeries through researcher attendance attendance at regional pain management services, and nationally by placing a request for participants on UK pain charities' web sites (24% of patient participants were via pain clinics) Interviews were audio-recorded, transcribed and coded. GTMs principles were followed for data analysis (Charmaz, 2006; Green and Thorogood, 2004). One researcher used open coding to generate potential codes, accompanied by verbatim quotations. Constant comparison was used to interrogate initial codes, organising them into analytical hierarchies until core categories were established. A second researcher took a selection of the quotations and categorised them into the previously identified core concepts. Differences in interpretation were discussed until consensus was reached. NVivo 8 software was used to organise the analysis. *Ethical approval* National Health Service (NHS) ethical approval was given by Bath Local Research Ethics Committee (09/H0101/72) and the Departments of Health and Psychology Ethics Committees, the University of Bath.
Population	**GPs** were not screened as there were no other exclusion criteria for them other than their occupation **Patients** were screened to ensure they met the following inclusion criteria. They had to • be in employment and have needed a sick or fit note within the last year, or on sick leave and require notes for wage-replacement benefits;

Study	Wainwright et al 2015
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2015). The social negotiation of fitness for work: tensions in doctor-patient relationships over medical certification of chronic pain. *Health (London, and England : 1997)*, 19(1), pp.17-33.**
	• have consulted their GP in the last year • have experienced pain that had lasted for over 3 months within the last year; • consider that chronic pain was the major reason for sick-listing
Study findings	***The doctor's dilemma: double uncertainty*** Uncertainty about diagnosis was compounded by ignorance of patients' working conditions; this double uncertainty rendered decisions about capability for work challenging: It's extremely difficult because you can't see somebody's pain. Quite often the patients just bounce into the surgery and don't look like they've got pain at all … they're the problem ones. *They say they've got agonising back pain and can't possibly work, but there's no objective evidence … (GP 2)* *and … the trouble is, of course, as a GP, I don't necessarily know much about their work. (GP 6)* Even doctors with OH qualifications reported that *There's factories and there's factories, there's shops and shops … some of the shops have nice, wide, light, airy aisles and every manual handling device you can imagine whereas … the charity shop you go up and down three flights of twisting stairs, carrying boxes as you go. (GP 13*) Doctors related their unwillingness to refuse a note to their conviction that this is not their job, as they need to privilege their on-going relationship with patients: *I think ultimately if they want a note, they'll get it. I might try and persuade them back to work and advise them that perhaps it's in their interest but there are some people who are determined to have it and then I don't see it as our job to stop that. I know that they'll be assessed by a benefits doctor and they're not looking for a long-term relationship with the patient. I suppose I'd begrudgingly give the note in the knowledge that there's another doctor who's independent and doesn't have that long-term relationship who will actually make a judgement … whether they're fit or not. (GP 13)* Some doctors claimed that the government was asking them to police the benefits system whereas that was not what they felt doctoring should encompass. Such policing involves making moral judgements which some doctors felt uncomfortable about

Study	Wainwright et al 2015
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2015). The social negotiation of fitness for work: tensions in doctor-patient relationships over medical certification of chronic pain. *Health (London, and England : 1997)*, 19(1), pp.17-33.**
	'I'm not a health policeman' (GP 8)" **Patients' experiences of sick-listing: a struggle for validation** most were confident they would eventually get a sick or fit note if they wanted one, but often felt delegitimised by the process: *I must admit I've routinely made damn sure somebody does see me when my back is bad, because I think it's just too easy to … you know, to wait till you're better and then go down the doctors'. I talk to fight, if you know what I mean. But then you realise underneath, actually I wish I wasn't fighting. (Patient 1)* **Will the recent policy initiatives work?** Doctors' views solely on the fit note have been discussed elsewhere (Wainwright et al 2011)... *If I wasn't claiming any money from anybody, nobody would care. They wouldn't talk about the benefits of working and benefits to society they wouldn't give a stuff about these things. What it boils down to is money. The rest of it is just kind of fancy rhetoric. (Patient 1)* These patients felt pressurised by what they viewed as harsh government policies which posit sick-listed people as malingerers. If patients perceive return to work as a politically motivated drive to cut welfare costs, rather than a means of genuinely improving their lives, there is a danger that further absence from work will be constructed as a form of 'political resistance' to austerity measures and a means of preserving hard-won benefits and entitlements. Other patients viewed the policy initiatives more positively, for instance, valuing the shift in emphasis from incapacity to capacity for work, and the possibility that the recommendations given in a fit note might encourage employers to provide more support for return to work: *My employers will see what I can do more clearly … I'm hopeful this might help me get more targeted support … I need some steps [to reach shelves] then I can do more, so maybe my GP can say that, or maybe my boss can change my duties a little bit. (Patient 28)*

Study	Wainwright et al 2015
Bibliographic reference	**Wainwright Elaine, Wainwright David, Keogh Edmund, and Eccleston Christopher. (2015). The social negotiation of fitness for work: tensions in doctor-patient relationships over medical certification of chronic pain. *Health (London, and England : 1997)*, 19(1), pp.17-33.**
	Although some patients hoped that the advice given in the fit note would make their employer *'sit up and take notice' (Patient 19)*
Evidence statements Themes/results contributed to	
Source of funding	This work was supported by two unrestricted grants from the University of Bath: a University Research Studentship (grant number EA-FH1005) and Alumni Fund grant (number F1112-09-ASH).
Related publications	**Wainwright et al 2011**
Comments	**Limitations noted by authors:** none **Limitations noted by reviewer:** Transferability is questionable, underpinning quotes are limited to support the themes, detail of the patient consideration of the fit note is particularly unclear.
Quality assessment	**+** moderate – no methodological issues but analysis and reporting is limited – results are relevant but detail and transferability to others is limited.

D.4.10 Welsh et al 2012

Study	Welsh et al 2012
Bibliographic reference	**Welsh Victoria K, Mallen Christian D, Wynne-Jones Gwenllian , Jinks Clare. Exploration of GPs' views and use of the fit note: a qualitative study in primary care. Br JGenPract May 2012; e363-e370.**
Study type	Qualitative study – Semi-structured telephone interviews of GPs recruited from a national sample
Aim	To evaluate GPs' views of the fit note during its first year of operation and to explore whether further actions are required for the fit note to achieve its objectives.
Workplace setting	GPs based in different geographical locations throughout the UK
Study dates	Interviews conducted between August and November 2010.
Research parameters/ Methods	Semi-structured telephone interviews of 30-60 minutes in length, were carried out by one researcher with GPs, 10 located in practice, 5 at home**.** Consent was obtained for participation in the study, for interviews to be recorded and for quotation use. Interviews were transcribed verbatim. Data analysis was continuous and iterative. Thematic analysis was undertaken using constant comparative methodology facilitated by NVivo 8. The first transcript was independently read, re-read, and coded by two researchers. These codes were discussed and revised where appropriate and were then applied to a second transcript, followed by discussion and comparison across these first two datasets. Any discrepancies in coding were discussed until consensus was reached. The resulting coding frame was then applied to the remaining transcripts by a single researcher. Themes were compared across participants (complete dataset) and within individual accounts to understand them in context. No new themes arose after 14 of the 15 interviews. Study approval was granted from the North Staffordshire Research Ethics Committee (reference number: 10/H1204/10).
Population	15 GPs (6 female, 9 male). Time worked in general practice ranged from 5-32 years (median 21 years). 11 were partners, 3 salaried, 1 locum. 10 full-time, 5 part-time. 5 practices were located in cities, 7 in towns, 3 in small towns. Approximate practice lists ranged from 2,600-15,500 patients. 3 GPs had occupational health specialist training.
Study findings	**Changing philosophies and clinical practice**

Study	Welsh et al 2012
Bibliographic reference	Welsh Victoria K, Mallen Christian D, Wynne-Jones Gwenllian , Jinks Clare. Exploration of GPs' views and use of the fit note: a qualitative study in primary care. Br JGenPract May 2012; e363-e370.
	All participants acknowledged the philosophy that work is good for health. Some noted a change in their perception of sickness certification and felt the fit note enabled a positive approach, empowering them to engage with the patient regarding health as opposed to sickness. *'As regards qualifying the ability of someone to return to work, then I feel it's been a step forward and … I'm happier signing sick notes now than I was in the olden days ... feel that the note has a different role. It can now act as a sort of "Let's try you back at work and see", erm,* whereas I think both myself or GPs and patients regarded it as a "You're off or you're fully back".' Others felt the fit note had not changed their practice because they were already encouraging a return to work. '*I think it must—it might make people think about, you know, the way they can get back you know, people back to work, which is a good thing. I mean, I like to think that I was thinking that anyway.'* No negative perceptions regarding the philosophy underpinning the fit note were reported, though one participant noted that it negatively impacted on his work because it was difficult to change a 'lifetime of practice'. **Facilitating negotiation** Participants noted that the options for work amendments printed on the fit note, raised their awareness of working with ill health and lead to negotiations with patients at an earlier stage. They also acted as a visual aid which helped them in their negotiations with patients. '*And I think for some GPs it probably raises their awareness of, there is the option of amended duties or short hours and stuff …it just sort of makes it more at the top of my mind if someone asks for a fit note. I have this instant reminder that I should maybe challenge the patient's assumption that they need to be off sick. And it certainly makes it easier to negotiate with the patient, you know, there are, I can sort of say, you know, there are these options, which your*

Study	Welsh et al 2012
Bibliographic reference	Welsh Victoria K, Mallen Christian D, Wynne-Jones Gwenllian , Jinks Clare. Exploration of GPs' views and use of the fit note: a qualitative study in primary care. Br JGenPract May 2012; e363-e370.
	employer can be asked to consider … I can, I can gently challenge them. I think it has made a big difference because I think I opens up those options more'. It was also felt that having the return to work options listed in a tick box format gave the fit note an 'authority'. '*I think patients believe that they're going to be … it's going to be taken notice of more because it's all printed on the certificate and I'm ticking to say that that's got to occur. I think they feel a bit more authority to that…'* **Efficiency** Participants noted both some positive and some negative impacts on their work efficiency. The amalgamation of previous sickness certificates was considered to have a positive impact as it reduced the burden of having to select the correct form from a previously confusing array of forms. *'No, I'm glad to get rid of Med 5, sorry, Med 4.FMed—sorry ,FMed 5. The pink one. Erm, I'm delighted to have got rid of that one. Er, and sometimes I think I was the only person in the universe who ever completed it. ….. but I've always used it for retrospective rather than post dating, actually, er pre-dating, er, FMed 3s. FMed 4 I don't mourn the passing of whatsoever. Er, it was a total pain ...'* However misunderstanding of the fit note by patients and employers was seen to have a negative impact on work efficiency. Although the fit note has removed the need for medical confirmation of fitness for work, participants reported patients consulting with them in order to obtain a certificate to declare them fit for work, because either they or their employer believed it was required. **Limitations of the system** Participants noted some limitations in the system which could hinder the fit note achieving its objective.

Study	Welsh et al 2012
Bibliographic reference	Welsh Victoria K, Mallen Christian D, Wynne-Jones Gwenllian , Jinks Clare. Exploration of GPs' views and use of the fit note: a qualitative study in primary care. Br JGenPract May 2012; e363-e370.
	This included employers undermining the fit note's role in facilitating a return to work. *'Well, you know, it's — the idea of graded return and things like that, you know, is fine and yes, it is good to see it appear on the new sick notes. But, you know, we're not in a position to impose. It's largely words written on water because there's no obligation on the employer to take up on the suggestions you make'* They noted that although patients may be willing to return to work with adjustments, some employers were often unable to accommodate these adjustments, while those who could support an employee in returning to work earlier, tended to already be doing so. *'And just a few occasions since they came out in April, erm where they've erm, sort of come back later on and said - ''Well, that phased return never worked. I asked if I could do just mornings for the first week and they said, 'Well, no. That's just not possible with the way the place works".'* *' [I'm] slightly unsure how much difference it makes me doing that [writing amended duties]. I mean those things have been, I think, particularly with bigger employers, that sort of thing has been happening anyway.* A minority of respondents reported negative perceptions of, or scepticism about the system among some GPs. This was highlighted by one respondent as being a result of the gap between policy making, job centres and the day to day reality of healthcare. *' ... however it's been set up, this new system with the fit note and all this razzmatazz, it's sort of missed the essence of getting GPs on board with it, the job centres on board with it.'* *And then I'd have to say that I saw, the other day, a doctor signing six fit notes for patients he had not seen um, that a nurse brought in. So it's obviously not respected…*

Study	Welsh et al 2012
Bibliographic reference	Welsh Victoria K, Mallen Christian D, Wynne-Jones Gwenllian , Jinks Clare. Exploration of GPs' views and use of the fit note: a qualitative study in primary care. Br JGenPract May 2012; e363-e370.
	Further actions Participants highlighted various further actions they felt would help the fit note achieve its objective. These included GP training. Some participants felt that this was not necessary however, as there were available and accessible training materials, but a lack of time and the low prioritisation of sickness certification meant these may not be being widely used. *'Erm, I'm finding a few difficulties with it [the fit note] ... I'm finding it difficult to know what to put on this new fitness note. probably could look it up in, there's an online site that I could look at, but time is of an essence—you tend to just look at what's available* Education of other stakeholders to ensure greater understanding of the fit note's role was also noted. *'And even when it first came out and I filled it in correctly, I then had a couple of them sent back to me, I think by the job centre or something, but they were wrong, so they hadn't had the training in it.'* Feedback on the outcome of their certifications was also felt to be potentially helpful to GPs. *'I don't quite know whether it works, if that makes sense. I don't quite know what happens when it lands on an employer's desk when they haven't been thinking about that kind of stuff … Whether they look at it and go, "I've got to do this" or "What does the doctor mean?" or just ignore it or whatever.'* Some participants missed being able to refer patients for independent assessment of fitness for work, which was a feature of the old system. They felt it made it harder to balance their role as an advocate for patients with their statutory role. *'…if we had the equivalent of the old RM7 form, where we could get a patient seen, erm … that would allow GPs who had doubts about their, about their patient's fitness to work or otherwise, to get an independent*

Study	**Welsh et al 2012**
Bibliographic reference	**Welsh Victoria K, Mallen Christian D, Wynne-Jones Gwenllian , Jinks Clare. Exploration of GPs' views and use of the fit note: a qualitative study in primary care. Br JGenPract May 2012; e363-e370.**
	[assessment] …. it's difficult for us to erm, go against our patient's wishes because we have to go on having a relationship with them as their doctor and their advocate in the future.'
Evidence statements Themes/results contributed to	
Source of funding	Funded through the National Institute of Health Research (NIHR) Academic Clinical Fellowship held by Victoria D Welsh and forms part of the NIHR Programme Grant for Applied Research (RPPG-0707-10131-Optimal management of spinal pain and sciatica in primary care).
Related publications	
Comments	**Limitations noted by authors:** As this research was conducted during the first year of the fit note's statutory operation, issues identified during interview may have subsequently improved with increasing GP experience of the new system. The request for a return to work certificate was specifically mentioned in relation to this. A relatively small sample size may have resulted in GPs with alternative views being overlooked but it was reported that no new themes emerged after 14 interviews. The interviewer was a GP trainee. This was disclosed before the interviews began. This may impact positively on the findings in that shared knowledge may enable thorough discussion without the need for clarification or explanation and associated professional culture may encourage disclosure. However, being interviewed by a peer may result in more cautious responses for fear of judgement and existing knowledge of the area may result in researchers not identifying novels insights. To address any such effect, the interviews were discussed with non-medical team members to ensure issues were not overlooked or assumptions made.

Study	Welsh et al 2012
Bibliographic reference	**Welsh Victoria K, Mallen Christian D, Wynne-Jones Gwenllian , Jinks Clare. Exploration of GPs' views and use of the fit note: a qualitative study in primary care. Br JGenPract May 2012; e363-e370.**
	Concerns over the ability of telephone interviews to foster rapport and recognise more subtle nuances of non-verbal communication were noted as having been raised. However, it was noted that in this study, telephone interviews allowed a degree of anonymity, which encouraged participation in a topic that could be considered sensitive. Only a single methodology was used and no triangulation process was undertaken due to time and resource limitations. It is possible that alternative research methods may have yielded different study findings. **Limitations noted by reviewer:** The sample size was small and there was no sub group analysis, however it was reported that demographic variables did not appear to influence opinions towards one viewpoint. 15 GPs were selected as this study formed part of larger project which required 15 participants. Total numbers involved were therefore driven by the needs of the wider project rather than this study alone. However no new themes arose after 14 of the 15 interviews. There may be some self-selection bias in that 25 GPs were randomly selected from a list of 397 GPs who, had been involved in earlier research, and had consented to be contacted with future study invitations. However purposive sampling was used to select 15 GPs from the 26 who consented to take part. GPs were selected on the basis of demographics thought to influence perceptions and experiences; i.e. practice location, practice list size, duration of service, postgraduate occupational health qualifications, contract basis (partner, salaried, locum, full time, or part time), and sex .
Quality assessment	**Moderate** - Study sample was small and based on needs of a larger project. No details were given of discussion guides or triangulation of findings

D.4.11 Wynne-Jones 2011

Study	Wynne- Jones et al 2011
Bibliographic reference	**Wynne- Jones Gwenllian, Rhiannon Buck , Carol Porteous,, Lucy Cooper , Lori A. Button, Chris J. Main, Ceri J. Phillips. Occup Rehabil (2011) 21:31–42**
Study type	Qualitative study – One to one interviews (One aspect of a mixed methods study 'Well-being in work' which included quantitative elements and focus groups)
Aim	To investigate beliefs and attitudes of managers and employees with musculoskeletal pain, in a public sector setting, about sickness absence, presenteeism, and return to work. The purpose of this was to identify themes for conflict and consensus that could act as barriers to managing absenteeism and presenteeism within the workplace.
Workplace setting	Two large public sector organisations: one local authority and one NHS Trust
Study dates	Not reported
Research parameters/ Methods	One-to-one interviews were carried out with employees with musculoskeletal conditions and with managers, in two large public sector organisations. Interviews were carried out by a team of three experienced qualitative researchers who were given further training and mentoring. The interviews were carried out at the participants' workplace either in their own office or in a suitable room arranged by the researcher. Interviews were semi-structured. Initially the focus was on eliciting general attitudes towards health and work and was followed by a focus on personal experiences of health impacting on work, or for managers, their employees. This included barriers and support for people in remaining at work or return to work after a period of sickness absence. The findings were then summed up for the interviewee to validate. Interviews were audio-recorded and transcribed. NVivo software package was used to assist data analysis. The data was analysed thematically. A coding framework was developed by the authors by creating codes, discussing them, and collapsing them into categories. The categories were derived from the key interview questions, plus others that arose during the discussions. The three researchers coded the transcripts and discussed regularly throughout analysis, to reach consensus and discuss any alternative interpretations. No new themes emerged after having analysed data from 38 interviews

Study	Wynne- Jones et al 2011
Bibliographic reference	Wynne- Jones Gwenllian, Rhiannon Buck , Carol Porteous,, Lucy Cooper , Lori A. Button, Chris J. Main, Ceri J. Phillips. Occup Rehabil (2011) 21:31–42
Population	20 managers and 18 employees with musculoskeletal pain, from a local authority and a National Health Service (NHS) Trust that participated in other elements of the wider study were invited to attend for interview. A purposive sampling strategy was used to balance gender, age, and socio-economic status. Participants were recruited from two large public sector employers, and so included a wide range of occupations.
Study findings	**Relationships with managers and their influence on uptake of policies** Having a good relationship with their managers was a factor that could encourage people to comply with and take up an organisation's policies on managing sickness absence and on returning to work. Managers' influence on the uptake of organisational policies was mainly viewed positively by employees and managers. For example, where the manager's role was to advise employees to use services like Occupational Health or on-site Physiotherapy. **'***He's very good yeah, no problems at all. In fact, he's been very supportive. With the sort of work we've got here, with HR they run this —I don't know what the actual name for it is—but you can go see an Occupational Health advisor if you are in work and they can refer you for, like for me, physio treatment and things like that. So my manager actually suggested that I go down that line. So he's been very good at that.'* (Employee). However, there were some exceptions and examples were given of policies being in place to support employees in returning to work, but of them not being properly implemented by their managers. '*I'd say the work was taken off of me for a couple weeks and went to somebody else. That person moaned and groaned then because she couldn't cope with the work, and it came back. There is nobody else to take that work. So there is not much point in going to see her, is there.''* (Employee). *'Partly because I've been off so long and partly because when my manager offered it to me, he sort of said 'I'm sure you won't need it, but there's a phased return to work if you do need it', so it—sort of pressure really. It was there—the offer was there because they were ticking the boxes that they had to offer a phased return to work, but they didn't see any need for it …… as a manager he could have seen that since I was off so long it was needed, and he could have said 'here's a phased return to work for*

Study	Wynne- Jones et al 2011
Bibliographic reference	Wynne- Jones Gwenllian, Rhiannon Buck , Carol Porteous,, Lucy Cooper , Lori A. Button, Chris J. Main, Ceri J. Phillips. Occup Rehabil (2011) 21:31–42
	you and that's what you should do.' (Employee). **Keeping in touch policies** Staying in contact while on sick leave was a common theme. However while managers tended to view this positively, employees tended to view this more negatively. *"I will always make a point of ringing up staff myself and say is everything alright, don't worry about what's happening here, we'll sort something out" (Manager).* *"…….When I had flu I felt a bit pressurised in…'I'm ringing to see how you are', but I felt "oh God", you know, I had that viral thing that everybody else had so I felt, oh, I just wish they'd leave me alone and I'll come back when I am ready. I felt a little bit pressurised then …* (Employee) Managers highlighted that there was a level of contact that was required by their organisations' absence policy and that they needed to be able to plan and maintain productivity. '*The sickness policy itself does dictate that there should be two way contact in the event of absences without it becoming, you know, where you're pestering people to come back to work'.* (Manager) In general though employees, particularly those with chronic conditions, found such contact somewhat intrusive. However, the relationship employees had with their manager could influence how this contact was perceived, as could the emphasis that was put on returning to work. *'….it should be nice if people phone up and say 'how are you? How's everything?'. Not—well obviously, they don't say 'when d'you intend starting back at work?', but if you—I suppose if they're talking to you, I suppose this might come into the conversation, because you might turn round and say 'oh I can't wait to start'. When I phoned I said 'I can't wait to start back' I said, 'I've never been so BORED in all my life'." (Employee)*

Study	Wynne- Jones et al 2011
Bibliographic reference	Wynne- Jones Gwenllian, Rhiannon Buck , Carol Porteous,, Lucy Cooper , Lori A. Button, Chris J. Main, Ceri J. Phillips. Occup Rehabil (2011) 21:31–42
	Special leave policies Although 'Special Leave' policies are not directly associated with illness, and may focus on leave to deal with family commitments or other personal circumstances, they tended to be regarded positively by managers -though employees seemed to be unaware of such policies being available. *'We've also got the special leave policy …bereavement, things like that. People have had divorces and someone's left them, you say 'oh we can't have you in work like this—off you go' sort of thing. So to me, they'd only go off sick otherwise and I'd rather be up front.''* (Manager) **Return to work policies** Return to work policies included initiatives such as referral or access to health care, which in general was well received. *'Like last year there we had support from the {organisation} because they set up for staff a fast track to physiotherapy for musculoskeletal. I think they're fed up with seeing (me at) the podiatry department {laughs}.''* (Employee). Return to work policies also included graded or phased return to work which used accumulated annual leave to allow people to return gradually. *'We will look at expediting their return to work and we will bring them back, 'cos when someone's off on the sick they often accumulate annual leave. So we will—we'll get them to come back on reduced hours because they're using annual leave that they've accumulated while they're off on the sick.''* (Manager). In addition, it was reported that employees were allowed to return on adjusted or reduced duties. Managers recognised that this can mean other team members may need to absorb that person's work. In addition they noted that returning to work after a long period of sickness absence can be difficult for employees, in particular if there have been changes while the employee has been absent.

Study	Wynne- Jones et al 2011
Bibliographic reference	Wynne- Jones Gwenllian, Rhiannon Buck , Carol Porteous,, Lucy Cooper , Lori A. Button, Chris J. Main, Ceri J. Phillips. Occup Rehabil (2011) 21:31–42
	''When he came in he realised he wasn't needed. .I mean, yeah, there will be—particularly if some one's been off long term. Then the rehabilitation back into the team will be difficult, particularly if a new team member has joined 'cos the dynamics of the team would've changed.'' (Manager).
Evidence statements Themes/results contributed to	
Source of funding	Funded by the Welsh Assembly Government and the Wales Centre for Health.
Related publications	Wynne-Jones G, Buck R, Varnava A, Phillips CJ, Main CJ. Impacts on work absence and performance: what really matters? Occup Med. 2009;59(8):556–62. Wynne-Jones G, Varnava A, Buck R, Karanika-Murray M, Griffiths A, Phillips C, Cox T, Kahn S, Main CJ. Examination of the work organization assessment questionnaire in public sector workers. J Occup Environ Med. 2009;51(5):586–93. Buck R, Porteous C, Wynne-Jones G, Marsh K, Phillips CJ, Main CJ. Using the Flags system to identify problems and potential solutions for employees with common health problems; a qualitative approach (in press at time of this papers' publication).
Comments	**Limitations noted by authors:** The setting for this research was large public sector organisations. Different issues may apply in the private sector and in small and medium enterprises, particularly in terms of access to, for example, Occupational Health, and the presence of relevant policies. It is noted care needs to be taken in generalising the findings to other contexts. Men, lower socioeconomic groups, and manual workers were under-represented in the sample, as they were difficult to recruit. Attitudes towards absence may vary between those in manual and those in managerial roles.

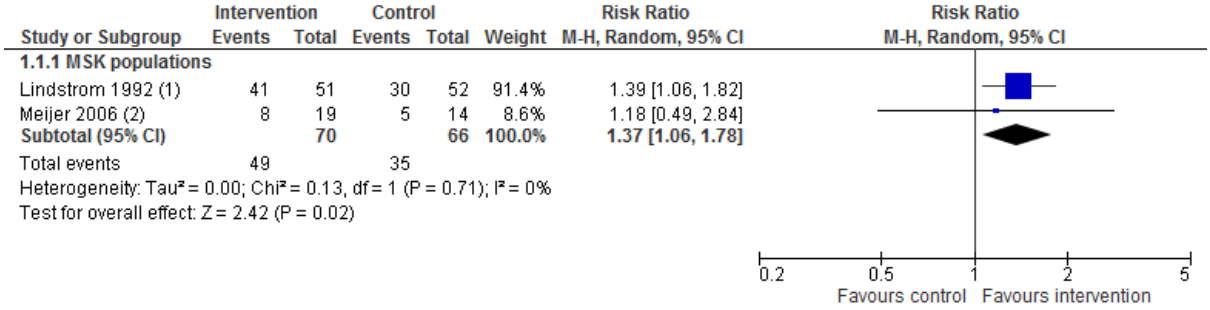
Study	Wynne- Jones et al 2011
Bibliographic reference	Wynne- Jones Gwenllian, Rhiannon Buck , Carol Porteous,, Lucy Cooper , Lori A. Button, Chris J. Main, Ceri J. Phillips. Occup Rehabil (2011) 21:31–42
	Several participants had a manual aspect to their role (e.g. nurses) and their input suggested that the impact of musculoskeletal conditions on manual jobs was likely to be greater and more likely to result in sickness absence. **Limitations noted by reviewer:** It is noted no new themes emerged after data from 38 interviews was analysed, but the sample consisted of 38 participants, so it is possible that saturation had not been reached. Participants were drawn from a sample which had previously been involved in other aspects of the wider study. Recruitment for the wider study may be at risk of self-selection bias, as participants volunteered, in response to promotional materials and activities (posters, leaflets, a website, information stands in canteens and a launch event.) Incentives were also offered (refreshments at an event and a £10 gift voucher).
Quality assessment	**Moderate** – Main concerns relate to recruitment of the original study sample, potential self-selection bias. Noted use of incentives.

Appendix E – Forest plots

Short-term effectiveness in facilitating return to work

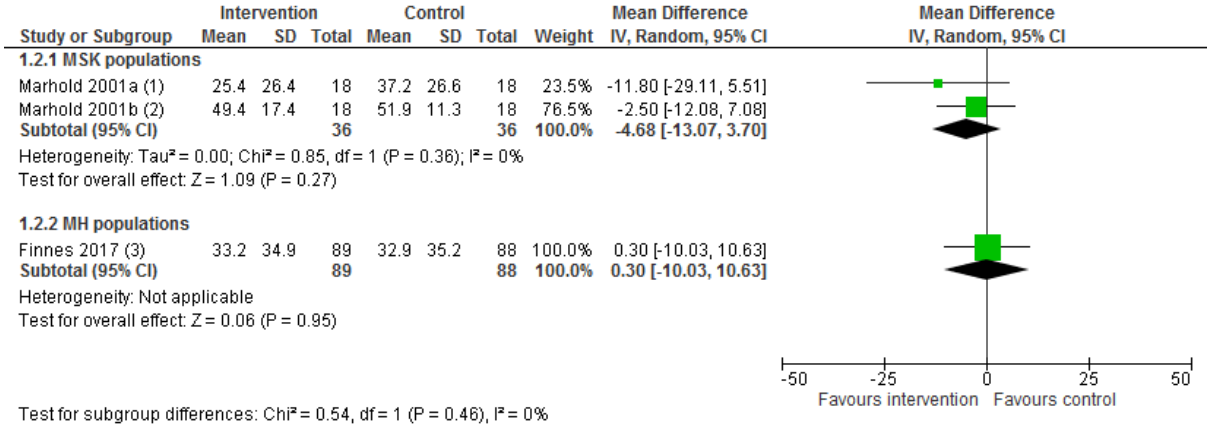
Individual employee-focused intervention (vs. usual care / no intervention)

Figure 1: Proportion returning to work in the short-term (around 3 months)



Footnotes
(1) at 12 weeks post-randomisation (regular job and hours)
(2) at post-treatment (2 months) - regular working hours

Figure 2: Days of sickness absence in the short-term (around 3 months)

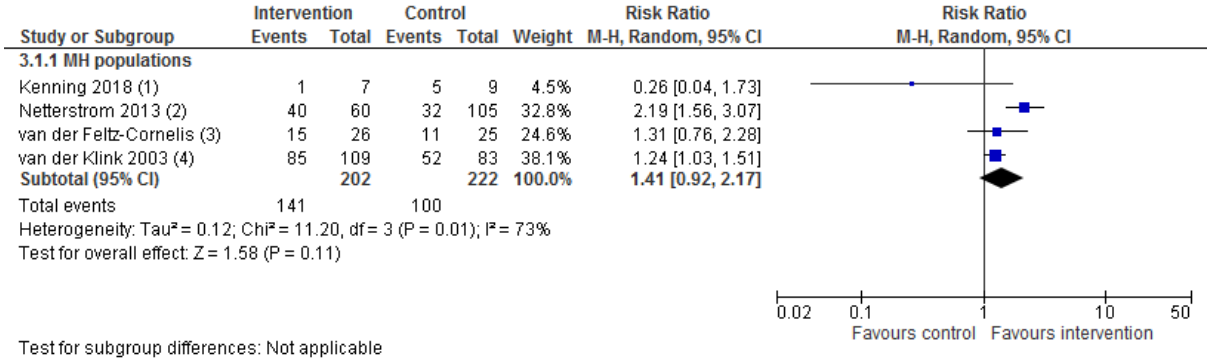


Test for subgroup differences: Chi² = 0.54, df = 1 (P = 0.46), I² = 0%

Footnotes
(1) Group with short-term sickness absence at baseline (2-6m); sick-leave days between month 2 and month 4 post-treatment
(2) Group with long-term sickness absence at baseline (>12m); sick-leave days between month 2 and month 4 post-treatment
(3) Sick leave days by 3m post-intervention (comparison: ACT intervention vs. TAU control)

Combined intervention (workplace + individual employee-focused) vs. usual care / no intervention

Figure 3: Proportion returning to work in the short-term (around 3 months)



Test for subgroup differences: Not applicable

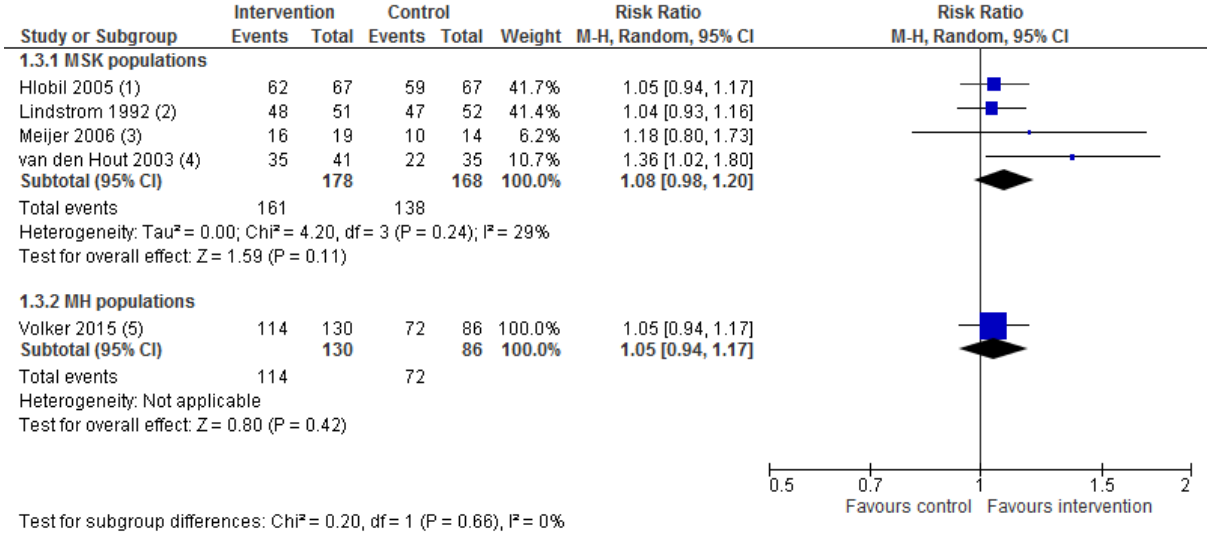
Footnotes

(1) at 12 weeks, RTW post-intervention
(2) at 3m, full RTW (comparison: Intervention vs. TAU control group + Wait-list control group)
(3) at 3m, full, sustained RTW
(4) at 3m, full RTW

Medium-term effectiveness in facilitating return to work

Individual employee-focused intervention (vs. usual care / no intervention)

Figure 4: Proportion returning to work in the medium term (around 12 months)

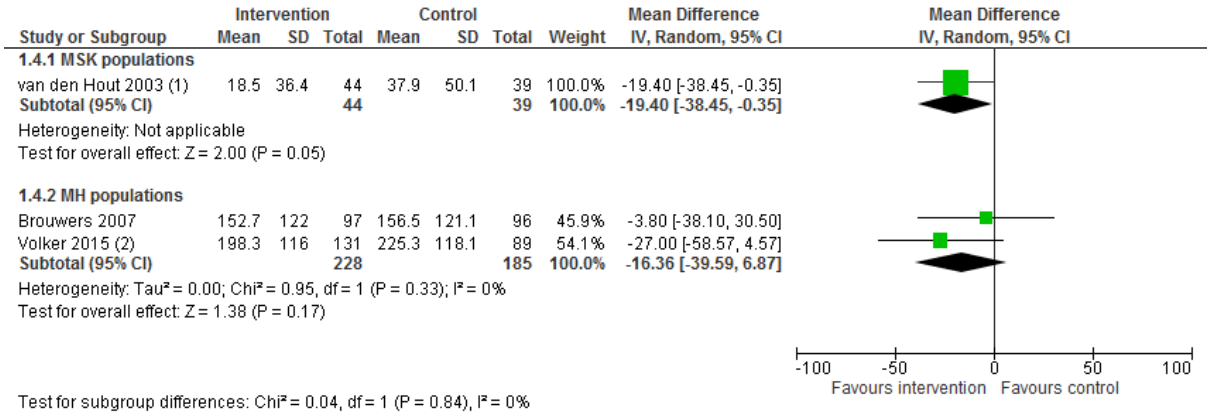


Test for subgroup differences: Chi² = 0.20, df = 1 (P = 0.66), I² = 0%

Footnotes

(1) full, sustained RTW at 12m post-randomisation
(2) at 12m (regular job and hours)
(3) at 12m - regular working hours
(4) at 12m - 100% RTW
(5) at 12m; full, sustained RTW (>=4 weeks)

Figure 5: Days of sickness absence within medium-term (around 12 months)

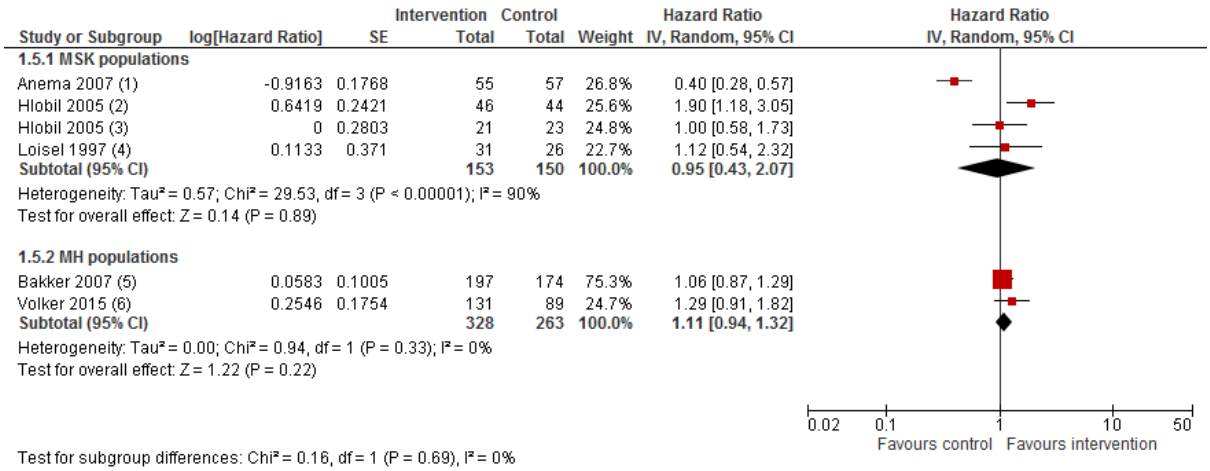


Footnotes

(1) sick leave days due to back pain between 6-12 months post-treatment

(2) sick leave days over 12m

Figure 6: Time to return to work over medium term (around 12 months)



Footnotes

(1) full, sustained RTW over 12 months follow-up; Graded activity vs. No graded activity intervention (adjusted analysis: 95%CI 0.3 to 0.6)

(2) data for 'late returners' group: full, sustained RTW between 50-365 days post-intervention (adjusted analysis: 95%CI 1.2 to 3.1)

(3) data for 'early returners' group. full, sustained RTW <50 days post-intervention (adjusted analysis: 95%CI 0.6 to 1.8)

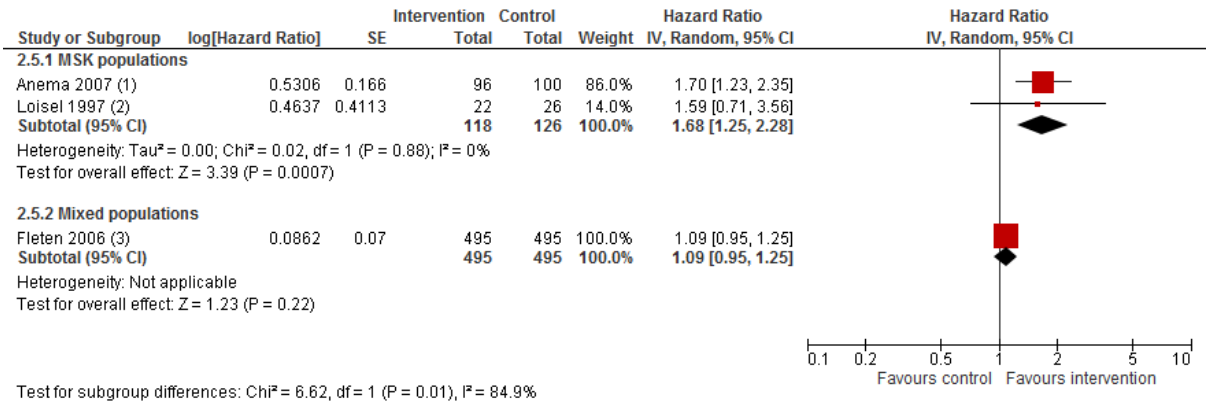
(4) over 12m follow-up - return to full, regular job; Graded activity only vs. Usual care (adjusted analysis)

(5) over 12m, full sustained RTW; Minimal Intervention for Stress training for GPs vs. Usual care (unadjusted analysis)

(6) over 12m, full sustained RTW; e-Health RTW module vs. Usual care (unadjusted analysis)

Workplace-focused intervention (vs. usual care / no intervention)

Figure 7: Time to return to work over medium term (around 12 months)



Footnotes

(1) full, sustained RTW over 12 months follow-up (workplace intervention vs. no workplace intervention; adjusted analysis: 95%CI 1.2 to 2.3)

(2) full, regular job; over 12m follow-up (occupational intervention only vs. usual care; adjusted analysis)

(3) RTW over 12 month follow-up; (postal awareness-raising about workplace modifications vs. no intervention (unadjusted analysis)

Combined intervention (workplace + individual employee-focused) vs. usual care / no intervention

Figure 8: Proportion returning to work in the medium term (around 12 months)

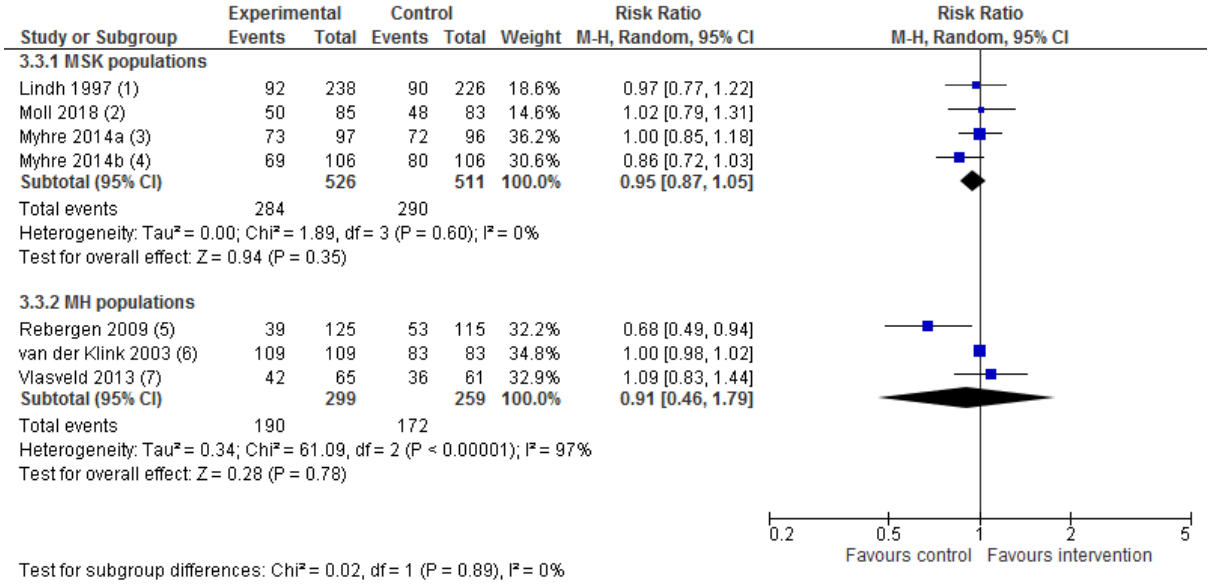


Figure 9: Days of sickness absence within the medium term (around 12 months)

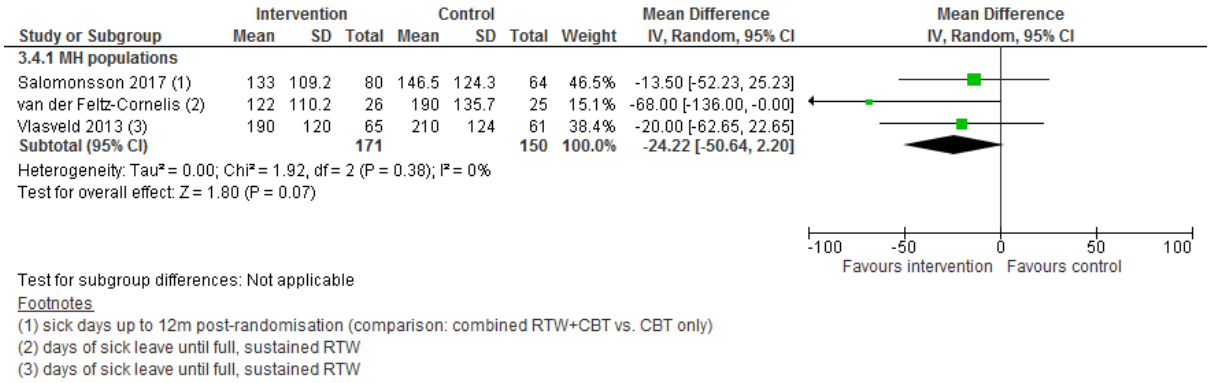
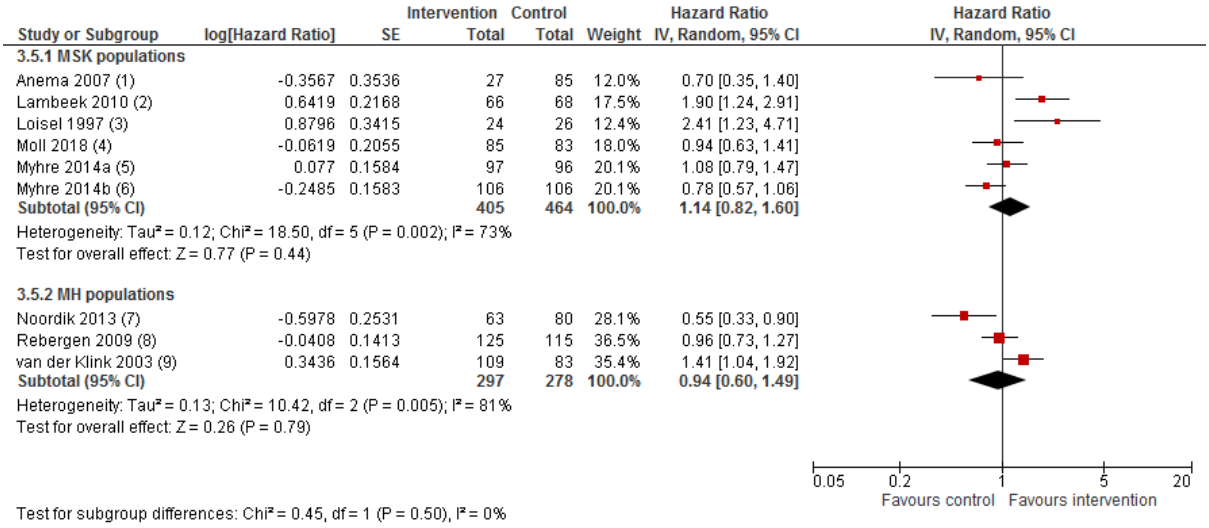


Figure 10: Time to return to work over medium term (around 12 months)



Test for subgroup differences: Chi² = 0.45, df = 1 (P = 0.50), I² = 0%

Footnotes

(1) full, sustained RTW over 12 months follow-up; combined workplace+graded activity vs. No combined intervention (adjusted analysis 95%CI 0.3 to 1.2)
(2) full, sustained RTW over 12 months follow-up; combined workplace+graded activity vs. usual care (adjusted analysis; reported 95%CI 1.18 to 2.76)
(3) full, regular job; over 12m follow-up (combined occupational intervention+graded activity vs. usual care; adjusted analysis)
(4) over 12m; full, sustained RTW (unadjusted analysis)
(5) over 12m; RTW= 5 weeks without any sickness compensation payments (hospital 1: intervention vs. brief multidisciplinary model; unadjusted analysis)
(6) over 12m; RTW= 5 weeks without any sickness compensation payments (hospital 2: intervention vs. comprehensive multidisciplinary model; unadjusted...
(7) full, sustained RTW over 12 months
(8) full RTW over 12m (adjusted analysis)
(9) full RTW over 12m (adjusted analysis)

Appendix F – GRADE and CERQual profiles

Reference list of studies included in GRADE synthesis

Studies; musculoskeletal
1 Anema 2007, *workplace intervention and graded activity*
2 Bultmann 2009, *MDT assessment and tailored work rehabilitation*
3 Hlobil 2005, *graded activity and education*
4 Lambeek 2010, *workplace intervention and graded activity*
5 Lindh 1997, *MDT rehabilitation model*
6 Lindstrom 1992, *graded activity programme*
7 Loisel 1997, *occupational intervention, possible additional graded activity*
8 Marhold 2001, *outpatient CBT as group sessions*
9 Meijer 2006, *MDT treatment programme*
11 Moll 2018, *multidisciplinary intervention with case worker*
12 Myhre 2014, *MDT and case worker*
13 van den Hout, 2003, *problem solving graded activity and group education*
34 Scheel 2002, *promotion of active sick leave with GPs and local facilitator*
Studies; mental health
15 Arends 2014, *structured occupational physician treatment*
16 Bakker 2007, *training intervention for GPs on interventions for stress related sick leave*
17 Brouwers 2007, *activating intervention by social workers*
19 Finnes 2017, *acceptance and commitment therapy, workplace dialogue intervention*
20 Hees 2013, *work reintegration programme*
21 Kenning 2018, *collaborative case management*
22 Netterstrom 2013, *multidisciplinary stress treatment programme*
23 Noordik 2013, *return to work exposure intervention*
24 Rebergen 2009, *guideline based occupational physician care*
25 Salomonsson 2017, *CBT and graded exposure*
26 Schene 2007, *work reintegration programme*
27 van der Feltz-Cornelis 2010, *consultation with trained psychiatrist to support occupational physician care*
28 van der klink 2003, *activating intervention*
29 Vlasveld 2013, *collaborative care intervention*
30 Volker 2015, *guided eHealth intervention*
31 Glascock 2018, *work focused CBT, offer of psychologist attendance at meeting with employer*
Studies; mixed conditions
32 Fleten 2006, *awareness raising postal intervention*
33 Purdon 2006, *workplace intervention or health intervention or both*
35 Smedley 2013, *joint programme on return to health between occupational health and human resources departments*

36 Osteras 2010, *training workshop for GPs on structured functional assessments and reports on long-term sick leave*

GRADE profile 1: Individual employee-focused interventions vs. control (usual care / no intervention)

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
Outcome: Full return to work											
- (i) Proportion with full RTW in short-term (around 3 months)											
Populations with musculoskeletal disorders											
2 [6,9,]	RCT	Serious[a]	No serious	No serious	No serious	None	49/70 (70%)	35/66 (53%)	RR 1.37 (1.06 to 1.47)		MOD
- (ii) Proportion with full RTW in medium-term (around 12 months)											
Populations with musculoskeletal disorders											
4 [3,6,9,13]	RCT	No serious	No serious	No serious	Serious[b]	None	161/178 (90.4%)	138/168 (82.1%)	RR 1.08 (0.98 to 1.2)	66 more per 1000 (from 16 fewer to 164 more)	MOD
Populations with mental health conditions											
1 [30]	RCT	Serious[c]	No serious	n/a	Serious[b]	None	114/130 (87.7%)	72/86 (83.7%)	RR 1.05 (0.94 to 1.17)	42 more per 1000 (from 50 fewer to 142 more)	LOW
Populations with mixed health conditions											
1 [33]	RCT	Very serious[d]	No serious	n/a	Serious[i]	None	255/587 (43.5%)	205/458 (44.7%)	RR 0.97 (0.85 to 1.11)		VERY LOW

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
Outcome: Sickness absence days **- (i) Mean sickness absence days over the short-term (around 3 months)**											
Populations with musculoskeletal disorders											
1 [8]	RCT	Serious[e]	Serious[f]	n/a	Serious[g]	None	Short and long term absence N=36	N=36	-	MD 4.68days lower (13.07 lower to 3.10 higher)	VERY LOW
Populations with mental health conditions											
1 [19]	RCT	No serious	Serious[h]	n/a	Serious[i]	None	N=89	N=88	-	MD 0.3 higher (10.03 lower to 10.63 higher)	LOW
- (ii) Mean sickness absence days over the medium-term (around 12 months											
Populations with musculoskeletal disorders											
1 [13]	RCT	Serious[j]	No serious	n/a	Serious[k]	None	N=44	N=39	-	MD 19.4 days lower (38.5 lower to 0.4 lower)	LOW
Populations with mental health conditions											
										MD 18.2 days	

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
2 [17,30]	RCT	Serious[l]	No serious	No serious	Serious[i]	None	N=228	N=185	-	MD 16.36 lower (39.59 lower to 6.87 higher)	VERY LOW
Outcome: Time to return to work over the medium-term (around 12 months)											
Populations with musculoskeletal disorders											
3 [1,3,7]	RCT	Serious[m]	No serious	Serious[n]	Serious[b]	None	N=153	N=150	HR 0.95 (0.43 to 2.07)	-	VERY LOW
Populations with mental health conditions											
2 [16,30]	RCT	Very serious[o]	No serious	No serious	Serious[b]	None	N=328	N=263	HR 1.11 (0.94 to 1.32)	-	VERY LOW
1 [26]	RCT	Very serious[p]	No serious	n/a	No serious	None	N=23	N=27	HR 2.71 (1.16 to 6.29)	-	LOW
Outcome: Recurrence of sickness absence after RTW **- (i) recurrence over medium-term (around 12 months)**											
Populations with musculoskeletal disorders											
1 [3]	RCT	No serious	Serious[q]	n/a	Serious[b]	None	N=67	N=67	Incidence rate ratio: 0.68 (0.04 to 1.32)	-	LOW
- (i) recurrence over long-term (more than 12 months): proportion with an occurrence of sick leave for LBP in second year (no forest plot; see evidence table D1.6)											
Populations with musculoskeletal disorders											

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
1 [6]	RCT	Serious[r]	Serious[s]	n/a	Serious[k]	None	30/51 (58.8%)	41/52 (78.8%)	RR 0.75 (0.57 to 0.98)	197 fewer per 1000 (from 339 fewer to 16 fewer)	VERY LOW
Populations with mixed health conditions – SF36 scores (all scales) (0-100; higher = better health)											
1[32]	RCT	Very serious[d]	No serious	n/a	No serious	None	N=571	N=543	Physical functioning MD -1.8 (SE 1.85)		LOW
									Role – physical MD -4.4 (SE 2.52)		
									Role – emotional MD -4.3 (SE 2.58)		
									Energy/fatigue MD -3.2 (SE 1.37)		
									Mental health MD -3.7 (SE 1.36)		
									Social functioning MD -3.5 (SE 1.80)		
									Bodily pain MD -3.1		

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
									(SE 1.85) <u>General health</u> MD -3.1 (SE 1.36)		

a Majority of studies in the analysis have risk of bias issues
b 95%CI crosses line of no effect
c Study has potential selection bias issues due to randomisation at level of OPs who were unblinded to group allocation and had a role in participant recruitment
d Single study with high risk of bias – randomisation inadequately described and high levels of attrition
e Risk of bias: no details of randomisation
f Population indirectness: study population was all female; unclear if those on sick leave >12 months at baseline had a current contract of employment or were unemployed
g Small sample sizes; very wide 95%CI which cross line of 'no effect'
h Population indirectness: some patients not on sickness absence at baseline; self-selected sample with high educational level
i Wide 95%CI which crosses line of no effect
j Unclear allocation concealment and attrition bias
k Small study population (<300 participants); wide 95%CI
l Potential selection bias issues due to lack of detail on baseline characteristics – groups may have differed on potential confounders (Brouwers 2007); randomisation at level of OPs who were unblinded to group allocation and had a role in participant recruitment (Volker 2015)
m Potential selection bias in 2 of the 3 studies due to randomisation at level of OPs / workplaces who were unblinded to group allocation and involved in participant recruitment
n Serious heterogeneity I^2 > 75% for the subgroup of those with musculoskeletal disorders only; there was no heterogeneity for the other subgroup of those with mental health conditions, or overall. Data for early and late RTWs from 1 study was separated and added to the analysis.
o One study has risk of selection bias due to cluster randomisation of unblinded OPs who recruited participants; one study has potential attrition bias
p Potential reporting bias from participant self-report and lack of blinding; small sample size and large loss of follow-up data
q Population indirectness: study population 95% male
r Inadequate randomisation and allocation concealment
s Population indirectness: predominantly immigrant male population of manual workers

GRADE profile 2: Workplace-focused interventions vs. control (usual care / no intervention)

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
Outcome: Full return to work **- (i) Proportion with full RTW in short-term (around 3 months)**											
Populations with musculoskeletal disorders											
1 [2,]	RCT	No serious	No serious	No serious	Serious[a]	None	30/66 (45.4%)	17/47 (36.2%)	RR 1.26 (0.79 to 2.00)	111 more per 1000 (from 14 fewer to 266 more)	MOD
- (ii) Proportion with full RTW in medium-term (around 12 months)											
Populations with musculoskeletal disorders											
1 [2]	RCT	No serious	No serious	No serious	Serious[a]	None	51/66 (77.2%)	29/47 (61.7%)	RR 1.25 (0.97 to 1.62)	155 more per 1000 (from 14 fewer to 322 more)	MOD
Population with MSK disorders: (i) passive intervention to promote GP use of active sick leave vs. no intervention											
1[34]	RCT	No serious	Serious [l]	n/a	Serious [a]	None	1840/2045 (90.0%)	847/951 (89.1%)	RR 1.01 (0.98 to 1.04)	9 more per 1000 (from 18 fewer to 36 more)	LOW
Population with MSK disorders: (ii) proactive intervention to promote GP use of active sick leave vs. no intervention											

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
1[34]	RCT	No serious	Serious [l]	n/a	Serious [a]	None	1986/2232 (89.0%)	847/951 (89.1%)	RR 1.00 (0.97 to 1.03)	0 per 1000 (from 27 fewer to 27 more)	LOW
Populations with mental health conditions											
1 [25]	RCT	No serious	No serious	No serious	Serious[a]	None	117/147 (79.6%)	49/64 (76.6%)	RR 1.04 (0.89 to 1.22))	30 more per 1000 (from 83 fewer to 160 more)	MOD
Populations with mixed health conditions											
1 [33]	RCT	Very serious[b]	No serious	n/a	Serious[a]	None	246/545 (45.1%)	205/458 (44.7%)	RR 1.01 (0.88 to 1.16)	3 more per 1000 (from 58 fewer to 65 more)	VERY LOW
Outcome: Sickness absence days **- (i) Mean sickness absence days over the short-term (around 3 months)**											
Populations with mental health conditions											
1 [19]	RCT	No serious	Serious[c]	n/a	Serious[a]	None	N=87	N=88	-	MD 2.4 days higher (7.78 lower to 12.58 higher)	LOW
(ii) Number of people with recurrent sickness absence over the short-term (around 3 months)											

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
Populations with mental health conditions											
1 [15]	RCT	Serious[p]	No serious	n/a	Serious[a]	None	N=72	N=75	RR 0.49 (0.23 to 1.06)	116 fewer per1000 (from 175 fewer to 14 more)	LOW
(ii) Number of people with recurrent sickness absence over the short- to medium-term (around 6 months)											
Populations with mental health conditions											
1 [15]	RCT	Serious[p]	No serious	n/a	No serious	None	N=72	N=75	RR 0.58 (0.32 to 0.92)	162 fewer per1000 (from 31 fewer to 263 fewer)	MOD
- (iii) Mean sickness absence days over the medium-term (around 12 months)											
Populations with musculoskeletal disorders											
1 [14]	RCT	No serious	No serious	n/a	Serious[d]	None	N=61	N=59	-	MD 20 days lower (62.87 lower to 22.87 higher)	MOD
Population with MSK disorders: (i) passive intervention to promote GP use of active sick leave vs. no intervention											
1[34]	RCT	No serious	Serious [l]	n/a	Serious [a]	None	N=2045	N=1902	Index absence (back pain) MD 3.1 days lower (10.3 days		LOW

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
									lower to 4.1 days higher) <u>All sick leave over 1 year</u> MD 3.7 days lower (11.3 days lower to 3.9 days higher)		
Population with MSK disorders: (ii) proactive intervention to promote GP use of active sick leave vs. no intervention											
1[34]	RCT	No serious	Serious [l]	n/a	Serious [a]	None	N=2232	N=1902	<u>Index absence (back pain)</u> MD 1.0 days lower (8.1 days lower to 6.1 days higher) <u>All sick leave over 1 year</u> MD 0.8 days lower (8.3 days lower to 6.7 days higher)		LOW
Populations with mental health conditions											
1 [25]	RCT	No serious	No serious	n/a	Serious[a]	None	N=84	N=81	-	MD 23 lower (62.41 lower to 16.41 higher)	MOD
Populations with mixed health conditions											

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
1 [32]	RCT	Serious[f]	Serious[g]	n/a	Serious[a]	None	N=495	N=495	-	MD 8.6 days lower (from 5.6 lower to 22.8 higher)	VERY LOW
Primary care population (any condition with 8-26 weeks absence)											
1[35]	RCT	Serious [n]	No serious	n/a	Serious [a]	None	N=939	N=1231	HR 0.89 (0.79 to 1.01)	-	LOW
(ii) Number of people with recurrent sickness absence over the medium term (around 12 months)											
Populations with mental health conditions											
1 [15]	RCT	Serious[p]	No serious	n/a	Serious[a]	None	N=72	N=75	RR 0.71 (0.48 to 1.07)	135 fewer per 1000 (from 243 fewer to 33 more)	LOW
Outcome: Time to return to work over the medium-term (around 12 months)Figure 7											
Populations with musculoskeletal disorders											
1 [1,7,]	RCT	Serious[h]	No serious	No serious	No serious	None	N=118	N=126	HR 1.68 (1.25 to 2.28)	-	MOD
Populations with mixed health conditions											
1 [32]	RCT	Serious[f]	Serious[g]	n/a	Serious[a]	None	N=495	N=495	HR 1.09	-	

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
									(0.95 to 1.25		VERY LOW
Outcome: sickness absence recurrence after RTW **- (i) Proportion with recurrence**											
Populations with musculoskeletal disorders : any recurrence of absence for low back pain within 12 months among those who returned to work											
1 [14]	RCT	No serious	Serious[i]	n/a	Serious[j]	None	26/51 (51.0%)	12/48 (25.0%)	RR 2.04 (1.17 to 3.57)	260 more per 1000 (from 43 more to 643 more)	LOW
Population with MSK disorders: (i) passive intervention to promote GP use of active sick leave vs. no intervention											
1[34]	RCT	No serious	Serious [l]	n/a	Serious [a]	None	237/2045 (11.6%)	107/951 (11.3%)	RR 1.03 (0.83 to 1.28)	3 more per 1000 (from 19 fewer to 32 more)	LOW
Population with MSK disorders: (ii) proactive intervention to promote GP use of active sick leave vs. no intervention											
1[34]	RCT	No serious	Serious [l]	n/a	Serious [a]	None	263/2232 (11.8%)	107/951(11.3%)	RR 1.05 (0.85 to 1.29)	6 more per 1000 (from 17 fewer to 33 more)	LOW
- (ii) Time to first recurrent sickness absence (all causes) over 12 months											
Populations with musculoskeletal disorders : any recurrence of absence for low back pain within 12 months among those who returned to work											
1 [14]	RCT	No serious	Serious[i]	n/a	Serious[j]	None	N=51	N=48	HR 2.4	-	LOW

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
									(1.2 to 4.7)		
Outcome: Quality of life											
Population with MSK disorders: (i) passive intervention to promote GP use of active sick leave vs. no intervention											
1[4]	RCT	Serious [o]	Serious [l]	n/a	No serious	None	N=769	N=714	Physical functioning SMD 0.07 lower (0.17 lower to 0.03 higher)		LOW
					No serious		N=769-775	N=714-725	Bodily pain SMD 0.10 lower (0.20 lower to 0.0 lower)		LOW
Population with MSK disorders: (iI) proactive intervention to promote GP use of active sick leave vs. no intervention											
1[4]	RCT	Serious[o]	Serious [l]	n/a	Serious[a]	None	N=867-880	N=714-725	Physical functioning SMD 0.08 lower (0.18 lower to 0.02 higher)		VERY LOW
									Bodily pain SMD 0.0 lower (0.10 lower to 0.10 higher)		
Populations with mental health conditions											
1[15]	RCT	Serious[p]	No serious	n/a	No serious	None	N=72	N=75	HR 0.53 (0.33 to 0.86)	-	MOD

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
Populations with mixed health conditions – SF36 scores (all scales) (0-100; higher = better health)											
1 [33]	RCT	Very serious[b]	No serious	n/a	Serious[a]	None	N=531	N=543	Physical functioning MD -3.1 (SE 1.87)		LOW
									Role – physical MD -1.6 (SE 2.55)		
									Role – emotional MD -2.9 (SE 2.67)		
									Energy/fatigue MD -1.9 (SE 1.37)		
									Mental health MD 0.0		
									Social functioning MD 0.80 (SE 1.86)		
									Bodily pain MD -1.8 (SE 1.87)		
									General health MD -0.3 (SE 1.37)		

a 95%CI crosses line of no effect
b Single study with high risk of bias – randomisation inadequately described and high levels of attrition
c Population indirectness: some patients not on sickness absence at baseline; self-selected sample with high educational level

e Serious heterogeneity I^2>75%
f Risk of bias: randomisation procedure inadequately reported; lack of detail on baseline characteristics – groups may have differed on potential confounders
g Population indirectness: included employees certified as sick for longer than 14 days (lack of baseline information reported to determine what proportion of participants were under the 4-week absence threshold required by the review protocol)
h Potential selection bias in 2 of the 3 studies due to randomisation at level of OPs / workplaces who were unblinded to group allocation and involved in participant recruitment
i Population indirectness: included employees "on sick leave with low back pain for at least 10 days but less than 1 month"
j Downgraded: small study population (<300 participants)
k Potential selection bias (randomisation at level of OPs who were unblinded to group allocation and involved in participant recruitment); differences between groups at baseline in gender, educational level and sickness absence
l Population indirectness: included employees absent ≥16 days – unclear what proportion met review protocol criteria for LTSA at baseline
m Risk of bias – post-hoc analysis of subsample of patient population Risk of bias – concealment of allocation not reported; potential for GP participant self-selection bias
o Risk of bias – evidence based on subsample of participants (38.5%) who responded to the SF36 self-complete questionnaire
p Risk of bias- study underpowered and differences in baseline characteristics reported

GRADE profile 3: Combined interventions with individual-focused and workplace-focused components vs. control

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
Outcome: Full return to work **- (i) Proportion with full RTW in short-term (around 3 months)**											
Populations with mental health conditions											
4 21,22,27,28	RCT	Serious[a]	No serious	No serious	Serious[b]	None	141/202 (69.8%)	100/222 (45%)	RR 1.41 (0.92 to 2.17)	248 more per 1000 (from 154 fewer to 335 more)	LOW
- (i) Proportion with full RTW in medium-term (around 12 months)											
Populations with musculoskeletal disorders											

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
4 [5,11,12,c]	RCT	No serious	No serious	No serious	Serious[b]	None	284/526 (54%)	290/511 (56.8%)	RR 0.95 (0.87 to 1.05)	28 fewer per 1000 (from 74 fewer to 28 more)	MOD
Populations with mental health conditions											
3 [24,28,29]	RCT	Serious[d]	No serious	Serious[e]	Serious[b]	None	190/299 (63.5%)	172/259 (66.4%)	RR 0.91 (0.46 to 1.79)	29 fewer per 1000 (from 51 fewer to 107 more)	VERY LOW
Populations with mixed health conditions											
1 [33]	RCT	Very serious[f]	No serious	n/a	Serious[b]	None	254/571 (44.4%)	205/458 (44.7%)	RR 0.99 (0.87 to 1.14)	2 more per 1000 (from 58 fewer to 64 more)	VERY LOW
Outcome: Sickness absence days **- (i) Mean sickness absence days over the short-term (around 3 months)**											
Populations with mental health conditions											
1 [19]	RCT	No serious	Serious[g]	n/a	Serious[b]	None	N=88	N=88	-	MD 8.4 days higher (1.7 lower to	LOW

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
										18.5 higher)	
- (ii) Mean sickness absence days over the medium-term (around 12 months)											
Populations with mental health conditions											
3 [25,27,29]	RCT	No serious	No serious	No serious	Serious[b]	None	N=171	N=150	-	MD 24.2 days lower (50.64 lower to 2.20 higher)	MOD
Organisational-level sickness absence											
Pre- to post- reduction in % of 4-week sickness absences that continued beyond 8 weeks, in people with any condition											
1[5]	Obs	Serious [k]	No serious	n/a	Serious [b]	None	2008-2009 2.6% (−2.7 to 7.9)	2008-2009 0.8% (−6.9 to 8.6)	Difference I-C 1.8 (−7.6 to 11.2)		VERY LOW
					No serious		2008-2010 5.8% (0.5 to 11.1)	2008-2010 −4.9% (−12.5 to 2.7)	Difference I-C 10.7 (1.5 to 20.0)		
Pre- to post- reduction in mean days lost beyond 4 weeks for all LTSA											
1[5]	Obs	Serious [k]	No serious	n/a	Serious [b]	None	2008-2009 1.3 days (−3.6 to 6.2)	2008-2009 5.2 days (−2.3 to 12.7)	Difference I-C −3.9 (−12.8 to 5.0)		VERY LOW
							2008-2010 4.9 days (0.0 to 9.7)	2008-2010 3.3 days (−4.0 to 10.6)	Difference I-C 1.6 (−7.2 to 10.3)		

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
Outcome: Time to return to work over the medium-term (around 12 months)											
Populations with musculoskeletal disorders											
6 [1,4,7,11,12,c]	RCT	No serious	No serious	No serious	Serious[b]	None	N=405	N=464	HR 1.14 (0.82 to 1.6)	-	MOD
Populations with mental health conditions											
3 [23,24,28]	RCT	Serious[h]	No serious	Serious[e]	Serious[b]	None	N=352	N=357	HR 0.91 (0.65 to 1.29)	-	VERY LOW
Outcome: sickness absence recurrence after RTW											
Populations with mental health conditions (i) average number of recurrent absence episodes per person over 12-month follow-up											
1 [24]	RCT	No serious	No serious	n/a	Serious[b]	None	N=125	N=115	MD 0.30 (from 0.13 lower to 0.73 higher)	-	MOD
(ii) average duration of recurrent absence episodes over 12-month follow-up											
1 [24]	RCT	No serious	No serious	n/a	Serious[b]	None	N=125	N=115	MD 0.80 (from 9.09 lower to 10.69 higher)	-	MOD
Population with mixed health conditions – SF36 scores (all scales) (0-100; higher = better health)											
									<u>Physical functioning</u> MD -3.3 (SE 1.87)		

No. of studies	Study design	Risk of bias	Indirectness	Inconsistency	Imprecision	Other considerations	Intervention	Control	Effect size (95% CI)	Absolute effect	Quality
1[33]	RCT	Very serious[f]	No serious	n/a	Serious[b]	None	N=556	N=543	Role – physical MD -3.5 (SE 2.54)		LOW
									Role – emotional MD -2.9 (SE 2.64)		
									Energy/fatigue MD -3.7 (SE 1.39)		
									Mental health MD -2.8 (SE 1.39)		
									Social functioning MD -3.3 (SE 1.85)		
									Bodily pain MD -3.9 (SE 1.89)		
									General health MD -3.7 (SE 1.43)		

a Issue with potential selection bias or high rates of attrition in majority of studies included in analysis
b 95%CI crosses line of no effect
c Myrhe 2014 analysed as two separate studies due to significantly different intensity of comparator treatment used in the two study sites (Hospital 1- brief MDI; Hospital 2 (comprehensive MDI)
d Potential selection bias in study contributing greatest weight to analysis due to randomisation at level of OPs who were unblinded to group allocation and involved in participant recruitment
e Serious heterogeneity I^2>75%, further subgroup analysis not completed, small number of studies
f Single study with high risk of bias – randomisation inadequately described and high levels of attrition
g Population indirectness: some patients not on sickness absence at baseline; self-selected sample with high educational level
h Potential selection bias in 2 studies due to randomisation at level of OPs / workplaces who were unblinded to group allocation and involved in participant recruitment; potential attrition bias in Noordik 2013

i Risk of bias: relatively high attrition; allocation concealment not reported in Hees (2013)
j 95%CI crosses upper GRADE default MID (SMD +0.5)k RoB – potential confounding due to baseline differences between sites in size of workforce, proportions of full- and part-time employees and rates of LTSA attributable to MH disorders

GRADE CERQual appraisal of the qualitative evidence

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
Fit note							
Impact of the fit note on negotiation and communication							
3	Employer and employee interviews	Employers – view fit note as an improvement on the previous system, helps to enable RTW conversations and workplace adjustments (Kotze, 2014; Lalani, 2012, Wainwright, 2013) Employees – consider fit note has empowered RTW negotiations in general and in relation to making workplace adjustments (Lalani, 2012, Wainwright, 2013) Employees – fit notes are symbolic of the more detailed discussions that now occur with GPs and patients off work (Wainwright, 2013)	Serious[1,] Moderate[2] Minor[3]	No concerns	No concerns	No concerns	Moderate
Impact of the focus of the fit note							
3	GP and employee interviews	GPs – positive focus on what patients can do, engages regarding health rather than sickness or capacity rather than incapacity (Wainwright, 2011; Welsh, 2012)	Minor[3] Serious[4] Moderate[2]	Minor concerns[5]	No concerns	No concerns	Low

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
		Employees – positive shift from incapacity to work to capacity to work (Wainwright, 2015) Employees – negative impact of the political motivation to cut welfare costs (Wainwright, 2015) GPs – possible pressure on GPs if sick-listing rates do not reduce (Wainwright, 2011), some reports of scepticism about the system (Welsh, 2012)					
1	GP interviews	GPs – not changed practice, were already encouraging RTW (Welsh, 2012)	Serious[4]	No concerns	Minor concerns[6]	No concerns	Moderate toLlw
1	Employer and employee interviews	Employers – use of fit notes may have more of an influence on smaller organisations with less formal policies and procedures (Lalani, 2012)	Moderate[2]	No concerns	Minor concerns[6]	No concerns	Moderate
Impact of the fit note on relationships between employers, employees and GPs – concerns							
5	GP, employer and employee interviews, GP document analysis	GPs – possible effect on relationships with patients if the patients want to challenge what was out in the fit note (Coole, 2015), may need negotiation with patients who do not want to RTW (Wainwright, 2011) GPs – concern that employers undermine the fit note in facilitating a RTW (Welsh, 2012); mixed relationships	Serious[1,] Moderate[2] Minor[7] Serious[4]	Minor concerns[5]	No concerns	No concerns	Low

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
		with employers, some are supportive of the process, some are not (Wainwright, 2011) Employers – risk of possible conflicts with employees where they could not accommodate GP advice (Kotze, 2014); concern that GPs follow patient's views regarding their fitness to work (Lalani, 2012)					
GP role and fit note completion							
(i) Additional pressures							
4	GP, employer and employee interviews, GP document analysis	GPs – time pressures which could impact on ability to access training and lack of occupational health expertise have impacted fit note use (Wainwright, 2011; Welsh, 2012; Coole, 2015) Employers – lack of GP occupational health expertise can have a negative impact (Lalani, 2012)	Minor[7] Serious[4] Moderate[2]	No concerns	No concerns	No concerns	Moderate to Low
(ii) Medical / health information							
2	Employer and employee interviews	Employers – GP understanding and information on medical condition and the possible effects on the workplace provides helpful advice (Kotze, 2014; Lalani, 2012) Employers – use of vague terms to describe patient's capabilities can be unhelpful (Kotze, 2014), lack of GP insight into employee's role can mean	Serious[1,] Moderate[2]	Minor concerns[5]	Minor concerns[6]	No concerns	Low

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
		they take a risk averse approach (Lalani, 2012)					
(iii) Workplace adaptations							
2	GP, employer interviews, GP document analysis	GPs – queried if they have sufficient knowledge about workplaces to make adaptation recommendations (Coole, 2015a) Employers – concern about GPs providing advice for workplaces that they do not know (Kotze, 2014)	Serious[1] Minor[7]	No concerns	Minor concerns[6]	No concerns	Moderate
GP role and fit note completion – GP role							
1	GP interviews and document analysis	GPs – inconsistent views on whether or not the completion of fit notes is a GP role (Coole, 2015). Some GPs noted a lack of consistency in fit note completion (Coole, 2015)	Minor[7]	Minor concerns[5]	Minor concerns[6]	No concerns	Moderate
Impact of the fit note on workplace adaptations							
4	GP, employer and employee interviews, GP document analysis	Employers – it can be difficult to provide role adaptations in some industries (Kotze, 2014); GPs – employer response to amended duties suggestions may not be possible, such as in small companies (Wainwright, 2011), GPs – those that can make adjustments tend to already be doing so (Welsh, 2012) Employers – changes may not have been made due to lack of information	Serious[1], Moderate[2] Serious[4]	Minor concerns[5]	No concerns	No concerns	Low

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
		from GPs on the adaptations required (Lalani, 2012) Employees – for some adjustments had not been made as they had expected from the fit note (Lalani, 2012)					

1 Lack of detail on the roles that informed the themes, no second reviewer check of the analysis, lack of analytical detail (Kotze, 2014)
2 Lack of detail on analysis (Lalani, 2012; Wainwright, 2015)
3 Impact of paired employer/employee responses not considered (Wainwright, 2013)
4 Lack of analytical detail, lack of detail on interview content (Welsh, 2012)
5 Both positive and negative views from participants
6 Finding is from a small number or studies/participants
7 Small sample size, not all documents provided (Coole, 2015)

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
General management of long term sickness (5 studies)							
Use of employer assistance programmes (EAP)							
1	Employer interviews	Employers – positive aspects, enables employees to raise issues that they might not want to raise with employers; service distinct from OH; easily accessible service, that also supports managers; (Bajorek, 2016) Employers – negative aspects; can be concerns about confidentiality, lack of awareness of the service, possible	Serious[1]	No concerns	Serious concerns[2]	No concerns	Low

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
		stigma about using the service (Bajorek, 2016)					
Early intervention and regular contact between employer and employee							
4	Employer and employee interviews	Employers and employees – communication should be respectful and 2-way, flexibility is important (Wainwright, 2013; Higgins, 2015), a good relationship with managers can impact on RTW (Wynne-Jones, 2011) Employers and employees – keeping in touch can help employees feel valued and more confident in RTW (Higgins, 2015) Employers – frequent enquiry is seen as good practice (Wainwright, 2013), keeping in touch viewed positively and enables planning (Wynne-Jones, 2011) Employees – keeping in touch can be negative if intervention is delayed or employee views it as punitive (Higgins, 2015) or intrusive, though this is influenced by the existing relationship with managers (Wainwright, 2013) Employees – careful planning and regular review can enable making adjustments that work (Lalani, 2012)	Minor[4, 5] Moderate[6]	Minor concerns[7]	No concerns	No concerns	Moderate
Workplace policies							
2	Employer and employee interviews	Employers and employees – RTW polices help to reduce uncertainty (Higgins, 2015), policies including	Minor[4]	No concerns	Minor concerns[8]	No concerns	Moderate

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
		referral to additional services were viewed positively (Wynne-Jones, 2011) Employees – concern about policies not being implemented properly (Wynne-Jones, 2011)					
Impact of making adjustments to support RTW							
4	Employer and employee interviews	Employer and employees – can enable employee confidence and motivation in RTW, though some concern about co-worker resistance and resentment (Higgins, 2015) Employers – willing to consider a range of adjustments, find adjusting hours the easiest to implement (Lalani, 2012) Employers – may be a need for colleagues to absorb additional work (Wynne-Jones, 2011), most colleagues are supportive but others may resent the adjustments made (Lalani, 2012) Employers – RTW can be difficult for employees, especially where there have been work place changes in their absence (Wynne-Jones, 2011) Employees – adjustments such as to work stations or flexible hours are important in making them able to RTW and also feel valued (Wainwright, 2013)	Minor[4, 5, 3] Moderate[6]	No concerns	Minor concerns[8]	No concerns	Moderate

1 Difficulties with recruitment, lack of methodological issues (Bajorek, 2016)
2 One study, only employer perspectives
3 Impact of paired employer/employee responses not considered (Wainwright, 2013)
4 Organisation was in a period of major structural change (Higgins, 2015)

5 Recruitment issues and bias concerns, and use of incentives (Wynne-Jones, 2011)
6 Lack of detail on analysis (Lalani, 2012)
7 Both positive and negative views from participants
8 Finding in from a small number or studies/participants

Number of studies contributing to the finding	Study design	Description	Methodological limitations	Coherence	Adequacy	Relevance	Quality
Mental health specific themes (2 studies)							
1	Employer and employee interviews	Employees – discussion about possible adjustments to work role encouraged RTW (Sallis&Birkin, 2014) Employees – lack of line manager support affected decisions about work, there could be additional stress where absence policy was applied unfairly (Sallis&Birkin, 2014) Employees – RTW was supported by practical, work-focused support, careers guidance and strategies for negotiating with employers (Pittam, 2010)	Minor[1]	Minor concerns[2]	Minor concerns[3]	No concerns	Moderate

1 Small, pilot study
2 Both positive and negative views from participants
3 Small number of studies, only employee perspectives

Appendix G – Excluded studies

See review question A, appendix G

Appendix H – Research recommendations

Interventions to reduce sickness absence in the UK

1. What interventions are effective and cost effective in supporting return to work, in all workplaces including micro-, small- and medium-sized organisations, after long-term sickness absence in the UK?

Criterion	Explanation
Population	Employees aged over 16 in full or part time employment (both paid and unpaid) returning to work after long-term sickness absence (absence of 4 or more weeks).
Setting	UK workplaces of all sizes including micro-, small- and medium-sized organisations.
Intervention	Organisational and individual level interventions designed to support return to work after long-term sickness absence.
Comparators	Usual workplace support.
Outcomes	Reduced incidence of long-term sickness absence Sustained return to work Quality of life Views and preferences of employees returning to work following long-term sickness absence Views and preferences of employers.
Study design	Randomised controlled trials and controlled observational studies.
Timeframe	A minimum of 12 months. Studies of up to 5 years would be helpful.

2. What interventions are effective and cost effective in supporting return to work after recurrent short-term sickness absence in the UK?

Criterion	Explanation
Population	Employees aged over 16 in full or part time employment (both paid and unpaid) returning to work after recurrent short-term sickness absence (more than 1 episode of sickness absence, each lasting less than 4 weeks).
Setting	UK workplaces of all sizes including micro-, small- and medium-sized organisations.
Intervention	Organisational and individual level interventions designed to reduce the recurrence of short-term sickness absence.
Comparators	Usual workplace support
Outcomes	Reduced incidence of recurrent short-term sickness absence Sustained return to work Quality of life Views and preferences of employees with a history of recurrent short-term sickness absence Views and preferences of employers.
Study design	Randomised controlled trials and controlled observational studies.
Timeframe	A minimum of 12 months. Studies of up to 5 years would be helpful.

3. For people with common mental health conditions, what interventions are effective and cost effective in reducing long-term sickness absence and supporting return to work in the UK?

Criterion	**Explanation**
Population	Employees aged over 16 in full or part time employment (both paid and unpaid) returning to work after long-term sickness absence (absence of 4 or more weeks) because of a common mental health condition.
Setting	UK workplaces of all sizes including micro-, small- and medium-sized organisations.
Intervention	Organisational and individual level interventions designed to support return to work after long-term sickness absence because of a common mental health condition.
Comparators	Usual workplace support
Outcomes	Reduced incidence of long-term sickness absence because of common mental health conditions Sustained return to work Quality of life Views and preferences of employees returning to work following long-term sickness absence because of a common mental health condition Views and preferences of employers.
Study design	Randomised controlled trials and controlled observational studies.
Timeframe	A minimum of 12 months. Studies of up to 5 years would be helpful.

4. For people with common mental health conditions, what interventions are effective and cost effective in reducing recurrent short-term sickness absence and supporting return to work in the UK?

Criterion	**Explanation**
Population	Employees aged over 16 in full or part time employment (both paid and unpaid) returning to work after recurrent short-term sickness absence (more than 1 episode of sickness absence, each lasting less than 4 weeks), because of a common mental health condition.
Setting	UK workplaces of all sizes including micro-, small- and medium-sized organisations.
Intervention	Organisational and individual level interventions designed to reduce recurrent short-term sickness absence because of a common mental health condition.
Comparators	Usual workplace support
Outcomes	Reduced incidence of recurrent short-term sickness absence because of common mental health conditions Sustained return to work Quality of life Views and preferences of employees returning to work following recurrent short-term sickness absence because of a common mental health condition Views of employers.

Study design	Randomised controlled trials and controlled observational studies.
Timeframe	A minimum of 12 months. Studies of up to 5 years would be helpful.

5. What are the challenges and potential solutions for UK employers and employees in micro-, small- and medium-sized organisations (which may not have easy access to additional services such as employee assistance programmes or occupational health services) in ensuring sickness policy is managed effectively and facilitating return to work?

Criterion	**Explanation**
Population	UK employees aged over 16 in full or part time employment (both paid and unpaid) UK employers
Setting	Micro-, small- and medium-sized UK workplaces from the public, private and voluntary sector.
Intervention	Qualitative research on the challenges and potential solutions to managing sickness policy and facilitating return to work in organisations where access to services such as occupational health and employee assistance programmes may not be readily available.
Comparators	N/A
Outcomes	Views, perceptions and experiences of challenges and potential solutions
Study design	Qualitative research methods e.g. interviews and focus groups.
Timeframe	N/A

Interventions to reduce sickness absence where employees are not centrally located

1. Which interventions are effective and cost effective in supporting people working in organisations where employees are not centrally located, to return to work following long-term sickness absence, in the UK?

Criterion	Explanation
Population	Employees aged over 16 in full or part time employment (both paid and unpaid) returning to work after long-term sickness absence (absence of 4 or more weeks).
Setting	UK workplaces where employees are not centrally located but 'out in the field'
Intervention	Organisational and individual level interventions designed to support return to work after long-term sickness absence.
Comparators	Usual workplace support
Outcomes	Reduced incidence of long-term sickness absence Sustained return to work Quality of life Views and preferences of employees returning to work following long-term sickness absence Views and preferences of employers.
Study design	Randomised controlled trials and controlled observational studies.
Timeframe	A minimum of 12 months. Studies of up to 5 years would be helpful.

Appendix I – Expert testimony

I.1 The role of an occupational health and wellbeing service

Section A	
Name:	Giles Wright
Role:	Head of Service - Health & Wellbeing
Institution/Organisation (where applicable):	Occupational Health and Wellbeing
Guideline title:	Workplace health: long-term sickness absence and capability to work (Update)
Guideline Committee:	PHAC E
Subject of expert testimony:	The role of the Occupational Health and Wellbeing service in supporting the management of sickness absence and RTW at your NHS Trust
Evidence gaps or uncertainties:	1. How has the OH service contributed to achieving and maintaining the relatively low sickness absence rate in your Trust and what have been the key barriers and facilitators? Please include an outline of: • Mechanisms / pathways / triggers for referral; interventions offered, e.g. types of recommendations for self-care, workplace adjustments, breadth of signposting or referral to further specialist support/therapy services to assist employee's RTW • The proportion of referrals for frequent (i.e. recurrent) short-term sickness absence and for long-term absence. Is the reduction in absence rate attributable to a reduced frequency or duration of absence, or both? • Employee relations – ensuring the OH service is perceived as an impartial source of help and support • Any training / support provided for managers • Any support you provide outside the Trust - e.g. for SMEs that lack access to OH services. Does caseload / management differ from referrals within the Trust?

Section B

Summary testimony:

The occupational health and wellbeing service of Cambridge University Hospitals NHSFT provides its service both to the Trust's own workforce and to neighbouring NHS Trusts and other employers in the private, public and third sectors. The service benefits from having a multidisciplinary team including OH specialists, physiotherapy and psychiatry supported by experienced non-clinical leadership and administrative teams. It has developed a sustainable workforce model by 'growing its own' specialist OH staff and is the training centre for OH doctors in the East of England.

Workforce health has Board level engagement, interest and support. The CUH NHSFT sickness absence rates are consistently low compared to the NHS as a whole and compared against peers from the 'Shelford Group'. Anxiety, Stress and Depression is a growing reason for short term absence, particularly evident following the removal of 'other' category in the absence reporting system. Long term absence has been reducing gradually although psychological ill health is the biggest reason for LTA and growing. This is believed to be in part the result of reducing stigma, increasing awareness and a culture of care and support encouraging employees to report their ill health honestly and perhaps increased understanding of causation/symptoms they are experiencing. It is felt that 'true' and transparent reporting is a positive step in the journey to support the improvement of the workforce' mental wellbeing.

'Back problem' as a reason for absence has improved in recent years matched by improved NHS national staff survey scores for the Trust in respect of work related MSK issues. It is believed that this is in part due to increasing the provision of fast track physiotherapy, targeting areas with higher prevalence of cases and general increase in education and assessment.

Overall, the average 12 month absence duration has reduced from 7.45 days (October 2016) to 7.03 days (October 2018) over the last two years.

The Trust has strong values of together: safe, kind and excellent which its staff survey shows are consistently well known by the workforce. Policy and practice with regards to absence management is strongly focused on support. The approach is very much driven by all parties working together to achieve the goal of individuals being in work, healthy and productive. Since 2015-16 there has been a conscious effort to begin to educate and empower the workforce to be more aware of support services, tools and resources available which enable better health and wellbeing. The Trust has a range of self-referral routes including an Employee Assistance Programme, access to OH advice and fast track physiotherapy service for staff. Through OH there is also fast track access to psychiatry assessment.

For employees requiring formal occupational health support via management referral, this will typically occur after a period of absence or multiple short term absences, however there is an increasing anecdotal trend in managers feeling able to refer based on their concerns and desire to support individuals earlier rather than waiting for particular policy triggers. This is considered to be a positive progressive step but it should be noted that this, of course, does cause demand pressures. It could also 'speak to' the traditional model of refer for intervention rather than self-managing locally within the team/department. This could be in-part due to line-managers lacking knowledge and or confidence, something the Trust is keen to make

improvements in. The Trust believes that the best outcomes will come from managers feeling equipped to make early informal interventions with the formal pathways existing for employees who require the additional support. The working hypothesis the OH team are striving for is: 'If managers are empowered and equipped and prompt in nature then a given health issue may be prevented from having a greater impact on an individual and their work.'

It is felt that a successful outcome of a management referral case comes from the needs of all parties being considered carefully and appropriate recommendations made. The OH function plays a key role in 'brokering' the relationship between employee, manager, HR, GP and other medical/health professionals, as required. Within the Trust the working relationship between the HR/Employee Relations Team and OH Team is seen as very positive and the reputation of OH felt by managers has improved in recent years and feedback surveys suggest that recommendations given in response to a manager's referral are realistic and helpful.

If relationships are strained or difficult, adjustments are complex or progress is not being achieved as hoped OH organise case conferences with all parties present to discuss the issues and find a way forward, in a facilitated and positive way. The employee is pivotal to this process and included throughout

The future direction will be further development of working in the prevention space, continuing to educate, sign-post and empower line managers in particular. The OH service hopes to continue to develop its resource to include a greater level of expertise in the mental health specialist area and how it continues to use data and insights to target 'hot spot' areas of the Trust and respond to emerging trends and health informatics.

References to other work or publications to support your testimony' (if applicable):

I.2 Support for employees with a mental health condition to return to and stay in work

Section A	
Name:	Chris Kingsbury & Claire Hodgkins
Role:	Partnerships Manager & Head of Operations for the Access to Work Mental Health Support Service
Institution/Organisation (where applicable):	Remploy Ltd
Guideline title:	Workplace health: long-term sickness absence and capability to work (Update)
Guideline Committee:	PHAC E
Subject of expert testimony:	Support for employees with a mental health condition to return to and stay in work

Evidence gaps or uncertainties:	• How do employees or employers access this support? Can referral come from elsewhere (e.g. GP, IAPT)?
	• Who is it for? (individual eligibility criteria re: length of condition; degree of functioning / impairment; employer criteria: SMEs? larger organisations?)
	• How does this support fit in with:
	  ○ Access to Work and the legal obligations of employers under the Equality Act?
	  ○ NHS and OH sources of support?
	• What types of support are provided and by whom? (please give details of how people are supported to return to work and stay in work; the background / training of people delivering the support intervention; modes of delivery; frequency & duration)
	• Evidence re: effectiveness; barriers & facilitators to delivery; acceptability to stakeholders

Section B

Summary testimony:

The Access to Work Mental Health Support Service was launched in December 2011 and is funded by the Department for Work and Pensions. It provides confidential vocational support, delivered by Vocational Rehabilitation Consultants (VRC), for employees with mental illness to help them to retain or regain their ability to participate at work, and is delivered at no cost to the individual.

All VRC's are experts in supporting people with mental health conditions and have completed their Certified Disability Management Professional qualification and are Mental Health First Aid Trained, with a small number coming from clinical backgrounds such as Occupational Therapy.

Remploy has delivered the service, which is a component of Access To Work, through two separate contracts (2011-18 and 2018-). During the previous contract more than 8,000 individuals were supported through the service. The current contract is delivered by two providers across England, Scotland and Wales.

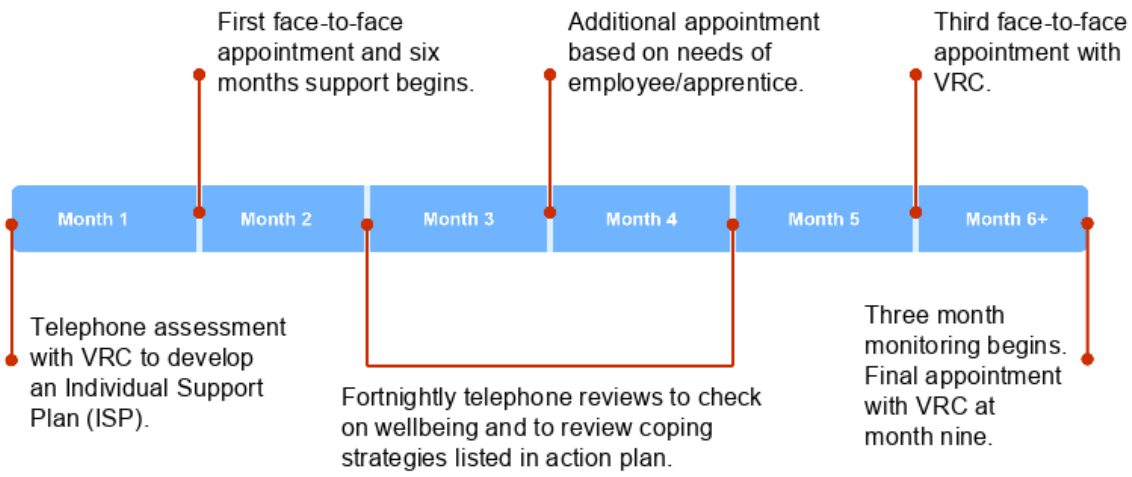
To access support, an individual must be in permanent or temporary employment and have a self-declared mental health condition (which can be either diagnosed or undiagnosed) that has resulted in workplace absence, or is causing difficulties for the individual to remain in work. Individuals who want to access the service must self-refer via a confidential helpline; email; the internet or by application to the DWP's Access to Work contact centre directly.

To promote the service, Remploy directly engages employers, including through use of free to access mental health webinars for HR professionals and line managers scheduled during lunchbreaks. More than 500 employers have joined these to date, and around 30% lead to referrals. We also directly engage HR and occupational health teams and provide materials for them to share with employees. The service typically compliments existing Occupational Health and Employee Assistance Programme support. In our experience, many of our referrals are made by employers making repeat use of the service after an initial positive experience.

Upon referral the individual will have an initial telephone interview with a VRC which establishes:

- The individual's job role, duties and responsibilities.
- The mental health condition and/or the symptoms the individual is experiencing.
- How the condition or symptoms are affecting the individual at work.
- Detail of the individual's responsibilities at work and targets that they may not be meeting.
- Whether the employer is aware of the difficulties the individual is experiencing
- What adjustments their employer may have already made for the individual
- Whether the individual have a clear idea of any help they require

After the initial telephone interview, eligible participants follow the client journey outlined in the below diagram:



Support and interventions available to individuals accessing the service include:

- Interventions such as:
  - Development of a Wellness Recovery Action Plan
  - Psychological wellbeing/self-esteem assessments
  - Mindfulness
  - Smartphone apps
  - Online CBT
  - Self-help
  - Resilience
  - Employer guidance for reasonable adjustments – Acting as a 3rd party can often help employers and employees reach agreements on adjustments or workplace accommodations
  - Application of interventions recommended by Occupational Health.
- Support through Access to Work funding including:
  - Holistic assessment
  - Job coaching
  - Support workers
  - Travel support
  - Training courses related to mental health.
- Signposting to external support, including:
  - Employee Assistance Programmes
  - GP support
  - Mental health charitable organisations

Under the previous contract (2011-18) Remploy successfully supported over 8,000 individuals through the service. Of these, 91% were still in employment after six months, the main measure of programme success. The service supports individuals with a diverse range of conditions, including stress, anxiety, depression, bipolar and personality disorder. Of the cohort supported through the service, more than 70% had a secondary mental health condition. There was also 50% comorbidity with physical disability and health conditions.

This data is provided by the DWP and is based on the previous contract, which ended in August 2018. Public data for the current contract, which measures individuals still in work after 9 months, will not be available until a later date when official statistics are published.
References to other work or publications to support your testimony' (if applicable):
The report "Access to Work: Qualitative research with applicants, employers and delivery staff" commissioned by the DWP and written by IFF Research includes a section on applicant views on the effectiveness of the service, stating that "applicants felt that without AtW they would have been unable to remain in work. In some cases they had been on long term sick leave, with conditions that often made communication and making the steps towards a return to work particularly challenging. The tailored support they received through Remploy enabled them to progress towards a return to work or a new job"

I.3 Reducing sickness absence in the workplace

Section A	
Name:	Michael Whitmore
Role:	Research leader
Institution/Organisation (where applicable):	RAND Europe
Guideline title:	Workplace health: long-term sickness absence and capability to work (Update)
Guideline Committee:	PHAC E
Subject of expert testimony:	Reducing sickness absence in the workplace
Evidence gaps or uncertainties:	Please provide information on the following areas, where possible: • What key factors are associated with frequent short-term sickness absence in the UK? • What common and more innovative measures do employer organisations use to reduce rates of sickness absenteeism? • Is there evidence (unpublished / case studies, etc) for the effectiveness, barriers and facilitators or employee acceptability/engagement with such measures? • What are the key problems for research in this area and how could these be addressed? • What available options are there for SMEs that lack the resources to buy in their own EAP / OH provision to help them reduce sickness absence & support employees' RTW?

Section B

Summary testimony:

- **What key factors are associated with frequent short-term sickness absence in the UK?**

Top Issues

- MSK
- Mental health
- Poor job quality and management practices

Secondary Issues

- Sleep – Fatigue
- Alcohol
- Age
- Financial Concern
- Income

Emerging areas to consider more

- Platform working
- Menopause

Systems Issues - Employer/Employee/Population Health split

- Organisations push the responsibility of making improved lifestyle behaviour modifications onto the employee. Some organisations find this easier than to instigate their own cultural change to support this too e.g. revising management structures, training and job variety.
- Cross-sector support, to support sector-wide workforces could be better developed so that sector-wide issues can be addressed more specifically.

- **What common and more innovative measures do employer organisations use to reduce rates of sickness absenteeism?**
  - Getting the basics right still might be the best thing to create strong impact in some organisations – it shouldn't be assumed a majority of organisations have got the basics in place well e.g. proactive OH, proactive communications of services and benefits to staff such as EAPs, proactive management support to staff.
  - Use of incentive programmes is developing
  - Digital enabled solutions are increasing – helps goal tracking
  - Seeing wellbeing as a valid board level measurement as part of productivity metrics
  - "Wellbeing is not about fruit": organisations are focussing on mental health and supporting employees to consider their whole selves and personal energy
  - Visible senior sponsorship supports success

- **Is there evidence (unpublished / case studies, etc) for the effectiveness, barriers and facilitators or employee acceptability/engagement with such measures?**

- Key factors that determine the success of a workplace health promotion programme are commitment from leadership and senior management and making the health and wellbeing of staff an organisational priority.
- Aligns with previous work conducted by RAND Europe, which found that organisations that understand health and wellbeing as an indicator of organisational success generally have lower levels of absenteeism and presenteeism among their employees. Stepanek et el 2017 - The return of investment for preventive healthcare programmes.
- Promising practices for health and wellbeing at work (Whitmore et al 2018)

Also see:

https://www.vitality.co.uk/business/healthiest-workplace/findings/

https://www.ft.com/reports/health-at-work

https://whatworkswellbeing.org

- **What are the key problems for research in this area and how could these be addressed?**
  - In general there is little evidence specifically discussing practices in commissioning of workplace health published in academic journals.
  - How to evaluate workplace wellbeing programmes is a little more forthcoming but still relatively scarce.
  - The recognition that productivity is driven by staff wellbeing is in early stages but funding, such as that by the ESRC, is beginning to bridge the productivity gap.
  - Research agendas are not commonly led by employers or employees or their representatives.
  - There is a lack of clearly tracked health outcomes in workplace wellbeing. There is a new national workplace health workforce across the country funded by business – who knows if they're supported and effective in achieving health outcomes?

- **What available options are there for SMEs that lack the resources to buy in their own EAP / OH provision to help them reduce sickness absence & support employees' RTW?**

Enablers

- Shorter communication pathways and horizontal hierarchies
- Facilitate open discussions
- Managers able to act as role models increases their impact on the staff as they're in closer organisational proximity

Challenges

- Lack of time, financial resources and personnel
- Lack of strategic workplace health system and lead
- Legal and bureaucratic hurdles

Overcoming barriers

- Engagement with external stakeholders
- Participation in sector or regional associations e.g. local PHE representatives, regional health and work awards, Federation of Small Business. This

improves health and work knowledge and share ideas about implementation and best practice. Also it may improve access to external support to advise and establish in-house approaches and planning e.g. where public sector workers have an element of workplace health and wellbeing support in their remit.

- Consolidate efforts with other local employers to buy in OH provision. Some organisations target their offer to SME organisations - purchasing organisations could pool together their research of the market offerings, as well as agreeing a group-purchase approach with preferred providers.

References to other work or publications to support your testimony' (if applicable):

RAND Europe's partnership to provide VitalityHealth Britain's Healthiest Workplace, an annual health and wellbeing survey across the UK built up over a 6 year period.

I.4 Support available for return to work and workplace adjustment passports

Section A	
Name:	Angela Matthews
Role:	Head of Policy & Advice
Institution/Organisation (where applicable):	Business Disability Forum
Guideline title:	Workplace health: long-term sickness absence and capability to work (Update)
Guideline Committee:	PHAC E
Subject of expert testimony:	Support available from BDF for sickness absence / RTW management; use of workplace adjustment passports
Evidence gaps or uncertainties:	What forms of advice and support are offered by your organisation to businesses and how is this accessed? Please include an outline of: • Characteristics of businesses seeking advice/support – size, industry sectors, etc. • Most frequent types of advice/support sought • How is 'success' measured in relation to the support you offer • What are the key barriers and facilitators to ensuring successful outcomes from the support offered What are workplace disability / adjustment passports; how can they support management of sickness absence and RTW in employees with a disability or health condition; information on uptake, promotion, acceptability, barriers and facilitators to implementation, etc.

Section B

Summary testimony:

A brief history of Workplace Adjustment Passports (WPA Passports)
WPA passports emerged in the 1990s when Business Disability Forum (then called Employers Forum on Disability) worked with the MS Society to produce a document for managers and employees to each have a record of agreed workplace adjustments support. This was designed particularly with fluctuating conditions (such as MS) in mind, where different support might be needed at times when an employee's symptoms are more pronounced than at other times. This document was then called a "Tailored Adjustments Agreement".

Very soon after this, BT quickly adopted its use and named it "Disability Passport". They also developed a similar document for employees with caring responsibilities (called a "Carer's Passport").

In 2013, many Civil Service Department's started using what they also called a "Disability Passport" and, in 2015, Cabinet Office published their Talent Action Plan which announced a move to one single and unified disability passport across all Civil Service Departments.

As adjustments management became a more embedded feature of workplace inclusion, organisations started to record details of adjustments in central management systems. As organisations became more sophisticated with their diversity practices and moved away from disability inclusion as 'legal duty' and instead towards wanting to engage and recruitment more diversely, the language of "agreement" became a term that felt 'at tension' with trying to adopt collaborative and supportive discussions. We then therefore changed the language, meaning the "Tailored Adjustments Agreement" became the "Tailored Adjustments Plan".[b]

The Tailored Adjustments Plan (or WPA passport) is now the document most requested by our Advice Service, alongside our resource to help employers decide what is 'reasonable'.

The purpose of WPA passports

There are three main purposes of the WPA passport:

1. To facilitate the portability of adjustments – i.e. when an employee moves teams or when line managers change, a passport would mean the employee does not have to go through discussing adjustments or how their disability impact them at work again. Employers find this increasingly unhelpful, though; as resources increasingly reduce, not every team can work in the same way, even within the same organisation, meaning we increasingly hear adjustments are now less portable between teams. Many employers therefore tell us portability is increasingly less of an option to them.
2. To structure a conversation about adjustments and support between the employee and people manager.
3. To plan for when an employee is unwell or needs additional support because of their disability or condition. Sections of the passport are designed to inform the people manager what to do when the employee has (for example)

[b] We are currently reviewing our TAA document (see Appendix 2 below) and are likely to change the name (to be confirmed).

becomes mentally unwell or has a seizure, and how to keep in touch in the employee needs to go off sick.

Use of WPA passports

WPA passports are used across many sectors, but the most prominent use across a whole sector is in the Civil Service. Although, as above, the passport is the resource our Advice Service send out to employers the most, we know employers do not always use it consistently or in its entirety. For example, we know employees sometimes extract some of its content into their own people management guidance and procedures, or they will use it only in cases where communication has broken down between the employee and people manager, or where the manager is 'new' to managing disabled employees.

The passport is often voluntary; as above, not all employees like passports or like having a specific document that focusses on their condition in addition to their HR record. For this reason, some employers operate a 'voluntary' passport practice, whereby employees can 'opt' to use a passport if they want to.[c] There are, however, management difficulties with this, and our research shows often that where passports are 'voluntary', there is usually an inconsistent experience of workplace support which disabled employees find unhelpful. Some employers also operate 'voluntary' passport option as part of a pilot period to trail the use of passports.

The passport was originally created to be a 'live' document, 'owned' by the employee. However, this does not always work in practice. Our Advice Service hear of many cases which indicate it is more common for managers to introduce the passport to employees, and where employees are often reluctant to participate in completing a passport. We also hear of cases where employees want to have a conversation with their manager which uses the passport structure, but they do not want their passport shared beyond them and their manager or being kept on their HR file.[d]

The WPA passport necessarily sits outside of the workplace adjustments *process*. There can be an assumption that the WPA passport is the basis of a workplace adjustments process, but this is inaccurate. Although passports can be a helpful *feature* of a fit for purpose, centralised WPA process, passports cannot fulfil the duty of employers to make adjustments alone. Some employees who have good retention rates and an effective WPA process do not use passports, and some organisations who use passports do not have an effective WPA process. **The difference between extended periods of sickness absence and good employee retention is the WPA *process*, not the passport.**

Return to work and conclusions

Return to work practices need much improvement across all sectors. This essentially affects the likeliness of the employee returning to work. Some of the most common adjustments-related 'sore spots' in return to work processes are:

- The WPA process is generally practiced as support for employees when they are 'at work'. WPA conversations and support needs significant improvement during periods of an employee's long-term sickness period. All too often, the WPA process 'wakes up' again on Day One of the employee coming back to work, or if a phased return is suggested (because then occupational health generally tend to get involved and the 'prompting' of adjustments is therefore introduced to the people manager or HR by them).

- Communication often breaks down when an employee is signed off sick. A huge number of calls to our Advice Service are from HR teams or people managers asking us how they should get *back* in touch with an employee who has been on long-term sick leave. We often see an employee declines to communicate with the employer during sickness absence (particularly when absence is due to work-related stress, which very many are) – even when arrangements for communicating during absence have been previously agreed in a WPA passport.

  Passports and the WPA process generally work for people who *already have* a condition or disability (and who have shared this information with their people manager). In many organisations, the WPA process and WPA passport work less well when an employee is off sick because they are 'newly' disabled or have recently acquired a condition (particularly as it is common or an employee not share information about a new condition until they have a confirmed diagnosis or prognosis). Often, employees are off work while waiting for a diagnostic assessment or waiting for a diagnosis from a NHS specialist; a phase which WPA processes do not always adequately address, and which is also often 'too soon' for a WPA passport to be agreed (because impact of the condition at work, or what would help, is not yet known).

[c] There are, however, management difficulties with this, and our research shows often that where passports are 'voluntary', there is usually an inconsistent experience of workplace support which disabled employees find unhelpful. Some employers also operate 'voluntary' passport option as part of a pilot period to trail the use of passports.

[d] This is, however, often the case when workplace support for a disabled employee has started 'too late' and by the time the passport is introduced, trust and communication between the employee and people manager or HR is already compromised.