National Institute for Health and Care Excellence

Draft for consultation

Disabled children and young people up to 25 with severe complex needs: integrated service delivery and organisation across health, social care and education

[N] Evidence reviews for commissioning, practice and service delivery models

NICE guideline TBC

Evidence reviews

August 2021

Draft for consultation

These evidence reviews were developed by the National Guideline Alliance which is a part of the Royal College of Obstetricians and Gynaecologists

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Contents

Commissioning, practice and service delivery models

This evidence report contains information on 2 reviews relating to commissioning, practice and service delivery models:

- What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Commissioning, practice and service delivery models to deliver joined-up care

Recommendations supported by this evidence review

This evidence review supports recommendations 1.15.4 - 1.15.7, 1.15.15, 1.17.1, 1.17.2, 1.17.6, 1.17.7, 1.18.1 and the research recommendations on dedicated keyworkers, care close to home and joint commissioning arrangements. Other evidence supporting these recommendations can be found in the evidence reviews Views and experiences of service users (evidence report A), Barriers and facilitators of joined-up care (evidence report K), Views and experiences of service providers (evidence report M).

Review question

What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

Introduction

This review aims to identify effective models for the delivery of joined-up health, social care and education services for disabled children and young people with severe complex needs.

At the time of scoping and developing the review protocols, documents referred to health, social care and education in accordance with NICE style. When discussing the evidence and making recommendations, these services will be referred to in the order of education, health and social care for consistency with education, health and care plans.

Summary of the protocol

See Table 1 for a summary of the Population, Intervention, Comparison and Outcome (PICO) characteristics of this review.

Table 1: Summary of the protocol (PICO table)

Population	Disabled children and young people from birth to 25 years with severe complex needs who require health, social care and education support.

Intervention	Any commissioning, practice and service delivery models (approaches, configurations of resources and services) delivering 2 or more of health, social care and education services.
	For example:
	Practice and service delivery models
	• Delivery arrangements:
	  ○ Who provides care and how the healthcare workforce is managed:
	  - Role-expansion/ task shifting
	  ○ Coordination of care and management of care processes:
	  - Individual case (service user) management (models responsive to individual needs)
	  - Communication / referral between providers
	  - Shared care
	  - Shared decision making
	  - Multidisciplinary teams
	  - Multiagency assessment tool for service requirements (e.g. West Sussex tool)
	Commissioning models:
	• Delivery arrangements:
	  ○ Coordination of care and management of care processes:
	  - Integration (consolidation) of services
	• Financial arrangements:
	  ○ Mechanisms for the payment of health services:
	  - Joint/pooled budgets
	• Governance arrangements:
	  ○ Authority and accountability for organisations:
	  - Joint commissioning teams
	  - Strategic oversight of commissioning

Comparison	• Any other joined-up commissioning, practice and service delivery models • Separate health, social and education services (without joined-up working)

Outcome	**Critical**
	• Service user satisfaction (child or young person and parent or carer) (e.g., as measured by validated scales or assisted communication aids such as talking mats or 'it's all about me')
	• Access to services:
	  ○ Local availability (e.g., time/distance travelled to access services)
	  ○ Waiting times for services
	Important
	• Joined-up support:
	  ○ Cross-sector planning
	  ○ Effectiveness of information sharing
	• Use of health, social care and education services

1 For further details see the review protocol in appendix A.

2 Methods and processes

3 This evidence review was developed using the methods and process described in
4 Developing NICE guidelines: the manual. Methods specific to this review question are
5 described in the review protocol in appendix A and the methods document (Supplement A).

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

Effectiveness evidence

Included studies

Three mixed methods studies were included in this review (Craston 2013, Greco 2005 and Thom 2015).

The included studies are summarised in Table 2.

One study compared different practice and service delivery models for management of care (Greco 2005), 1 study compared different practice and service delivery models for individual case management (Greco 2005), and 3 studies compared different commissioning models for financial arrangements (Craston 2013, Greco 2005 and Thom 2015).

See the literature search strategy in appendix B and study selection flow chart in appendix C.

Excluded studies

Studies not included in this review are listed, and reasons for their exclusion are provided in appendix J.

Summary of studies included in the effectiveness evidence

Summaries of the studies that were included in this review are presented in Table 2.

Table 2: Summary of included studies

Study	Population	Intervention	Comparison	Outcomes	Comments
Craston 2013 Mixed methods UK	Intervention Families receiving services from SEND pathfinder sites. Comparator No information reported.	SEND pathfinder programme (n=237) Grant funded collaboration between local authorities, NHS, colleges and schools, voluntary and community sectors, and parent-carer groups. Aimed to reform the statutory SEN assessment and statement framework.	Comparator (n=226) No information reported.	• Service user satisfaction	Brief report of SEND pathfinder programme. Final impact report presented in Thom 2015. Both studies retained as samples are non-overlapping.
Greco 2005 Mixed methods	Families who were using 7 case study key worker services.	Key worker service A One full-time designated key worker is funded by Children First and health, education		• Service user satisfaction	No comparative data was reported in sufficient detail for analysis based on

Study	Population	Intervention	Comparison	Outcomes	Comments
UK		and social services provide part-time non-designated key workers. Key worker service B Service and designated key workers funded by health, education and social services. Key worker service C At the time of the survey, the service was funded by a Children's services grant but it has received funding/designated key workers from Health Action Zone, social services and education. Key worker service D At the time of the survey, 50% of the funding comes from the primary care trust; social services and education are invoiced retrospectively. Non-designated key workers provided by various agencies. Key worker service E Service managers funded jointly (50:50) by primary care trust and local authority. Key workers are seconded by different agencies. Key worker service F Non-designated key workers are provided by multiple agencies within existing resources/financial arrangements. Key worker service G No dedicated budget for the scheme; non-designated key workers providing service as part of their existing roles.			transition service. Additional comparative data was reported comparing specific aspects of transition across services (e.g., whether or not services had designated key workers).
Thom 2016	Intervention	SEND	Comparator	• Service user	Final impact

Study	Population	Intervention	Comparison	Outcomes	Comments
Mixed methods UK	Families who had received an EHC plan between August 2013 and April 2014 from one of 30 SEND pathfinder sites. <u>Comparator</u> Families who had a SEN statement/post -16 equivalent from one of 24 pathfinder areas, before the introduction of the SEND pathfinder programme.	<u>pathfinder programme (n=698)</u> Grant funded collaboration between local authorities, NHS, colleges and schools, voluntary and community sectors, and parent-carer groups. Aimed to reform the statutory SEN assessment and statement framework.	<u>(n=1000)</u> No information reported.	satisfaction • Access to services: ○ Waiting times for services • Joined-up support: ○ Cross-sector planning ○ Effectiveness of information sharing	report of SEND pathfinder programme. Brief report presented in Craton 2013. Both studies retained as samples are non-overlapping.

EHC: education, health and care; NHS: National Health Service; SEN: special educational needs; SEND: special educational needs and disability

See the full evidence tables in appendix D and the forest plots in appendix E.

Summary of the effectiveness evidence

Overall, services receiving designated funding, with designated service managers and with clear key worker job descriptions had important benefits over those with no designated funding, no designated service manager and partial or no key worker job descriptions, respectively, for parents' satisfaction with key worker services. There was also an important benefit of joint or pooled budgets over separate budgets in terms of fewer parents saying they were fairly or very dissatisfied with services, that it took too long to access services and that information was not shared across services well or at all. There was also an increase in the number of parents reporting that planning had taken place jointly with pooled budgets compared with separate budgets, but there were no differences in number of parents who were very or fairly satisfied with services or that reported information was shared across services very or fairly well. There was no important difference in parents' satisfaction for services with and without parental involvement in the steering committee or services with and without designated key workers.

Only three studies were found for this review question and the majority of the evidence was low quality, from single studies and seriously imprecise. Further, none of the included studies reported local availability of services or use of services.

See appendix F for full GRADE tables.

Economic evidence

The economic review of the evidence was undertaken for this review and the review of meeting health, social care and education needs simultaneously. See economic evidence in

the meeting health, social care and education needs, including changing and evolving needs section.

Summary of included economic evidence

See the economic evidence tables in appendix H and summary of studies included in the economic evidence review in the meeting health, social care and education needs, including changing and evolving needs section.

Economic model

See economic model in the meeting health, social care and education needs, including changing and evolving needs section.

Evidence statements

Economic

See the economic evidence statements in the meeting health, social care and education needs, including changing and evolving needs section.

The committee's discussion and interpretation of the evidence

The outcomes that matter most

This review question focused on the impact of models for the delivery of joined-up health, social care and education services on service-focused outcomes. The impact of models for the delivery of joined-up health, social care and education services on person-focused outcomes, such as quality of life, are included in the review of 'Commissioning, practice and service delivery models that meet education, health, and social care needs'.

Service user satisfaction and access to services were prioritised as critical outcomes by the committee. Service user satisfaction was selected as a critical outcome due to the importance of providing person-centred services. Access to services, measured both in terms of local availability and waiting times, was selected as a critical outcome, as being unable to access services may exacerbate children and young peoples' needs.

Joined-up support and use of health, social care and education services were selected as important outcomes by the committee. Joined-up support, measured both in terms of cross-sector planning and effectiveness of information sharing, was selected as an important outcome as the committee agreed that joined-up support should better enable services to meet the needs of children and young people. Use of health, social care and education services was included as an important outcome as another way of capturing the accessibility of services.

No evidence was found that reported local availability of services or use of services.

The quality of the evidence

The quality of the evidence was assessed with GRADE and was rated as low to moderate. Concerns about risk of bias were "serious" for all outcomes. The most serious concerns were biases arising from selection of participants and measurement of outcomes. There was "no serious inconsistency" for all outcomes, due to only one study reporting all but one outcome of interest. There was also "no serious indirectness" for all outcomes. Concerns about imprecision ranged from "serious" to "no serious imprecision". Serious imprecision was due to 95% confidence intervals crossing boundaries for minimally important differences.

Benefits and harms

See benefits and harms in the meeting health, social care and education needs, including changing and evolving needs section.

Cost effectiveness and resource use

See cost effectiveness and resource use in the meeting health, social care and education needs, including changing and evolving needs section.

Commissioning, practice and service delivery models that meet education, health and social care needs

Review question

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Introduction

This review aims to identify effective combined commissioning, practice and service delivery models for meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs.

At the time of scoping and developing the review protocols, documents referred to health, social care and education in accordance with NICE style. When discussing the evidence and making recommendations, these services will be referred to in the order of education, health and social care for consistency with education, health and care plans.

Summary of the protocol

See Table 3 for a summary of the Population, Intervention, Comparison and Outcome (PICO) characteristics of this review.

Table 3: Summary of the protocol (PICO table)

Population	Disabled children and young people from birth to 25 years with severe complex needs who require health, social care and education support.

Intervention	Any commissioning, practice and service delivery models (approaches, configurations of resources and services) delivering 2 or more of health, social care and education services.
	For example:
	Practice and service delivery models
	• Delivery arrangements:
	  ○ Who provides care and how the healthcare workforce is managed:
	  - Role-expansion/ task shifting
	  ○ Coordination of care and management of care processes:
	  - Individual case (service user) management (models responsive to individual needs)
	  - Communication / referral between providers
	  - Shared care
	  - Shared decision making
	  - Multidisciplinary teams
	  - Multiagency assessment tool for service requirements (e.g. West Sussex tool)
	Commissioning models:
	• Delivery arrangements:
	  ○ Coordination of care and management of care processes:
	  - Integration (consolidation) of services
	• Financial arrangements:
	  ○ Mechanisms for the payment of health services:
	  - Joint/pooled budgets
	• Governance arrangements:
	  ○ Authority and accountability for organisations:
	  - Joint commissioning teams
	  - Strategic oversight of commissioning

Comparison	• Any other joined-up commissioning, practice and service delivery models • Separate health, social and education services (without joined-up working)

Outcome	**Critical**
	• Extent to which needs are met (including changing and evolving needs)
	  ○ Health needs
	  ○ Social care needs
	  ○ Educational needs
	Important
	• Quality of life
	• Social inclusion
	• Preparation for adulthood
	• Mortality

For further details see the review protocol in appendix A.

Methods and processes

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 and the methods document (Supplement A).

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

Effectiveness evidence

Included studies

Four studies were included in this review; two mixed methods studies (Greco 2005 and Thom 2015), one survey (Eskow 2015), and one before and after study (Klag 2016).

The included studies are summarised in Table 2.

One study compared different practice and service delivery models for management of care (Greco 2005), 2 studies compared difference practice and service delivery models for individual case management/multidisciplinary teams/shared decision making (Greco 2005 and Klag 2016), and 3 studies compared different commissioning models for financial arrangements (Eskow 2015, Greco 2005 and Thom 2015).

See the literature search strategy in appendix B and study selection flow chart in appendix C.

Excluded studies

Studies not included in this review are listed, and reasons for their exclusion are provided in appendix J.

Summary of studies included in the effectiveness evidence

Summaries of the studies that were included in this review are presented in Table 2.

Table 4: Summary of included studies

Study	Population	Intervention	Comparison	Outcomes	Comments
Eskow 2015 Survey USA	Families receiving the Maryland waiver for autistic spectrum disorders, or on the waitlist for the waiver.	ASD waiver (n=130) Home and Community-Based Service (HCBS) Waiver for children with ASD that allows access to Medicaid funds for services in less restrictive environments.	Waitlist (n=130) Medicaid funds are normally reserved for residential facilities. Waitlist families must have been receiving minimal waiver-like (HCBS) services.	• Quality of life • Preparation for adulthood	Outcomes measured in terms of improvement in the last 12 months.
Greco 2005 Mixed methods UK	Families who were using 7 case study key worker services.	Key worker service A One full-time designated key worker is funded by Children First and health, education and social services provide part-time non-designated key workers. Key worker service B		• Quality of life	No comparative data was reported in sufficient detail for analysis based on transition service. Additional comparative data was

Study	Population	Intervention	Comparison	Outcomes	Comments
		Service and designated key workers funded by health, education and social services. Key worker service C At the time of the survey, the service was funded by a Children's services grant but it has received funding/designated key workers from Health Action Zone, social services and education. Key worker service D At the time of the survey, 50% of the funding comes from the primary care trust; social services and education are invoiced retrospectively. Non-designated key workers provided by various agencies. Key worker service E Service managers funded jointly (50:50) by primary care trust and local authority. Key workers are seconded by different agencies. Key worker service F Non-designated key workers are provided by multiple agencies within existing resources/financial arrangements. Key worker service G No dedicated budget for the scheme; non-designated key workers providing service as part of their existing roles.			reported comparing specific aspects of transition across services (e.g., whether or not services had designated key workers).
Klag 2016 Before and after study Australia	Children aged <18 years, in out of home care, presenting with severe and/or	Evolve Therapeutic Services (n=664) Tertiary level collaborative wrap around	Before Evolve Therapeutic Services (n=664) No information	• Preparation for adulthood	Mean program duration 19.2 months (SD 11.1).

Study	Population	Intervention	Comparison	Outcomes	Comments
	complex psychological and/or behavioural problems.	mental health services embedded within Evolve Interagency Services – an interagency partnership between Queensland Health, the Department of Communities, Child Safety & Disability Services, and the Department of Education, Training & Employment.	reported.		
Thom 2016 Mixed methods UK	Intervention Families who had received an EHC plan between August 2013 and April 2014 from one of 30 SEND pathfinder sites. Comparator Families who had a SEN statement/post-16 equivalent from one of 24 pathfinder areas, before the introduction of the SEND pathfinder programme.	SEND pathfinder programme (n=698) Grant funded collaboration between local authorities, NHS, colleges and schools, voluntary and community sectors, and parent-carer groups. Aimed to reform the statutory SEN assessment and statement framework.	Comparator (n=1000) No information reported.	• Extent to which needs are met ○ Health needs ○ Social care needs ○ Educational needs • Quality of life • Social inclusion • Preparation for adulthood	None

ASD: autistic spectrum disorder; EHC: education, health and care; HCBS: home and community-based service; NHS: National Health Service; SEN: special educational needs; SEND: special educational needs and disability; SD: standard deviation

See the full evidence tables in appendix D. No meta-analysis was conducted (and so there are no forest plots in appendix E).

Summary of the effectiveness evidence

Overall, services receiving designated funding, with designated service managers, with parental involvement in the steering committee and with clear key worker job descriptions had important benefits over those with no designated funding, no designated service manager, no parental involvement in the steering committee and partial or no key worker job descriptions, respectively, for parents' quality of life. There was also evidence of an important benefit of Evolve Therapeutic Services for community inclusion, reported in terms of reduced problems with peer relationships. There was some evidence of as possible important benefit of joined budgets compared with pooled budgets for reducing the number of parents who reported that their quality of life was fairly or very poor. However, there were no important difference between joint and pooled budgets on other measures of quality of life or on the extent to which needs were met, social inclusion or preparation for adulthood outcomes. There was no important difference in before and after Evolve Therapeutic Services for independent living, reported in terms of problems with self-care and independence, or between access to funds for community home based services and funds reserved for residential services, or designated and non-designated key workers for any of the outcomes reported.

Only four studies were found for this review question and the majority of the evidence was low quality, from single studies and seriously imprecise. Further, none of the included studies reported mortality.

See appendix F for full GRADE tables.

Economic evidence

Included studies

Five economic studies were identified which were relevant to this question (Revill 2013, Cohen 2012, Peter 2011, Gordon 2007, Palfrey 2004).

A single economic search was undertaken for all topics included in the scope of this guideline. See Supplement B for details.

Excluded studies

Economic studies not included in this review are listed, and reasons for their exclusion are provided in appendix J.

Summary of included economic evidence

The systematic search of the economic literature undertaken for the guideline identified:

- One Irish study on the costs of a service comprising of home care and respite service, monthly care budget, continuity of care, and liaison (Revill 2013);
- One Canadian study on the cost-utility of a co-management model with primary care providers (Cohen 2012);
- One Australian study on the costs of ambulatory care coordination model (Peter 2011);
- One US study on the costs of a tertiary-primary care partnership model (Gordon 2007);
- One US study on the costs of a paediatric alliance for coordinated care model (Palfrey 2004).

See the economic evidence tables in appendix H. See Table 5 for the economic evidence profiles of the included studies.

Table 5: The economic evidence profiles for practice and service delivery models

Study and country	Limitations	Applicability	Other comments	Costs/Incremental costs	Effects /Incremental effects	Results/ICER	Uncertainty
Revill 2013 Ireland	Potentially serious limitations[1]	Partially applicable[2]	-Cost analysis -Intervention: Home nursing care and respite services, care budget, continuity of care, liaison service -Comparator: NA, i.e. non-comparative -Time horizon: 1 year	€41,148 per participant (€16,267 provider costs, €22,261 indirect family costs, €2,620 direct family costs)	NA	NA	Mean cost per participant: Including hospital inpatient costs: €56,926 Excluding indirect costs: €18,887
Cohen 2012 Canada	Potentially serious limitations[3]	Partially applicable[4]	-Cost-utility analysis -Intervention: Co-management model with existing primary care providers (i.e. community paediatricians work together with a tertiary care affiliated nurse practitioners, focus on care coordination, care plan, community based therapists and professionals) - Comparator: Uncoordinated services (not defined) -Time horizon: 12 months -Outcome measure: QALYs (calculated by the NGA team); CPCHILD; PedsQL;	Per participant: -$12,840 (mean) -$1,356 (median)	QALYs -0.0009 (mean) 0.005 (median) CPCHILD 0.2 (mean) -0.9 (median) 0.0 (PedsQL) Significant improvements on MPOC enabling and partnership, coordinated and comprehensive care, and respectful and supportive care domains	-$14.2 million per QALY lost using mean costs and QALYs Intervention dominant using median costs and QALYs Intervention dominant (mean costs and mean CPCHILD scores) ICER of -$1,506 per CPCHILD score lost	Mean cost difference was significant, p<0.007 PedsQL no significant differences MPOC, Enabling and partnership (p=0.01), Coordinated and Comprehensive Care (p=0.004), Respectful and Supportive Care (p=0.01)

Study and country	Limitations	Applicability	Other comments	Costs/Incremental costs	Effects /Incremental effects	Results/ICER	Uncertainty
			MPOC			using median costs and median CPCHILD scores Intervention preferred on the basis of lower costs when using PedsQL Intervention dominant using MPOC enabling and partnership, coordinated and comprehensive care, and respectful and supportive care domains	
Peter 2011 Australia	Potentially serious limitations[5]	Partially applicable[6]	-Cost analysis -Intervention: Ambulatory care coordination (nurse led integrated care coordination) - Comparator: undefined pre-service introducton care	-$19,228 per participant (post vs. pre)	NA	Coordination cost saving	None

Study and country	Limitations	Applicability	Other comments	Costs/Incremental costs	Effects /Incremental effects	Results/ICER	Uncertainty
			-Time horizon: 10 months				
Gordon 2007 US	Potentially serious limitations[7]	Partially applicable[8]	-Cost analysis -Intervention: Special needs programme (SNP, tertiary care–primary care partnership) PNCM-MD group (SNP paediatric nurse case manager and SNP physician) PNCM group (SNP paediatric nurse case manager only) -Comparator: pre-enrolment care (not defined) -Time horizon: one day Children's Hospital of Wisconsin (CHW) and Medical College of Wisconsin (MCW)	PNCM-MD group -$604 (CHW) -$36 (MCW) PNCM group -$19 (CHW) $32 (MCW)	NA	PNCM-MD model was cost saving at both centres; PNCM model was cost saving at one centre but not the other	PNCM-MD The reduction in post-enrolment median daily charges was significant at CHW centre (p<0.01) but not MCW centre (p=0.78). PNCM The reduction in post-enrolment median daily charges was significant at CHW centre (p=0.002); and an increase was also significant at MCW centre (p=0.004).
Palfrey 2004 US	Potentially serious limitations[9]	Partially applicable[10]	-Cost analysis -Intervention: Paediatric Alliance for Coordinated Care (a designated paediatric nurse practitioner, consultation from a local parent of a child with special healthcare needs, an individualised health	$400 (annual cost per participant)	NA	NA	None

Study and country	Limitations	Applicability	Other comments	Costs/Incremental costs	Effects /Incremental effects	Results/ICER	Uncertainty
			plan, medical and nursing education, and expedited referrals and communication with specialists and hospital-based personnel) -Comparator: NA, i.e. non-comparative cost analysis -Time horizon: 2 years				

Abbreviations: CHW: Children's Hospital of Wisconsin; CPCHILD: The Caregiver Priorities & Child Health Index of Life with Disabilities; ICER: incremental cost effectiveness ratio; MCW: Medical College of Wisconsin; MPOC: Measures of Processes of Care; NA: not applicable; NR: not reported; PedsQL: Pediatric Quality of Life Inventory; PNCM: Pediatric nurse case manager; PNCM-MD: Pediatric nurse case manager and Special needs physician; QALY: Quality Adjusted Life Year; SNP: Special needs physician

1. *Short time horizon, based on small retrospective study (n=30), mix of local and national unit cost data, limited statistical analysis*
2. *Non-UK study*
3. *Pre-, post-study design (i.e. any changes in costs and outcomes could have been due to overall standard of care improving, the natural history of child's condition, short time horizon, healthcare centred, unclear source of unit cost data (likely local)*
4. *Non-UK study; healthcare orientated although includes some community (social care?) care; variety of outcomes; QALYs were not reported but it was possible to estimate form SF-36 measure*
5. *Pre-, post-study design (i.e. cost savings could have been due to improvement in clinical conditions over time), short time horizon, narrow healthcare payer perspective (inpatient care only), local unit cost data*
6. *Non UK study*
7. *Short time horizon, pre-, post-study design (cost savings due to improvement in clinical conditions over time, healthcare focused (i.e. inpatient care only)*
8. *Non-UK study*
9. *Intervention costs only, small observational study, local unit cost data*
10. *Non-UK study*

Economic model

These review questions were identified as economic priorities, however, no economic modelling was undertaken because there was insufficient effectiveness data.

Evidence statements

Economic

- There was evidence from one cost analysis showing that home nursing care and respite services, including care budget, continuity of care, and liaison service led to additional intervention costs in severely disabled children. The overall impact on costs was unclear. This cost analysis was non-comparative and was based on an observational retrospective study (N=30). This evidence is partially applicable to the NICE decision-making context as it was conducted in Ireland and is characterised by potentially serious limitations, including a short time horizon, a mix of local and national unit cost data, and limited statistical analysis.

- There was evidence from one cost-utility analysis showing that a management model with primary care providers in children with a known or suspected diagnosis of a complex chronic condition that is associated with a medical fragility was potentially cost effective with an incremental cost effectiveness ratio of $14.2 million per quality-adjusted life year lost. This analysis was based on a pre-post study (N=81). This evidence is partially applicable to the NICE decision-making context as it was conducted in the US and is characterised by potentially serious limitations, including a pre-post study design (i.e. any changes in costs and outcomes could have been due to an overall standard of care improving, the natural history of child's condition), short time horizon.

- There was evidence from one cost analysis showing that ambulatory care coordination (nurse led programme that offered integrated coordination) resulted in cost savings in children with complex care needs. This analysis was based on a pre-post study (N=101). This evidence is partially applicable to the NICE decision-making context as it was conducted in Australia, and is characterised by potentially serious limitations, including a pre-post study design, short time horizon, narrow healthcare payer perspective.

- There was mixed evidence from one cost analysis showing that the special needs programme (a tertiary primary care partnership model) resulted in either a cost increase or a cost reduction. This study considered two service structures and cost estimates from two hospitals. One service configuration included a paediatric nurse case manager and a physician. The other configuration included only a paediatric nurse case manager. The analysis showed that a service comprising both a paediatric nurse case manager and a physician resulted in cost savings at both hospitals. The service that included only a paediatric nurse case manager was cost saving in one centre but not the other. This analysis was based on a pre-post study (N=227). This evidence is partially applicable to the NICE decision-making context as it was conducted in the US, and is characterised by potentially serious limitations, including a short time horizon, pre-post study design, too healthcare-focused (i.e. inpatient care only).

- There was evidence from one cost analysis showing that paediatric alliance for coordinated care model (comprehensive care at the community level to improve the coordination and communication among practitioners) resulted in additional intervention costs with the overall impact on costs unclear. This cost analysis was based on an observational / interrupted time series study (N=150). This evidence is

partially applicable to the NICE decision-making context as it was conducted in the US and is characterised by potentially serious limitations, including consideration of intervention costs only, small sample, local unit cost data.

The committee's discussion and interpretation of the evidence

The outcomes that matter most

This review question focused on the impact of models for the delivery of joined-up health, social care and education services on person-focused outcomes. The impact of models for the delivery of joined-up health, social care and education services on service-focused outcomes, such as access to services, are included in the review of 'Commissioning, practice and service delivery models to deliver joined-up care'.

Extent to which health, social care and educational needs are met was prioritised as a critical outcome by the committee as they agreed that joined-up support should better enable services to meet the needs of children and young people and failure to meet needs is likely to have a long term impact on a number of other outcomes, such as health and social related quality of life of both children and young people and their families.

Quality of life, social inclusion, preparation for adulthood and mortality were selected as important outcomes by the committee. Quality of life was selected as an important outcome due to the importance of providing person-centred services. Social inclusion and preparation for adulthood were included as they are core outcomes included within EHC planning and the SEND Code of Practice (2015). Mortality was considered an important outcome as this may be impacted by the extent to which needs are met.

No evidence was found that reported mortality.

The quality of the evidence

The quality of the evidence was assessed with GRADE and was rated as very low to moderate. Concerns about risk of bias ranged from "very serious" to "serious". The most serious concerns for the mixed methods studies and the survey were biases arising from selection of participants and measurement of outcomes, whereas the most serious concerns for the before and after study were biases arising from random sequence generation, allocation concealment and lack of a separate control group. There was "no serious inconsistency" for all outcomes due to only one study reporting each outcome of interest. There was also "no serious indirectness" for all outcomes. Concerns about imprecision ranged from "very serious" to "no serious imprecision". Imprecision was due to 95% confidence intervals crossing boundaries for minimally important differences.

Benefits and harms

There was some evidence that having parental involvement in steering committees and advisory groups improved parents' quality of life. The role of these groups included defining service criteria and developing policies and practices, arranging funding and training, developing performance indicators and monitoring the service, raising awareness and addressing barriers to multi-agency working. There was also qualitative evidence (see evidence report K, sub-theme 6.8) that using a more flexible approach where services are able to meet the individual needs of the child/young person, rather than fitting the child/young person within existing rigid service models would be beneficial and enable services to better meet the needs of children and young people. Therefore, the committee recommended that children and young people and their parents or carers should be involved in planning services [1.17.6], and that commissioners should ensure their participation is effective and their role in planning is clear [1.17.7]. This is consistent with guidance in the SEND Code of

Practice (2015) which specifies that local authorities need to involve children, young people and their parents in a way that ensures they have participated fully.

There was also some evidence that services with clear key worker job descriptions had important benefits over services with partial or no key worker job descriptions. However, there was no evidence of differences between services with and without designated key workers, and there was no evidence comparing services that had key workers with those that did not have key workers. The qualitative evidence highlighted that key workers are seen as important for having a holistic view of the child or young person and coordinating services (see evidence report K, theme 16). The committee agreed that for interagency team working to be effective there needs to be good communication between the interagency team and the child or young person (and their families/carers). The committee were aware that the SEND Code of Practice (2015) specified that local authorities should adopt a key working approach to provide a single point of regular and consistent contact to help ensure holistic provision and co-ordination of services and support. This approach would be integral to facilitating efficient communication between the interagency team and the child/young person and their families, but is not currently happening everywhere. Further, the committee agreed, based on their experience, that there is variation in understanding of what key working may involve. Therefore, they agreed to make a recommendation that emphasised the SEND Code of Practice (2015) guidance in this area [1.15.4]. Based on the committee's experience, some of the key working support functions outlined in the SEND Code of Practice (2015) may be difficult to carryout due to differences in organisation and policies across services. Therefore, they recommended that there are information sharing and governance arrangements in place to facilitate the key working support [1.15.15]. The committee also recommended that there is further research into the effectiveness of dedicated key workers.

The committee agreed, based on their experience, that senior involvement is required to ensure that all disabled children and young people with severe complex needs have a practitioners providing them with key working support, as this will not occur naturally and would lead to variation in who does and does not receive key working support. Further, they agreed it was important that practitioners providing key working support have the training, time and resources needed to provide this support, taking into account their other commitments, as otherwise it will not be possible to carry out the key working functions, or the standard of support will not be sufficient to provide a benefit [1.15.6]. The committee also agreed it was important that managers ensure that interagency teams understand what key working support involves so that those providing key working support provide a consistent service that addresses the key functions of the role [1.15.7]. However, the committee acknowledged that the specific functions and the amount of time and resources required to fulfil the key working support role for each child or young person will vary based on their specific needs and family circumstances. In order for it to be possible to provide key working support to everyone who needs it, the committee felt strongly that there needs to be flexibility in the support that is provided and it should be tailored to individual needs [1.15.5]. This recommendation will be particularly relevant to those with characteristics associated with vulnerability and stigma e.g. looked after children status, traveller status, family breakdown, homelessness.

The committee agreed, based on their experience, that there should be early multiagency involvement with children and young people with severe complex needs in order to identify, assess and address their needs. This is consistent with qualitative evidence (see evidence report K, sub-theme 8.1) that there can be a lack of urgency to provide support until children and young people reach crisis points. Therefore, the committee made a recommendation in support of early multi-agency involvement [1.17.1].

The committee discussed that children and young people may be placed in specialist residential placements that may be some distance from the child or young person's home. The committee were of the view that for some children and young people, specialist residential placements provide a holistic package of care and support that fully meets the

needs of the individual and that this may be the most effective option due to difficulty meeting this level of provision outside of residential placements. However, they were also of the view that some children and young people get placed at a distance to home, not because the provision is best for their needs, but because there are no services available to provide the care they need closer to home, or, they do not meet the eligibility criteria to access these services. In the opinion of the committee, providing care closer to home and within their community would be beneficial for children, young people and their families in terms of improved quality of life and maintaining family and social relationships. Further, the committee were concerned that when children and young people return from residential placements, the local community may not be equipped to meet their needs as they have not built the capacity to do so, or people may fall through the gap as they are not known to local services. The committee therefore agreed, based on their experience, to recommend that when commissioning services, all options to provide care and support close to home and within their community should be explored before placing an individual at a distance to the family home [1.17.1]. In addition, the committee agreed, based on their experience and the evidence above regarding lack of intervention until crisis points are reached, that there are a group of children and young people with severe complex needs who end up with residential placements as a result of escalation of their needs due to a lack of early intervention. Therefore, they made a research recommendation to establish the most effective commissioning, practice and service delivery models for enabling children and young people to stay close to home.

The committee agreed, based on their experience, that it is widespread practice for services to be commissioned and developed based on replicating existing services and that this approach does not necessarily consider what the outcomes of such services should be or develop services that meet the needs of the population. The committee agreed that specifying outcomes in contracts should lead to services that are better equipped to meet the needs of disabled children and young people with severe complex needs and, therefore, made a recommendation in support of this [1.17.1]. This recommendation was further supported by qualitative evidence that using a more flexible approach where services are able to meet the individual needs of the child/young person, rather than fitting the child/young person within existing rigid service models would be beneficial (see evidence report K sub-theme 6.8).

The committee discussed that, in their experience, different services often work in silos and may not consider the impact that changes in service structure or processes may have on other services involved in the care of disabled children and young people. For example, services may rely on the results of specific assessments as entry criteria to services and may not be able to determine who should be admitted to a service or intervention if this assessment is discontinued. The committee agreed that these situations can cause delays and lead to gaps in service provision. Therefore, the committee recommended that how services fit together and the impact of changes in one service on another are considered when commissioning services [1.17.1].

The qualitative evidence reviews highlighted that a lack of funding and resources is a barrier to providing services, that there is a lack of appropriate services, particularly post-16 years of age and that decision making for transitions is left too late (see evidence report A, sub-themes 11.4 and 11.5; evidence report K, sub-themes 5.2, 6.4 and 17.1). Further, the committee emphasised that joint planning and commissioning should lead to more effective use of limited resources. Therefore, the committee agreed local authorities and health commissioners should plan how services will be organised once young people turn 18 to ensure continuity of support [1.17.2].

The committee noted that there is a joint commissioning duty in the Children and Families Act 2014, between CCGs and Local Authorities. However this is only happening in parts of the system. There is no universally established framework at an organisational level to enable joint working across all 3 sectors to happen. Many of the guideline recommendations

emphasise the need for joint working, but services ability to implement these would be limited without the a framework being established at an organisational level. The committee noted that the commissioning duty of CCGs is being absorbed by Integrated Care Systems and therefore the same duty should apply to the relationship between ICSs and Local Authorities. Therefore they recommended that ICSs and Local Authorities should develop a joint commissioning framework [1.18.1].

There was some evidence that dedicated funding for services, joint budgets and having a designated service manager improved parents' satisfaction and quality of life. However, this evidence was very limited and related to the provision of key workers only. Further, there was insufficient information in the included papers regarding the exact funding and commissioning arrangements. Therefore, the committee did not think this evidence provided sufficient basis for recommendations and recommended further research into the most effective joint commissioning arrangements for disabled children and young people with severe complex needs.

Cost effectiveness and resource use

Five existing economic studies explored the costs and cost-effectiveness of service arrangements to deliver joined-up education, health and social care services. All studies were non-UK, partially applicable and characterised by potentially serious limitations. As a result, the committee could not draw any conclusion from this evidence or base any recommendations on it.

One UK study on the costs of key worker service (Copps 2007) was identified for evidence review D (Supporting families and carers). The analysis showed that the key worker service costs more to provide than the financial gains. However, under a certain set of assumptions, the key worker service could potentially be cost-saving. It was acknowledged that this study was only partially applicable to the NICE decision-making context because it was unclear from the study's definition how applicable the population was. Also, this study was characterised by potentially serious limitations. As a result, the committee could not draw any firm conclusions from this evidence.

The recommendations on providing key working support reiterate guidance in the SEND Code of Practice (2015). However, since its introduction, the challenging nature of the environment has meant the guidance on key working support has largely been unimplemented and key workers do not have enough protected time to provide these functions adequately.

The committee discussed that in their opinion it would be preferable for key working support to be provided by a dedicated key worker role, with a separate job description and role specification, rather than key working functions being allocated to members of the team on top of their existing roles. Their view was that providing key working support effectively can be time-consuming and the person undertaking it needs to have the time and resources for this.

The committee explained that provision of key working support includes benefits to families and carers, e.g. if key workers do the coordination, families do not have to take time off their other commitments, including care for siblings and time off work and increases their ability to manage at home, avoiding the cost of expensive care placements. Due to the lack of key working support, there are routine reports of communication and coordination failures (i.e. different services not feeding into each other), leading to inefficient processes, missed meetings, and poor information provision. Key working support counteracts this considerably and ensure coordinated and seamless care, joined-up outcomes, and reduction in complaints. The committee was of the view that the value of benefits potentially offsets any costs associated with providing key working support. However, they acknowledged that there was no evidence of effectiveness or cost-effectiveness to justify a specific key worker post.

Since the recommendations on key working support reiterate guidance in the SEND Code of Practice (2015) they should not have a significant resource impact. However, practice is variable, and the committee acknowledged that the implementation of these recommendations might require additional resources for services with sub-optimal practices. For example, services will have to plan their resources more effectively to enable key working support to be provided and staff supported to do so.

There is currently no dedicated/bespoke training for people who will be providing key working support. The committee explained that the essential skills required to provide key working support involve project management, negotiating and communicating with people, and usually involve component-based training. Training in these components is already available and accessible to support individuals providing key working support to develop the specific skills they need. Therefore, this recommendation is not expected to have a significant resource impact.

The committee discussed the recommendation around focussing on early multiagency involvement when commissioning services. They noted that there may be some resource implications associated with facilitating early involvement. However, savings associated with children and young people and their families not reaching a crisis / preventing emergency placements would likely outweigh any additional costs.

Specifying outcomes in contracts is based on the guidance in the SEND Code of Practice (2015) and the recommendation is not suggesting a move from block contracts as this would be unfeasible. There is still a widespread practice where commissioners are procuring services on a block contract basis without specifying what outcomes services should be achieving, and as a result, it makes it easy for services to degrade. The committee explained that block arrangements do not limit commissioners describing the population's needs, including individual needs (within block contracts). The recommendation makes it more explicit that outcomes can and should be specified within existing commissioning frameworks. This recommendation has a potential to result in more responsive and efficient services.

The committee discussed issues around funding, and organising services for young people once they turn 18, to ensure continuity of support. The committee explained that the entire public sector is under financial constraints to provide services and resources to meet both individual and population needs. The lack of communication between education, health and social care during the transition period causes care delays and results in poor outcomes. This issue will become more significant in future due to a growing population and people with disabilities and severe complex needs living longer. The committee agreed that sectors coming together, planning, using joint funding / commissioning, partnership working would create an opportunity for efficiencies in terms of maximising the needs met from available funds. Therefore, any additional costs to local authorities and health commissioners associated with planning / setting up frameworks for joint working to ensure continuity of support during the transition period would be offset by efficiency gains and better outcomes.

The committee discussed commissioning changes being made in services, (e.g. changes in the provision, model) in a vacuum without considering broader knock-on impacts. Often reconfiguration of services is undertaken within that sector and there is no comprehensive impact assessment across all sectors. Local authorities have duties around joint strategic needs assessment, but not in terms of integrated service delivery. Services can change rapidly, which can have an enormous impact on other services, particularly for the delivery of integrated services. It can result in unintended consequences, e.g. care gaps, with substantial financial consequences. The committee agreed that there needs to be consideration of how each service fits in and works with other services and how commissioning changes in one may impact other services and the ability to provide integrated care and support. Such practices should encourage a good way of working and prevent unintended costly consequences due to care gaps. It could also help with the

efficiencies and result in other cost-savings, e.g. health and local authorities engaging in joint recruitment.

The committee discussed the recommendation for Integrated Care Systems (ICSs) and local authorities to develop joint-commissioning frameworks. Integrated care systems are replacing clinical commissioning groups and may need to work collaboratively with local authorities where they are not already doing so, which potentially could have some resource implications. Joint commissioning of services is currently only being done for particular provisions, for example some patient advice and support services, some bespoke packages for post-16s, and some short breaks. Developing a joint commissioning framework would be a change in practice. Given the integral part local authorities play in the identification, assessment, and care pathways for children and young people with disabilities and severe complex needs, joint working (facilitated by a joint commissioning framework) is essential to bring meaningful improvements in the care of these children and young people.

A joint commissioning framework across education, health, and social care will enable collaborative working, coordination, consistency, and efficiencies for all parties involved. It will enable holistic care and a less fragmented experience. It will also allow practitioners to deliver person-centred care that addresses their needs across the 3 sectors, and ultimately, it will result in better care and support for the person. For example, better joined-up working will lead to early identification of need (before they reach a crisis). This may prevent expensive out of area placements, and prolonged hospital stays. It improves health outcomes because the right care can be initiated early, i.e. delays in care exacerbate problems. This would also improve educational outcomes by getting the right support for engaging in learning earlier.

Education, health and social care services will have to make their processes more joined-up and coordinated. They may need more joint and collaborative meetings. Commissioners will need to establish frameworks for collaborative and cooperative working.

Recommendations supported by this evidence review

This evidence review supports recommendations 1.15.4 - 1.15.7, 1.15.15, 1.17.1, 1.17.2, 1.17.6, 1.17.7, 1.18.1 and the research recommendations on dedicated keyworkers, care close to home and joint commissioning arrangements. Other evidence supporting these recommendations can be found in the evidence reviews Views and experiences of service users (evidence report A), Barriers and facilitators of joined-up care (evidence report K), Views and experiences of service providers (evidence report M).

References – included studies

Effectiveness

Craston 2013

Craston M., Thom, G., Spivack, R., Lambert, C., Yorath, F., Purdon, S., Bryson, C., Sheikh, S., Smith, L., Evaluation of the SEND pathfinder programme: Impact research brief, London: Department for Education, 2013. Available at: www.gov.uk/government/publications

Eskow 2015

Eskow, K. G., Chasson, G. S., Summers, J. A., A cross-sectional cohort study of a large, statewide Medicaid home and community-based services autism waiver program, Journal of Autism and Developmental Disorders, 45, 626-35, 2015

Greco 2005

Greco, V., Sloper, P., Webb, R., Beecham, J., An exploration of different models of multi-agency partnerships in key worker services for disabled children: effectiveness and costs, London: Department for Education and Skills, 2005. Available at: https://www.york.ac.uk/inst/spru/pubs/pdf/keyworker.pdf

Klag 2016

Klag, S., Fox, T., Martin, G., Eadie, K., Bergh, W., Keegan, F., Turner, D., Raeburn, N., Evolve Therapeutic Services: A 5-year outcome study of children and young people in out-of-home care with complex and extreme behavioural and mental health problems, Children and Youth Services Review, 69, 268-274, 2016

Thom 2015

Thom G., Lupton, K., Craston, M., Purdon, S., Bryson, C., Lambert, C., James, N., Knibbs, S., Oliver, D., Smith, L., Vanson, T., The Special Educational Needs and Disability Pathfinder Programme evaluation: Final impact research report, London: Department for Education, 2015. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/448157/RB471_SEND_pathfinder_programme_final_report_brief.pdf

Economic

Cohen 2012

Cohen, E., Lacombe-Duncan, A., Spalding, K., MacInnis, J., Nicholas, D., Narayanan, U. G., et al., Integrated complex care coordination for children with medical complexity: a mixed-methods evaluation of tertiary care-community collaboration. BMC health services research, 12, 366, 2012

Gordon 2007

Gordon, J. B., Colby, H. H., Bartelt, T., Jablonski, D., Krauthoefer, M. L., & Havens, P., A tertiary care–primary care partnership model for medically complex and fragile children and youth with special health care needs. Archives of pediatrics & adolescent medicine, 161, 937-44, 2007

Palfrey 2004

Palfrey, J. S., Sofis, L. A., Davidson, E. J., Liu, J., Freeman, L., & Ganz, M. L., The Pediatric Alliance for Coordinated Care: evaluation of a medical home model. Pediatrics, 113, 1507-16, 2004

Peter 2011

Peter, S., Chaney, G., Zappia, T., Van Veldhuisen, C., Pereira, S., & Santamaria, N., Care coordination for children with complex care needs significantly reduces hospital utilization. Journal for Specialists in Pediatric Nursing, 16, 305-12, 2011

Revill 2013

Revill, P., Ryan, P., McNamara, A., & Normand, C., A cost and outcomes analysis of alternative models of care for young children with severe disabilities in Ireland. Alter, 7, 260-74, 2013

Other

Department for Education and Department for Health 2015

Department for Education and Department for Health, Special educational needs and disability code of practice: 0 to 25 years. Statutory guidance for organisations which work with and support children and young people who have special educational needs or disabilities. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/398815/SEND_Code_of_Practice_January_2015.pdf [Accessed 05/11/2020]

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Appendices

Appendix A – Review protocols

Review protocol for review question: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

Table 6: Review protocol

ID	Field	Content
0.	PROSPERO registration number	CRD42019155740
1.	Review title	What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?
2.	Review question	What are the most effective commissioning, practice and service delivery practice models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?
3.	Objective	To identify effective commissioning, practice and service delivery models for the delivery of joined-up health, social care and education services for disabled children and young people with severe complex needs.
4.	Searches	The following databases will be searched: • Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Embase • MEDLINE • Health Technology Assessment (HTA) • Database of Abstracts of Reviews of Effects (DARE) • British Education Index (BEI) • Educational Information Resources Center (ERIC) • Health Management Information Consortium (HMIC) • Applied Social Science Index and Abstracts (ASSIA) • Social Care Online • Social Policy and Practice

ID	Field	Content
		• Social Science Citation Index • Social Services Abstracts • Sociological Abstracts • PsycINFO • CINAHL • Emcare Searches will be restricted by: • Date: 2000 onwards • Language: English Other searches: • Inclusion lists of systematic reviews • Kings Fund Reports (https://www.kingsfund.org.uk/publications) • National Audit Office • Audit Commission • Open Grey (if insufficient studies are found from other sources) The full search strategies for all databases will be published in the final review.
5.	Condition or domain being studied	Disabled children and young people from birth to 25 years with severe complex needs requiring health, social care and education support.
6.	Population	Inclusion: Disabled children and young people from birth to 25 years with severe complex needs who require health, social care and education support. Exclusion: Children and young people who do not have needs in all three areas of health, social care and education.
7.	Intervention/Exposure/Test	Any commissioning, practice and service delivery models (approaches, configurations of resources and services) delivering 2 or more of health, social care and education services. For example: Practice models • Delivery arrangements: ○ Who provides care and how the healthcare workforce is managed:

ID	Field	Content
		- Role-expansion/ task shifting ○ Coordination of care and management of care processes: - Individual case (service user) management (models responsive to individual needs) - Communication / referral between providers - Shared care - Shared decision making - Multidisciplinary teams - Multiagency assessment tool for service requirements (e.g. West Sussex tool) Commissioning models: • Delivery arrangements: ○ Coordination of care and management of care processes: - Integration (consolidation) of services • Financial arrangements: ○ Mechanisms for the payment of health services: - Joint/pooled budgets • Governance arrangements: ○ Authority and accountability for organisations: - Joint commissioning teams - Strategic oversight of commissioning
8.	Comparator/Reference standard/Confounding factors	• Any other joined-up commissioning, practice or service delivery models • Separate health, social and education services (without joined-up working)
9.	Types of study to be included	Systematic reviews of RCTs or non-randomised comparative studies (including cohort studies, before and after studies and interrupted time series), and RCTS will be included. Non-randomised studies will be included in the absence of RCTs for a given class of interventions. Service evaluations and audits will be included in the absence of comparative non-randomised studies. Conference abstracts will not be included. Non-randomised studies should adjust for confounders in their analysis such as: dominant provision (e.g. primarily autism, primarily physical disability), definitions of eligibility for service (e.g. for primary SEN), socioeconomic status. Studies will be downgraded for risk of bias if important confounding factors are not adequately adjusted for but will not be excluded for this reason.

ID	Field	Content
10.	Other exclusion criteria	Studies will not be included for the following reasons: • Published prior to 2000 • Not published in the English language • Non Organisation for Economic Co-operation and Development (OCED) country (https://www.oecd.org/about/members-and-partners/) Studies published prior to 2000 will not be considered due to legislative changes, specifically the Children and Families Care Act 2014, and the Aiming High for Disabled Children (AHDC) programme 2007. Studies published in languages other than English will not be considered due to time and resource constraints with translation. Studies published by non OCED countries will not be considered due to differences in health, social care and education services to those implemented in the UK.
11.	Context	All settings will be considered where health, social care and education is provided for disabled children and young people from birth to 25 years with severe complex needs.
12.	Primary outcomes (critical outcomes)	Critical Outcomes: • Person focused: o Service user satisfaction (child or young person and parent or carer) (e.g., as measured by validated scales or assisted communication aids such as talking mats or 'it's all about me') • Service-focused: o Access to services: - Local availability (e.g., time/distance travelled to access services) - Waiting times for services
13.	Secondary outcomes (important outcomes)	Important Outcomes: • Service focused: o Joined-up support: - Cross-sector planning - Effectiveness of information sharing o Use of health, social care and education services
14.	Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated. Titles and abstracts of the retrieved citations will be screened to identify studies that potentially meet the inclusion criteria outlined in the review protocol. Full versions of the selected studies will be obtained for assessment. Studies that fail to meet the inclusion criteria once the full version has been checked will be excluded at this stage.

ID	Field	Content
		Each study excluded after checking the full version will be listed, along with the reason for its exclusion. A standardised form will be used to extract data from the studies selected for inclusion. The following data will be extracted: study details (reference, country where study was carried out, type and dates), participant characteristics, inclusion and exclusion criteria, details of the interventions, setting and follow-up, relevant outcome data and source of funding. One reviewer will extract the relevant data onto a standardised form, and this will then be quality assessed by a senior reviewer.
15.	Risk of bias (quality) assessment	Quality assessment of individual studies will be performed using the following checklists: • ROBIS tool for systematic reviews • Cochrane RoB tool v.2 for RCTs and quasi-RCTs • Cochrane ROBINS-I tool for non-randomised (clinical) controlled trials and cohort studies • Effective Practice and Organisation of Care (EPOC) RoB Tool for before and after studies • Effective Practice and Organisation of Care (EPOC) RoB Tool for interrupted time series The quality assessment will be performed by one reviewer and this will be quality assessed by a senior reviewer.
16.	Strategy for data synthesis	Intervention review: Depending on the availability of the evidence, the findings will be summarised narratively or quantitatively. Where possible, meta-analyses will be conducted using Cochrane Review Manager software. A fixed effect meta-analysis will be conducted and data will be presented as risk ratios or odds ratios for dichotomous outcomes, and mean differences or standardised mean differences for continuous outcomes. Heterogeneity in the effect estimates of the individual studies will be assessed using the I2 statistic. I2 values of greater than 50% and 80% will be considered as significant and very significant heterogeneity, respectively. Heterogeneity will be explored as appropriate using sensitivity analyses and pre-specified subgroup analyses. If heterogeneity cannot be explained through subgroup analysis then a random effects model will be used for meta-analysis, or the data will not be pooled if the I^2 statistic is greater than 80%. The confidence in the findings 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: http://www.gradeworkinggroup.org/ **Minimally important differences:** We will check the rehabilitation measures database (www.sralab.org) for published MIDs for scales reported by included studies and use these if available. If not, we will use GRADE default MIDs.

ID	Field	Content			
		For all remaining continuous outcomes, we will use GRADE default MID of 0.5 times SD of the control groups at baseline (or at follow-up if the SD is not available a baseline). For all remaining dichotomous outcomes (RRs, ORs and HRs), we will use the GRADE default for RRs of 0.8 and 1.25 for consistency.			
17.	Analysis of sub-groups	No predefined subgroups.			
18.	Type and method of review	☒	Intervention		
		☐	Diagnostic		
		☐	Prognostic		
		☐	Qualitative		
		☐	Epidemiologic		
		☒	Service Delivery		
		☐	Other (please specify)		
19.	Language	English			
20.	Country	England			
21.	Anticipated or actual start date	22/10/2019			
22.	Anticipated completion date	May 2021			
23.	Stage of review at time of this submission	Review stage		Started	Completed
		Preliminary searches		☐	☐
		Piloting of the study selection process		☐	☐
		Formal screening of search results against eligibility criteria		☐	☐
		Data extraction		☐	☐
		Risk of bias (quality) assessment		☐	☐
		Data analysis		☐	☐
24.	Named contact	5a. Named contact National Guideline Alliance 5b Named contact e-mail			

ID	Field	Content
		CYPseverecomplexneeds@nice.org.uk 5e Organisational affiliation of the review National Institute for Health and Care Excellence (NICE) and National Guideline Alliance
25.	Review team members	National Guideline Alliance
26.	Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10113
29.	Other registration details	None
30.	Reference/URL for published protocol	https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42019155740
31.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: notifying registered stakeholders of publication publicising the guideline through NICE's newsletter and alerts issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.
32.	Keywords	Child, infant, young person, disability, health care, education, social care, service delivery, service organisation
33.	Details of existing review of same topic by same authors	None

ID	Field	Content	
34.	Current review status	☒	Ongoing
		☐	Completed but not published
		☐	Completed and published
		☐	Completed, published and being updated
		☐	Discontinued
35..	Additional information	None	
36.	Details of final publication	www.nice.org.uk	

AHDC: Aiming High for Disabled Children; ASSIA: Applied Social Science Index and Abstracts; BEI: British Education Index; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; CINAHL: Cumulative Index to Nursing & Allied Health; DARE: Database of Abstracts of Reviews of Effects; EPOC: Effective Practice and Organisation of Care; ERIC: Educational Information Resources Center; ERIC: Educational Information Resources Center; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HMIC: Health Management Information Consortium; HR: hazard ratio; HTA: Health Technology Assessment; MID: minimally important difference; NICE: National Institute for Health and Care Excellence; OECD: Organisation for Economic Co-operation and Development; OR: odds ratio; RCT: randomised controlled trial; RoB: risk of bias; ROBINS-I: risk of bias in non-randomised studies – of interventions; ROBIS: Risk of Bias in Systematic Reviews; RR: risk ratio; SD: standard deviation; SEN: special educational needs

Review protocol for review question: What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Table 7: Review protocol

ID	Field	Content
0.	PROSPERO registration number	CRD42020166218
1.	Review title	What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?
2.	Review question	What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?
3.	Objective	To identify effective combined commissioning, practice and service delivery models for meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs.
4.	Searches	The following databases will be searched: • Cochrane Central Register of Controlled Trials (CENTRAL)

ID	Field	Content
		• Cochrane Database of Systematic Reviews (CDSR) • Embase • MEDLINE • Health Technology Assessment (HTA) • Database of Abstracts of Reviews of Effects (DARE) • British Education Index (BEI) • Educational Information Resources Center (ERIC) • Health Management Information Consortium (HMIC) • Applied Social Science Index and Abstracts (ASSIA) • Social Care Online • Social Policy and Practice • Social Science Citation Index • Social Services Abstracts • Sociological Abstracts • PsycINFO • CINAHL • Emcare Searches will be restricted by: • Date: 2000 onwards • Language: English Other searches: • Inclusion lists of systematic reviews • Kings Fund Reports (https://www.kingsfund.org.uk/publications) • National Audit Office • Audit Commission • Open Grey (if insufficient studies are found from other sources) The full search strategies for all databases will be published in the final review.
5.	Condition or domain being studied	Disabled children and young people from birth to 25 years with severe complex needs requiring health, social care and education support.
6.	Population	Inclusion: Disabled children and young people from birth to 25 years with severe complex needs who require

ID	Field	Content
		health, social care and education support. Exclusion: Children and young people who do not have needs in all three areas of health, social care and education.
7.	Intervention/Exposure/Test	Any commissioning, practice and service delivery models (approaches, configurations of resources and services) delivering 2 or more of health, social care and education services. For example: Practice models • Delivery arrangements: o Who provides care and how the healthcare workforce is managed: - Role-expansion/ task shifting o Coordination of care and management of care processes: - Individual case (service user) management (models responsive to individual needs) - Communication / referral between providers - Shared care - Shared decision making - Multidisciplinary teams - Multiagency assessment tool for service requirements (e.g. West Sussex tool) Commissioning models: • Delivery arrangements: o Coordination of care and management of care processes: - Integration (consolidation) of services • Financial arrangements: o Mechanisms for the payment of health services: - Joint/pooled budgets • Governance arrangements: o Authority and accountability for organisations: - Joint commissioning teams - Strategic oversight of commissioning
8.	Comparator/Reference standard/Confounding factors	• Any other joined-up commissioning, practice and service delivery models • Separate health, social and education services (without joined-up working)
9.	Types of study to be included	Systematic reviews of RCTs or non-randomised comparative studies (including cohort studies, before and

ID	Field	Content
		after studies and interrupted time series), and RCTS will be included. Non-randomised studies will be included in the absence of RCTs for a given class of interventions. Service evaluations and audits will be included in the absence of comparative non-randomised studies. Conference abstracts will not be included. Non-randomised studies should adjust for confounders in their analysis such as: dominant provision (e.g. primarily autism, primarily physical disability), definitions of eligibility for service (e.g. for primary SEN), socioeconomic status. Studies will be downgraded for risk of bias if important confounding factors are not adequately adjusted for but will not be excluded for this reason.
10.	Other exclusion criteria	Studies will not be included for the following reasons: • Published prior to 2000 • Not published in the English language • Non Organisation for Economic Co-operation and Development (OCED) country (https://www.oecd.org/about/members-and-partners/) Studies published prior to 2000 will not be considered due to legislative changes, specifically the Children and Families Care Act 2014, and the Aiming High for Disabled Children (AHDC) programme 2007. Studies published in languages other than English will not be considered due to time and resource constraints with translation. Studies published by non OCED countries will not be considered due to differences in health, social care and education services to those implemented in the UK.
11.	Context	All settings will be considered where health, social care and education is provided for disabled children and young people from birth to 25 years with severe complex needs.
12.	Primary outcomes (critical outcomes)	Critical Outcomes: • Service focused: ○ Extent to which needs are met (including changing and evolving needs) (e.g., as measured by validated scales or whether EHC plans are met) - Health needs (e.g., mobility, pain, temperament, emotional wellbeing, sleep) - Social care needs (e.g., self-care, safety, toileting) - Educational needs (e.g., communication aids)
13.	Secondary outcomes (important outcomes)	Important Outcomes: • Person focused: ○ Quality of life (both health- and social-related quality) (e.g., as measured by validated scales or assisted communication aids such as talking mats or 'it's all about me'; SDQ) ○ Social inclusion

ID	Field	Content
		○ Preparation for adulthood ○ Mortality
14.	Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into STAR and de-duplicated. Titles and abstracts of the retrieved citations will be screened to identify studies that potentially meet the inclusion criteria outlined in the review protocol. Full versions of the selected studies will be obtained for assessment. Studies that fail to meet the inclusion criteria once the full version has been checked will be excluded at this stage. Each study excluded after checking the full version will be listed, along with the reason for its exclusion. A standardised form will be used to extract data from studies. The following data will be extracted: study details (reference, country where study was carried out, type and dates), participant characteristics, inclusion and exclusion criteria, details of the interventions, setting and follow-up, relevant outcome data and source of funding. One reviewer will extract relevant data into a standardised form, and this will be quality assessed by a senior reviewer.
15.	Risk of bias (quality) assessment	Quality assessment of individual studies will be performed using the following checklists: • ROBIS tool for systematic reviews • Cochrane RoB tool v.2 for RCTs and quasi-RCTs • Cochrane ROBINS-I tool for non-randomised (clinical) controlled trials and cohort studies • Effective Practice and Organisation of Care (EPOC) RoB Tool for before and after studies • Effective Practice and Organisation of Care (EPOC) RoB Tool for interrupted time series The quality assessment will be performed by one reviewer and this will be quality assessed by a senior reviewer.
16.	Strategy for data synthesis	Intervention review: Depending on the availability of the evidence, the findings will be summarised narratively or quantitatively. Where possible, meta-analyses will be conducted using Cochrane Review Manager software. A fixed effect meta-analysis will be conducted and data will be presented as risk ratios or odds ratios for dichotomous outcomes, and mean differences or standardised mean differences for continuous outcomes. Heterogeneity in the effect estimates of the individual studies will be assessed using the I2 statistic. I2 values of greater than 50% and 80% will be considered as significant and very significant heterogeneity, respectively. Heterogeneity will be explored as appropriate using sensitivity analyses and pre-specified subgroup analyses. If heterogeneity cannot be explained through subgroup analysis then a random effects model will be used for meta-analysis, or the data will not be pooled if the I^2 statistic is greater than 80%. The confidence in the findings 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: http://www.gradeworkinggroup.org/ **Minimally important differences:**

ID	Field	Content			
		We will check the rehabilitation measures database (www.sralab.org) for published MIDs for scales reported by included studies and use these if available. If not, we will use GRADE default MIDs. For extent to which needs are met and mortality, we will use any statistically significant difference.			
17.	Analysis of sub-groups	No predefined subgroups.			
18.	Type and method of review	☒	Intervention		
		☐	Diagnostic		
		☐	Prognostic		
		☐	Qualitative		
		☐	Epidemiologic		
		☒	Service Delivery		
		☐	Other (please specify)		
19.	Language	English			
20.	Country	England			
21.	Anticipated or actual start date	17/01/20			
22.	Anticipated completion date	May 2021			
23.	Stage of review at time of this submission	Review stage		Started	Completed
		Preliminary searches		☐	☐
		Piloting of the study selection process		☐	☐
		Formal screening of search results against eligibility criteria		☐	☐
		Data extraction		☐	☐
		Risk of bias (quality) assessment		☐	☐
		Data analysis		☐	☐
24.	Named contact	5a. Named contact National Guideline Alliance 5b Named contact e-mail			

ID	Field	Content
		CYPseverecomplexneeds@nice.org.uk 5e Organisational affiliation of the review National Institute for Health and Care Excellence (NICE) and National Guideline Alliance
25.	Review team members	National Guideline Alliance
26.	Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10113
29.	Other registration details	None
30.	Reference/URL for published protocol	https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020166218
31.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: notifying registered stakeholders of publication publicising the guideline through NICE's newsletter and alerts issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.
32.	Keywords	Child, infant, young person, disability, health care, education, social care, service delivery, service organisation, user needs
33.	Details of existing review of same topic by same authors	None
34.	Current review status	☒ Ongoing

ID	Field	Content	
		☐	Completed but not published
		☐	Completed and published
		☐	Completed, published and being updated
		☐	Discontinued
35..	Additional information	None	
36.	Details of final publication	www.nice.org.uk	

AHDC: Aiming High for Disabled Children; ASSIA: Applied Social Science Index and Abstracts; BEI: British Education Index; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; CINAHL: Cumulative Index to Nursing & Allied Health; DARE: Database of Abstracts of Reviews of Effects; EHC: education, health and care; EPOC: Effective Practice and Organisation of Care; ERIC: Educational Information Resources Center; ERIC: Educational Information Resources Center; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HMIC: Health Management Information Consortium; HR: hazard ratio; HTA: Health Technology Assessment; MID: minimally important difference; NICE: National Institute for Health and Care Excellence; OECD: Organisation for Economic Co-operation and Development; OR: odds ratio; RCT: randomised controlled trial; RoB: risk of bias; ROBINS-I: risk of bias in non-randomised studies – of interventions; ROBIS: Risk of Bias in Systematic Reviews; RR: risk ratio; SD: standard deviation; SEN: special educational needs

Appendix B – Literature search strategies

Literature search strategies for review questions: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Please note that a single search was run to cover both review questions

Databases: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

Date of last search: 19/02/2020

#	Searches
1	ADOLESCENT/ or MINORS/
2	(adolescen$ or teen$ or youth$ or young or juvenile? or minors or highschool$).ti,ab.
3	exp CHILD/
4	(child$ or schoolchild$ or "school age" or "school aged" or preschool$ or toddler$ or kid? or kindergar$ or boy? or girl?).ti,ab.
5	exp INFANT/
6	(infan$ or neonat$ or newborn$ or baby or babies).ti,ab.
7	exp PEDIATRICS/
8	p?ediatric$.ti,ab.
9	YOUNG ADULT/
10	young$ adult?.ti,ab.
11	or/1-10
12	exp DISABLED PERSONS/
13	exp MENTAL DISORDERS/
14	exp COMMUNICATION DISORDERS/
15	exp INTELLECTUAL DISABILITY/
16	(disable? or disabilit$ or handicap$ or retard$ or disorder? or impair$ or condition? or difficulty or difficulties or deficit? or dysfunct$).ti.
17	((sever$ or complex$ or special or high) adj3 need?).ti,ab.
18	SHCN.ti,ab.
19	or/12-18
20	11 and 19
21	DISABLED CHILDREN/
22	CSHCN.ti,ab.
23	"Education Health and Care plan?".ti,ab.
24	EHC plan?.ti,ab.
25	EHCP?.ti,ab.
26	or/20-25
27	(HEALTH SERVICES/ or CHILD HEALTH SERVICES/ or ADOLESCENT HEALTH SERVICES/ or COMMUNITY HEALTH SERVICES/ or HOME CARE SERVICES/ or HEALTH SERVICES FOR PEOPLE WITH DISABILITIES/ or MENTAL HEALTH SERVICES/ or NURSING SERVICES/ or exp HEALTH PERSONNEL/) and (exp SOCIAL WORK/ or SOCIAL WORK, PSYCHIATRIC/ or SOCIAL WORKERS/)
28	(HEALTH SERVICES/ or CHILD HEALTH SERVICES/ or ADOLESCENT HEALTH SERVICES/ or COMMUNITY HEALTH SERVICES/ or HOME CARE SERVICES/ or HEALTH SERVICES FOR PEOPLE WITH DISABILITIES/ or MENTAL HEALTH SERVICES/ or NURSING SERVICES/ or exp HEALTH PERSONNEL/) and (EDUCATION/ or exp EDUCATION, SPECIAL/ or SCHOOLS/ or SCHOOL HEALTH SERVICES/ or SCHOOLS, NURSERY/ or exp NURSERIES/ or CHILD DAY CARE CENTERS/ or UNIVERSITIES/ or TEACHING/ or REMEDIAL TEACHING/ or SCHOOL TEACHERS/)
29	(exp SOCIAL WORK/ or SOCIAL WORK, PSYCHIATRIC/ or SOCIAL WORKERS/) and (EDUCATION/ or exp EDUCATION, SPECIAL/ or SCHOOLS/ or SCHOOL HEALTH SERVICES/ or SCHOOLS, NURSERY/ or exp NURSERIES/ or CHILD DAY CARE CENTERS/ or UNIVERSITIES/ or TEACHING/ or REMEDIAL TEACHING/ or SCHOOL TEACHERS/)
30	or/27-29
31	INTERINSTITUTIONAL RELATIONS/
32	INTERSECTORAL COLLABORATION/
33	INTERPROFESSIONAL RELATIONS/

#	Searches
34	"DELIVERY OF HEALTH CARE, INTEGRATED"/
35	COOPERATIVE BEHAVIOR/
36	MODELS, ORGANIZATIONAL/
37	or/31-36
38	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
39	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
40	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
41	or/38-40
42	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
43	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
44	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
45	or/42-44
46	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
47	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
48	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
49	or/46-48
50	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (service? adj3 (model? or configur$))).ti,ab.
51	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
52	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
53	or/50-52
54	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (practice adj3 model?)).ti,ab.
55	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
56	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
57	or/54-56
58	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (commissioner? or commissioning or commissioned)).ti,ab.
59	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?)

#	Searches
	and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
60	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
61	or/58-60
62	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 social$ adj10 (care adj3 model?)).ti,ab.
63	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
64	(social$ adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
65	or/62-64
66	((joint$ or pool$) adj3 (financ$ or budget$)).ti,ab.
67	26 and 30 and 37
68	26 and 41
69	26 and 45
70	26 and 49
71	26 and 53
72	26 and 57
73	26 and 61
74	26 and 65
75	26 and 66
76	or/67-75
77	limit 76 to english language
78	limit 77 to yr="2000 -Current"
79	LETTER/
80	EDITORIAL/
81	NEWS/
82	exp HISTORICAL ARTICLE/
83	ANECDOTES AS TOPIC/
84	COMMENT/
85	CASE REPORT/
86	(letter or comment*).ti.
87	or/79-86
88	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
89	87 not 88
90	ANIMALS/ not HUMANS/
91	exp ANIMALS, LABORATORY/
92	exp ANIMAL EXPERIMENTATION/
93	exp MODELS, ANIMAL/
94	exp RODENTIA/
95	(rat or rats or mouse or mice).ti.
96	or/89-95
97	78 not 96

1

2 **Databases: Embase; and Embase Classic**

3 **Date of last search: 19/02/2020**

#	Searches
1	exp ADOLESCENT/
2	(adolescen$ or teen$ or youth$ or young or juvenile? or minors or highschool$).ti,ab.
3	exp CHILD/
4	(child$ or schoolchild$ or "school age" or "school aged" or preschool$ or toddler$ or kid? or kindergar$ or boy? or girl?).ti,ab.
5	exp INFANT/
6	(infan$ or neonat$ or newborn$ or baby or babies).ti,ab.
7	exp PEDIATRICS/
8	p?ediatric$.ti,ab.
9	YOUNG ADULT/
10	young$ adult?.ti,ab.
11	or/1-10
12	exp DISABLED PERSON/
13	exp MENTAL DISEASE/

#	Searches
14	INTELLECTUAL IMPAIRMENT/
15	(disable? or disabilit$ or handicap$ or retard$ or disorder? or impair$ or condition? or difficulty or difficulties or deficit? or dysfunct$).ti.
16	((sever$ or complex$ or special or high) adj3 need?).ti,ab.
17	SHCN.ti,ab.
18	or/12-17
19	11 and 18
20	HANDICAPPED CHILD/
21	CSHCN.ti,ab.
22	"Education Health and Care plan?".ti,ab.
23	EHC plan?.ti,ab.
24	EHCP?.ti,ab.
25	or/19-24
26	(HEALTH SERVICE/ or CHILD HEALTH CARE/ or COMMUNITY CARE/ or HOME CARE/ or MENTAL HEALTH SERVICE/ or *NURSING/ or exp HEALTH CARE PERSONNEL/) and (SOCIAL CARE/ or SOCIAL WORK/ or SOCIAL WORKER/)
27	(HEALTH SERVICE/ or CHILD HEALTH CARE/ or COMMUNITY CARE/ or HOME CARE/ or MENTAL HEALTH SERVICE/ or *NURSING/ or exp HEALTH CARE PERSONNEL/) and (EDUCATION/ or exp SPECIAL EDUCATION/ or SCHOOL/ or SCHOOL HEALTH SERVICE/ or NURSERY SCHOOL/ or NURSERY/ or KINDERGARTEN/ or PRIMARY SCHOOL/ or MIDDLE SCHOOL/ or HIGH SCHOOL/ or COLLEGE/ or COMMUNITY COLLEGE/ or UNIVERSITY/ or TEACHING/ or exp TEACHER/)
28	(SOCIAL CARE/ or SOCIAL WORK/ or SOCIAL WORKER/) and (EDUCATION/ or exp SPECIAL EDUCATION/ or SCHOOL/ or SCHOOL HEALTH SERVICE/ or NURSERY SCHOOL/ or NURSERY/ or KINDERGARTEN/ or PRIMARY SCHOOL/ or MIDDLE SCHOOL/ or HIGH SCHOOL/ or COLLEGE/ or COMMUNITY COLLEGE/ or UNIVERSITY/ or TEACHING/ or exp TEACHER/)
29	or/26-28
30	*PUBLIC RELATIONS/
31	INTERSECTORAL COLLABORATION/
32	INTEGRATED HEALTH CARE SYSTEM/
33	*COOPERATION/
34	NONBIOLOGICAL MODEL/
35	*MODEL/
36	or/30-35
37	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
38	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
39	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
40	or/37-39
41	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
42	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
43	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
44	or/41-43
45	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
46	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
47	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$

#	Searches
	or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
48	or/45-47
49	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (service? adj3 (model? or configur$))).ti,ab.
50	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
51	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
52	or/49-51
53	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (practice adj3 model?)).ti,ab.
54	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
55	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
56	or/53-55
57	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (commissioner? or commissioning or commissioned)).ti,ab.
58	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
59	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
60	or/57-59
61	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 social$ adj10 (care adj3 model?)).ti,ab.
62	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
63	(social$ adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
64	or/61-63
65	((joint$ or pool$) adj3 (financ$ or budget$)).ti,ab.
66	25 and 29 and 36
67	25 and 40
68	25 and 44
69	25 and 48
70	25 and 52
71	25 and 56
72	25 and 60
73	25 and 64
74	25 and 65
75	or/66-74
76	limit 75 to english language
77	limit 76 to yr="2000 -Current"
78	letter.pt. or LETTER/
79	note.pt.
80	editorial.pt.
81	CASE REPORT/ or CASE STUDY/
82	(letter or comment*).ti.
83	or/78-82
84	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
85	83 not 84
86	ANIMAL/ not HUMAN/
87	NONHUMAN/
88	exp ANIMAL EXPERIMENT/
89	exp EXPERIMENTAL ANIMAL/
90	ANIMAL MODEL/
91	exp RODENT/
92	(rat or rats or mouse or mice).ti.

#	Searches
93	or/85-92
94	77 not 93

1

2 Database: Health Management Information Consortium (HMIC)

3 Date of last search: 19/02/2020

#	Searches
1	exp YOUNG PEOPLE/
2	(adolescen$ or teen$ or youth$ or young or juvenile? or minors or highschool$).ti,ab.
3	exp CHILDREN/
4	(child$ or schoolchild$ or "school age" or "school aged" or preschool$ or toddler$ or kid? or kindergar$ or boy? or girl?).ti,ab.
5	(infan$ or neonat$ or newborn$ or baby or babies).ti,ab.
6	exp PAEDIATRICS/
7	p?ediatric$.ti,ab.
8	YOUNG ADULTS/
9	young$ adult?.ti,ab.
10	or/1-9
11	DISABLED PEOPLE/
12	exp DISABILITIES/
13	(disable? or disabilit$ or handicap$ or retard$ or disorder? or impair$ or condition? or difficulty or difficulties or deficit? or dysfunct$).ti.
14	((sever$ or complex$ or special or high) adj3 need?).ti,ab.
15	SHCN.ti,ab.
16	or/11-15
17	10 and 16
18	CSHCN.ti,ab.
19	"Education Health and Care plan?".ti,ab.
20	EHC plan?.ti,ab.
21	EHCP?.ti,ab.
22	or/17-21
23	(HEALTH SERVICES/ or exp CHILD HEALTH SERVICES/ or COMMUNITY HEALTH SERVICES/ or exp MENTAL HEALTH SERVICES/ or NURSING CARE/ or exp HEALTH SERVICE STAFF/) and (exp SOCIAL WORK/ or SOCIAL WORK SERVICE/ or SOCIAL WORK PROFESSION/ or SOCIAL WORKERS/ or exp SOCIAL WORKER TEAMS/ or SOCIAL CARE/ or exp SOCIAL CARE SERVICES/ or SOCIAL SERVICES/ or SOCIAL SERVICES DEPARTMENTS/ or SUPPORTIVE SOCIAL WORK/)
24	(HEALTH SERVICES/ or exp CHILD HEALTH SERVICES/ or COMMUNITY HEALTH SERVICES/ or exp MENTAL HEALTH SERVICES/ or NURSING CARE/ or exp HEALTH SERVICE STAFF/) and (EDUCATION/ or PRIMARY EDUCATION/ or SECONDARY EDUCATION/ or exp SPECIAL EDUCATION/ or exp SCHOOLS/ or exp SCHOOL HEALTH SERVICES/ or exp NURSERIES/ or UNIVERSITIES/ or TEACHING/ or REMEDIAL TEACHING/ or TEACHERS/)
25	(exp SOCIAL WORK/ or SOCIAL WORK SERVICE/ or SOCIAL WORK PROFESSION/ or SOCIAL WORKERS/ or exp SOCIAL WORKER TEAMS/ or SOCIAL CARE/ or exp SOCIAL CARE SERVICES/ or SOCIAL SERVICES/ or SOCIAL SERVICES DEPARTMENTS/ or SUPPORTIVE SOCIAL WORK/) and (EDUCATION/ or PRIMARY EDUCATION/ or SECONDARY EDUCATION/ or exp SPECIAL EDUCATION/ or exp SCHOOLS/ or exp SCHOOL HEALTH SERVICES/ or exp NURSERIES/ or UNIVERSITIES/ or TEACHING/ or REMEDIAL TEACHING/ or TEACHERS/)
26	or/23-25
27	COLLABORATION/
28	exp INTERAGENCY COLLABORATION/
29	INTERPROFESSIONAL COLLABORATION/
30	COLLABORATIVE CARE/
31	INTEGRATED PROVIDERS/
32	INTEGRATED CARE/
33	INTERDISCIPLINARY SERVICES/
34	JOINT WORKING/
35	or/27-34
36	HEALTH & SOCIAL SERVICES INTERACTION/
37	exp COMMISSIONING/
38	COMMISSIONING AGENCIES/
39	JOINT PURCHASING/
40	or/36-39
41	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
42	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or

#	Searches
	GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
43	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
44	or/41-43
45	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
46	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
47	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
48	or/45-47
49	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
50	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
51	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
52	or/49-51
53	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (service? adj3 (model? or configur$))).ti,ab.
54	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
55	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
56	or/53-55
57	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (practice adj3 model?)).ti,ab.
58	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
59	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
60	or/57-59
61	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (commissioner? or commissioning or commissioned)).ti,ab.
62	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
63	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
64	or/61-63
65	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 social$ adj10 (care adj3 model?)).ti,ab.
66	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.

#	Searches
67	(social$ adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
68	or/65-67
69	((joint$ or pool$) adj3 (financ$ or budget$)).ti,ab.
70	22 and 26 and 35
71	22 and 40
72	22 and 44
73	22 and 48
74	22 and 52
75	22 and 56
76	22 and 60
77	22 and 64
78	22 and 68
79	22 and 69
80	or/70-79
81	limit 80 to yr="2000 -Current"

1

2 Database: Social Policy and Practice

3 Date of last search: 19/02/2020

#	Searches
1	(adolescen$ or teen$ or youth$ or young or juvenile? or minors or highschool$).ti,ab.
2	(child$ or schoolchild$ or "school age" or "school aged" or preschool$ or toddler$ or kid? or kindergar$ or boy? or girl?).ti,ab.
3	(infan$ or neonat$ or newborn$ or baby or babies).ti,ab.
4	p?ediatric$.ti,ab.
5	young$ adult?.ti,ab.
6	or/1-5
7	(disable? or disabilit$ or handicap$ or retard$ or disorder? or impair$ or condition? or difficulty or difficulties or deficit? or dysfunct$).ti.
8	((sever$ or complex$ or special or high) adj3 need?).ti,ab.
9	SHCN.ti,ab.
10	or/7-9
11	6 and 10
12	CSHCN.ti,ab.
13	"Education Health and Care plan?".ti,ab.
14	EHC plan?.ti,ab.
15	EHCP?.ti,ab.
16	or/11-15
17	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
18	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
19	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
20	or/17-19
21	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
22	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.

#	Searches
23	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
24	or/21-23
25	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
26	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
27	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
28	or/25-27
29	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (service? adj3 (model? or configur$))).ti,ab.
30	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
31	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
32	or/29-31
33	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (practice adj3 model?)).ti,ab.
34	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
35	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
36	or/33-35
37	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (commissioner? or commissioning or commissioned)).ti,ab.
38	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
39	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
40	or/37-39
41	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 social$ adj10 (care adj3 model?)).ti,ab.
42	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
43	(social$ adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
44	or/41-43
45	((joint$ or pool$) adj3 (financ$ or budget$)).ti,ab.
46	16 and 20
47	16 and 24
48	16 and 28
49	16 and 32
50	16 and 36
51	16 and 40
52	16 and 44
53	16 and 45
54	or/46-53
55	limit 54 to yr="2000 -Current"

1

1 Database: PsycInfo

2 Date of last search: 19/02/2020

#	Searches
1	(adolescen$ or teen$ or youth$ or young or juvenile? or minors or highschool$).ti,ab.
2	(child$ or schoolchild$ or "school age" or "school aged" or preschool$ or toddler$ or kid? or kindergar$ or boy? or girl?).ti,ab.
3	(infan$ or neonat$ or newborn$ or baby or babies).ti,ab.
4	PEDIATRICS/
5	p?ediatric$.ti,ab.
6	young$ adult?.ti,ab.
7	or/1-6
8	DISORDERS/
9	exp DISABILITIES/
10	PHYSICAL DISORDERS/
11	exp SENSE ORGAN DISORDERS/
12	exp MENTAL DISORDERS/
13	exp COMMUNICATION DISORDERS/
14	SPECIAL NEEDS/
15	(disable? or disabilit$ or handicap$ or retard$ or disorder? or impair$ or condition? or difficulty or difficulties or deficit? or dysfunct$).ti.
16	((sever$ or complex$ or special or high) adj3 need?).ti,ab.
17	SHCN.ti,ab.
18	or/8-17
19	7 and 18
20	CSHCN.ti,ab.
21	"Education Health and Care plan?".ti,ab.
22	EHC plan?.ti,ab.
23	EHCP?.ti,ab.
24	or/19-23
25	(HEALTH CARE SERVICES/ or COMMUNITY SERVICES/ or HOME CARE/ or MENTAL HEALTH SERVICES/ or COMMUNITY MENTAL HEALTH SERVICES/ or NURSING/ or exp HEALTH PERSONNEL/) and (exp SOCIAL CASEWORK/ or exp SOCIAL WORKERS/)
26	(HEALTH CARE SERVICES/ or COMMUNITY SERVICES/ or HOME CARE/ or MENTAL HEALTH SERVICES/ or COMMUNITY MENTAL HEALTH SERVICES/ or NURSING/ or exp HEALTH PERSONNEL/) and (EDUCATION/ or ELEMENTARY EDUCATION/ or MIDDLE SCHOOL EDUCATION/ or HIGH SCHOOL EDUCATION/ or SECONDARY EDUCATION/ or HIGHER EDUCATION/ or SPECIAL EDUCATION/ or "MAINSTREAMING (EDUCATIONAL)"/ or REMEDIAL EDUCATION/ or exp SCHOOLS/ or TEACHING/ or TEACHERS/ or PRESCHOOL TEACHERS/ or ELEMENTARY SCHOOL TEACHERS/ or JUNIOR HIGH SCHOOL TEACHERS/ or MIDDLE SCHOOL TEACHERS/ or HIGH SCHOOL TEACHERS/ or COLLEGE TEACHERS/ or VOCATIONAL EDUCATION TEACHERS/ or SPECIAL EDUCATION TEACHERS/)
27	(exp SOCIAL CASEWORK/ or exp SOCIAL WORKERS/) and (EDUCATION/ or ELEMENTARY EDUCATION/ or MIDDLE SCHOOL EDUCATION/ or HIGH SCHOOL EDUCATION/ or SECONDARY EDUCATION/ or HIGHER EDUCATION/ or SPECIAL EDUCATION/ or "MAINSTREAMING (EDUCATIONAL)"/ or REMEDIAL EDUCATION/ or exp SCHOOLS/ or TEACHING/ or TEACHERS/ or PRESCHOOL TEACHERS/ or ELEMENTARY SCHOOL TEACHERS/ or JUNIOR HIGH SCHOOL TEACHERS/ or MIDDLE SCHOOL TEACHERS/ or HIGH SCHOOL TEACHERS/ or COLLEGE TEACHERS/ or VOCATIONAL EDUCATION TEACHERS/ or SPECIAL EDUCATION TEACHERS/)
28	or/25-27
29	INTEGRATED SERVICES/
30	INTERDISCIPLINARY TREATMENT APPROACH/
31	COOPERATION/
32	COLLABORATION/
33	MODELS/
34	or/29-33
35	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
36	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
37	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
38	or/35-37

#	Searches
39	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
40	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
41	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
42	or/39-41
43	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
44	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
45	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
46	or/43-45
47	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (service? adj3 (model? or configur$))).ti,ab.
48	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
49	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
50	or/47-49
51	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (practice adj3 model?)).ti,ab.
52	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
53	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
54	or/51-53
55	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (commissioner? or commissioning or commissioned)).ti,ab.
56	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
57	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
58	or/55-57
59	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 social$ adj10 (care adj3 model?)).ti,ab.
60	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
61	(social$ adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
62	or/59-61
63	((joint$ or pool$) adj3 (financ$ or budget$)).ti,ab.
64	24 and 28 and 34
65	24 and 38
66	24 and 42
67	24 and 46
68	24 and 50
69	24 and 54
70	24 and 58
71	24 and 62

#	Searches
72	24 and 63
73	or/64-72
74	limit 73 to english language
75	limit 74 to yr="2000 -Current"
76	limit 75 to ("0100 journal" or "0110 peer-reviewed journal" or "0120 non-peer-reviewed journal")

1

2 **Database: Emcare**

3 **Date of last search: 19/02/2020**

#	Searches
1	exp ADOLESCENT/
2	(adolescen$ or teen$ or youth$ or young or juvenile? or minors or highschool$).ti,ab.
3	exp CHILD/
4	(child$ or schoolchild$ or "school age" or "school aged" or preschool$ or toddler$ or kid? or kindergar$ or boy? or girl?).ti,ab.
5	exp INFANT/
6	(infan$ or neonat$ or newborn$ or baby or babies).ti,ab.
7	exp PEDIATRICS/
8	p?ediatric$.ti,ab.
9	YOUNG ADULT/
10	young$ adult?.ti,ab.
11	or/1-10
12	exp DISABLED PERSON/
13	exp MENTAL DISEASE/
14	INTELLECTUAL IMPAIRMENT/
15	(disable? or disabilit$ or handicap$ or retard$ or disorder? or impair$ or condition? or difficulty or difficulties or deficit? or dysfunct$).ti.
16	((sever$ or complex$ or special or high) adj3 need?).ti,ab.
17	SHCN.ti,ab.
18	or/12-17
19	11 and 18
20	HANDICAPPED CHILD/
21	CSHCN.ti,ab.
22	"Education Health and Care plan?".ti,ab.
23	EHC plan?.ti,ab.
24	EHCP?.ti,ab.
25	or/19-24
26	(HEALTH SERVICE/ or CHILD HEALTH CARE/ or COMMUNITY CARE/ or HOME CARE/ or MENTAL HEALTH SERVICE/ or *NURSING/ or exp HEALTH CARE PERSONNEL/) and (SOCIAL CARE/ or SOCIAL WORK/ or SOCIAL WORKER/)
27	(HEALTH SERVICE/ or CHILD HEALTH CARE/ or COMMUNITY CARE/ or HOME CARE/ or MENTAL HEALTH SERVICE/ or *NURSING/ or exp HEALTH CARE PERSONNEL/) and (EDUCATION/ or exp SPECIAL EDUCATION/ or SCHOOL/ or SCHOOL HEALTH SERVICE/ or NURSERY SCHOOL/ or NURSERY/ or KINDERGARTEN/ or PRIMARY SCHOOL/ or MIDDLE SCHOOL/ or HIGH SCHOOL/ or COLLEGE/ or COMMUNITY COLLEGE/ or UNIVERSITY/ or TEACHING/ or exp TEACHER/)
28	(SOCIAL CARE/ or SOCIAL WORK/ or SOCIAL WORKER/) and (EDUCATION/ or exp SPECIAL EDUCATION/ or SCHOOL/ or SCHOOL HEALTH SERVICE/ or NURSERY SCHOOL/ or NURSERY/ or KINDERGARTEN/ or PRIMARY SCHOOL/ or MIDDLE SCHOOL/ or HIGH SCHOOL/ or COLLEGE/ or COMMUNITY COLLEGE/ or UNIVERSITY/ or TEACHING/ or exp TEACHER/)
29	or/26-28
30	*PUBLIC RELATIONS/
31	INTERSECTORAL COLLABORATION/
32	INTEGRATED HEALTH CARE SYSTEM/
33	*COOPERATION/
34	NONBIOLOGICAL MODEL/
35	*MODEL/
36	or/30-35
37	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
38	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3

#	Searches
	model?)).ti,ab.
39	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((interinstitution$ or multiinstitution$ or jointinstitution$ or interorgani?ation$ or multiorgani?ation$ or jointorgani?ation$ or intersector$ or multisector$ or jointsector$ or interagenc$ or multiagenc$ or jointagenc$ or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession$ or multiprofession$ or jointprofession$) adj3 model?)).ti,ab.
40	or/37-39
41	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
42	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
43	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((inter or multi$ or joint) adj3 (institution$ or organi?ation$ or sector$ or agenc$ or provider? or stakeholder? or profession$) adj3 model?)).ti,ab.
44	or/41-43
45	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
46	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
47	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and ((collaborat$ or coordinat$ or co-ordinat$ or cooperat$ or co-operat$ or integrat$ or partner$) adj3 model?)).ti,ab.
48	or/45-47
49	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (service? adj3 (model? or configur$))).ti,ab.
50	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
51	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (service? adj3 (model? or configur$))).ti,ab.
52	or/49-51
53	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (practice adj3 model?)).ti,ab.
54	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
55	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (practice adj3 model?)).ti,ab.
56	or/53-55
57	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and social$ and (commissioner? or commissioning or commissioned)).ti,ab.
58	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
59	(social$ and (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) and (commissioner? or commissioning or commissioned)).ti,ab.
60	or/57-59
61	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 social$ adj10 (care adj3 model?)).ti,ab.
62	((health$ or NHS or clinical or clinician? or medical or medic? or physician? or consultant? or nurse? or general practitioner? or GP? or occupational therapist? or OT? or allied health professional? or AHP? or ((speech or language) adj3 therapist?) or SLT?) adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
63	(social$ adj10 (educat$ or school$ or teach$ or headmaster? or headmistress$ or SENCO? or DfE?) adj10 (care adj3 model?)).ti,ab.
64	or/61-63
65	((joint$ or pool$) adj3 (financ$ or budget$)).ti,ab.
66	25 and 29 and 36

#	Searches
67	25 and 40
68	25 and 44
69	25 and 48
70	25 and 52
71	25 and 56
72	25 and 60
73	25 and 64
74	25 and 65
75	or/66-74
76	limit 75 to english language
77	limit 76 to yr="2000 -Current"
78	letter.pt. or LETTER/
79	note.pt.
80	editorial.pt.
81	CASE REPORT/ or CASE STUDY/
82	(letter or comment*).ti.
83	or/78-82
84	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
85	83 not 84
86	ANIMAL/ not HUMAN/
87	NONHUMAN/
88	exp ANIMAL EXPERIMENT/
89	exp EXPERIMENTAL ANIMAL/
90	ANIMAL MODEL/
91	exp RODENT/
92	(rat or rats or mouse or mice).ti.
93	or/85-92
94	77 not 93

1

2 **Databases: Cochrane Central Register of Controlled Trials (CCTR); and Cochrane**
3 **Database of Systematic Reviews (CDSR)**

4 **Date of last search: 19/02/2020**

#	Searches
#1	[mh ^"ADOLESCENT"]
#2	[mh ^"MINORS"]
#3	(adolescen* or teen* or youth* or young or juvenile* or minors or highschool*):ti,ab
#4	[mh "CHILD"]
#5	(child* or schoolchild* or "school age" or "school aged" or preschool* or toddler* or kid* or kindergar* or boy* or girl*):ti,ab
#6	[mh "INFANT"]
#7	(infan* or neonat* or newborn* or baby or babies):ti,ab
#8	[mh "PEDIATRICS"]
#9	(pediatric* or paediatric*):ti,ab
#10	[mh ^"YOUNG ADULT"]
#11	"young$ adult*":ti,ab
#12	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11
#13	[mh "DISABLED PERSONS"]
#14	[mh "MENTAL DISORDERS"]
#15	[mh "COMMUNICATION DISORDERS"]
#16	[mh "INTELLECTUAL DISABILITY"]
#17	(disable* or disabilit* or handicap* or retard* or disorder* or impair* or condition* or difficulty or difficulties or deficit* or dysfunct*):ti
#18	((sever* or complex* or special or high) near/3 (need or needs)):ti,ab
#19	SHCN:ti,ab
#20	#13 or #14 or #15 or #16 or #17 or #18 or #19
#21	#12 and #20
#22	[mh ^"DISABLED CHILDREN"]
#23	CSHCN:ti,ab
#24	"Education Health and Care plan*":ti,ab
#25	EHC plan*:ti,ab
#26	EHCP*:ti,ab
#27	#21 or #22 or #23 or #24 or #25 or #26
#28	([mh ^"HEALTH SERVICES"] or [mh ^"CHILD HEALTH SERVICES"] or [mh ^"ADOLESCENT HEALTH SERVICES"] or [mh

#	Searches
	^"COMMUNITY HEALTH SERVICES"] or [mh ^"HOME CARE SERVICES"] or [mh ^"HEALTH SERVICES FOR PEOPLE WITH DISABILITIES"] or [mh ^"MENTAL HEALTH SERVICES"] or [mh ^"NURSING SERVICES"] or [mh "HEALTH PERSONNEL"]) and ([mh "SOCIAL WORK"] or [mh ^"SOCIAL WORK, PSYCHIATRIC"] or [mh ^"SOCIAL WORKERS"])
#29	([mh ^"HEALTH SERVICES"] or [mh ^"CHILD HEALTH SERVICES"] or [mh ^"ADOLESCENT HEALTH SERVICES"] or [mh ^"COMMUNITY HEALTH SERVICES"] or [mh ^"HOME CARE SERVICES"] or [mh ^"HEALTH SERVICES FOR PEOPLE WITH DISABILITIES"] or [mh ^"MENTAL HEALTH SERVICES"] or [mh ^"NURSING SERVICES"] or [mh "HEALTH PERSONNEL"]) and ([mh ^EDUCATION] or [mh "EDUCATION, SPECIAL"] or [mh ^SCHOOLS] or [mh ^"SCHOOL HEALTH SERVICES"] or [mh ^"SCHOOLS, NURSERY"] or [mh NURSERIES] or [mh ^"CHILD DAY CARE CENTERS"] or [mh ^UNIVERSITIES] or [mh ^TEACHING] or [mh ^"REMEDIAL TEACHING"] or [mh ^"SCHOOL TEACHERS"])
#30	([mh "SOCIAL WORK"] or [mh ^"SOCIAL WORK, PSYCHIATRIC"] or [mh ^"SOCIAL WORKERS"]) and ([mh ^EDUCATION] or [mh "EDUCATION, SPECIAL"] or [mh ^SCHOOLS] or [mh ^"SCHOOL HEALTH SERVICES"] or [mh ^"SCHOOLS, NURSERY"] or [mh NURSERIES] or [mh ^"CHILD DAY CARE CENTERS"] or [mh ^UNIVERSITIES] or [mh ^TEACHING] or [mh ^"REMEDIAL TEACHING"] or [mh ^"SCHOOL TEACHERS"])
#31	#28 or #29 or #30
#32	[mh ^"INTERINSTITUTIONAL RELATIONS"]
#33	[mh ^"INTERSECTORAL COLLABORATION"]
#34	[mh ^"INTERPROFESSIONAL RELATIONS"]
#35	[mh ^"DELIVERY OF HEALTH CARE, INTEGRATED"]
#36	[mh ^"COOPERATIVE BEHAVIOR"]
#37	[mh ^"MODELS, ORGANIZATIONAL"]
#38	#32 or #33 or #34 or #35 or #36 or #37
#39	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and social* and ((interinstitution* or multiinstitution* or jointinstitution* or interorganisation* or interorganization* or multiorganisation* or multiorganization* or jointorganisation* or jointorganization* or intersector* or multisector* or jointsector* or interagenc* or multiagenc* or jointagenc* or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession* or multiprofession* or jointprofession*) near/3 (model or models))):ti,ab
#40	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and ((interinstitution* or multiinstitution* or jointinstitution* or interorganisation* or interorganization* or multiorganisation* or multiorganization* or jointorganisation* or jointorganization* or intersector* or multisector* or jointsector* or interagenc* or multiagenc* or jointagenc* or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession* or multiprofession* or jointprofession*) near/3 (model or models))):ti,ab
#41	(social* and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and ((interinstitution* or multiinstitution* or jointinstitution* or interorganisation* or interorganization* or multiorganisation* or multiorganization* or jointorganisation* or jointorganization* or intersector* or multisector* or jointsector* or interagenc* or multiagenc* or jointagenc* or interprovider? or multiprovider? or jointprovider? or interstakeholder? or multistakeholder? or jointstakeholder? or interprofession* or multiprofession* or jointprofession*) near/3 (model or models))):ti,ab
#42	#39 or #40 or #41
#43	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and social* and ((inter or multi* or joint) near/3 (institution* or organisation* or organization* or sector* or agenc* or provider? or stakeholder? or profession*) near/3 (model or models))):ti,ab
#44	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and ((inter or multi* or joint) near/3 (institution* or organisation* or organization* or sector* or agenc* or provider? or stakeholder? or profession*) near/3 (model or models))):ti,ab
#45	(social* and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and ((inter or multi* or joint) near/3 (institution* or organisation* or organization* or sector* or agenc* or provider? or stakeholder? or profession*) near/3 (model or models))):ti,ab
#46	#43 or #44 or #45
#47	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and social* and ((collaborat* or coordinat* or co-ordinat* or cooperat* or co-operat* or integrat* or partner*) near/3 (model or models))):ti,ab
#48	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and ((collaborat* or coordinat* or co-ordinat* or cooperat* or co-operat* or integrat* or partner*) near/3 (model or models))):ti,ab
#49	(social* and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and ((collaborat* or coordinat* or co-ordinat* or cooperat* or co-operat* or integrat* or partner*) near/3 (model or models))):ti,ab
#50	#47 or #48 or #49
#51	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or

#	Searches
	((speech or language) near/3 therapist*) or SLT or SLTs) and social* and (service? near/3 (model or models or configur*))):ti,ab
#52	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and (service? near/3 (model or models or configur*))):ti,ab
#53	(social* and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and (service? near/3 (model or models or configur*))):ti,ab
#54	#51 or #52 or #53
#55	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and social* and (practice near/3 (model or models))):ti,ab
#56	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and (practice near/3 (model or models))):ti,ab
#57	(social* and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and (practice near/3 (model or models))):ti,ab
#58	#55 or #56 or #57
#59	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and social* and (commissioner? or commissioning or commissioned)):ti,ab
#60	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and (commissioner? or commissioning or commissioned)):ti,ab
#61	(social* and (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) and (commissioner? or commissioning or commissioned)):ti,ab
#62	#59 or #60 or #61
#63	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) near/10 social* near/10 (care near/3 (model or models))):ti,ab
#64	((health* or NHS or clinical or clinician* or medical or medic or medics or physician* or consultant* or nurse* or "general practitioner*" or GP or GPs or "occupational therapist*" or OT or OTs or "allied health professional*" or AHP or AHPs or ((speech or language) near/3 therapist*) or SLT or SLTs) near/10 (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) near/10 (care near/3 (model or models))):ti,ab
#65	(social* near/10 (educat* or school* or teach* or headmaster* or headmistress* or SENCO or SENCOs or DfE*) near/10 (care near/3 (model or models))):ti,ab
#66	#63 or #64 or #65
#67	((joint* or pool*) near/3 (financ* or budget*)):ti,ab
#68	#27 and #31 and #38
#69	#27 and #42
#70	#27 and #46
#71	#27 and #50
#72	#27 and #54
#73	#27 and #58
#74	#27 and #62
#75	#27 and #66
#76	#27 and #67
#77	#68 or #69 or #70 or #71 or #72 or #73 or #74 or #75 or #76
#78	#68 or #69 or #70 or #71 or #72 or #73 or #74 or #75 or #76 with Cochrane Library publication date Between Jan 2000 and Feb 2020, in Cochrane Reviews
#79	#68 or #69 or #70 or #71 or #72 or #73 or #74 or #75 or #76 with Publication Year from 2000 to 2020, in Trials

1

2 **Database: Database of Abstracts of Reviews of Effects (DARE)**

3 **Date of last search: 19/02/2020**

#	Searches
1	MeSH DESCRIPTOR ADOLESCENT IN DARE
2	MeSH DESCRIPTOR MINORS IN DARE
3	((adolescen* or teen* or youth* or young or juvenile* or minors or highschool*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
4	MeSH DESCRIPTOR CHILD EXPLODE ALL TREES IN DARE
5	((child* or schoolchild* or "school age" or "school aged" or preschool* or toddler* or kid* or kindergar* or boy* or girl*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))

#	Searches
6	MeSH DESCRIPTOR INFANT EXPLODE ALL TREES IN DARE
7	((infan* or neonat* or newborn* or baby or babies)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
8	MeSH DESCRIPTOR PEDIATRICS EXPLODE ALL TREES IN DARE
9	((pediatric* or paediatric*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
10	MeSH DESCRIPTOR YOUNG ADULT IN DARE
11	(("young* adult*")) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
12	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11
13	MeSH DESCRIPTOR DISABLED PERSONS EXPLODE ALL TREES IN DARE
14	MeSH DESCRIPTOR MENTAL DISORDERS EXPLODE ALL TREES IN DARE
15	MeSH DESCRIPTOR COMMUNICATION DISORDERS EXPLODE ALL TREES IN DARE
16	MeSH DESCRIPTOR INTELLECTUAL DISABILITY EXPLODE ALL TREES IN DARE
17	((disable* or disabilit* or handicap* or retard* or disorder* or impair* or condition* or difficulty or difficulties or deficit* or dysfunct*):TI) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
18	((((sever* or complex* or special or high) adj3 need*))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
19	#13 OR #14 OR #15 OR #16 OR #17 OR #18
20	#12 AND #19
21	MeSH DESCRIPTOR DISABLED CHILDREN IN DARE
22	((CSHCN)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
23	((("Education Health" adj2 "Care plan*"))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
24	(("EHC plan*")) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
25	((EHCP*)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
26	#20 OR #21 OR #22 OR #23 OR #24 OR #25
27	MeSH DESCRIPTOR MODELS, ORGANIZATIONAL EXPLODE ALL TREES IN DARE
28	(((inter* or multi* or joint*) adj5 (model or models))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
29	(((collaborat* or coordinat* or co-ordinat* or cooperat* or co-operat* or integrat* or partner*) adj3 (model or models))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
30	(((service or practice or care) adj3 (model or models))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
31	((commissioner? or commissioning or commissioned)) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
32	(((joint* or pool*) adj3 (financ* or budget*))) and ((Systematic review:ZDT and Bibliographic:ZPS) OR (Systematic review:ZDT and Abstract:ZPS))
33	#27 OR #28 OR #29 OR #30 OR #31 OR #32
34	#26 AND #33

1

2 Database: Health Technology Abstracts (HTA)

3 Date of last search: 19/02/2020

#	Searches
1	MeSH DESCRIPTOR ADOLESCENT IN HTA
2	MeSH DESCRIPTOR MINORS IN HTA
3	(adolescen* or teen* or youth* or young or juvenile* or minors or highschool*) IN HTA
4	MeSH DESCRIPTOR CHILD EXPLODE ALL TREES IN HTA
5	(child* or schoolchild* or "school age" or "school aged" or preschool* or toddler* or kid* or kindergar* or boy* or girl*) IN HTA
6	MeSH DESCRIPTOR INFANT EXPLODE ALL TREES IN HTA
7	(infan* or neonat* or newborn* or baby or babies) IN HTA
8	MeSH DESCRIPTOR PEDIATRICS EXPLODE ALL TREES IN HTA
9	(pediatric* or paediatric*) IN HTA
10	MeSH DESCRIPTOR YOUNG ADULT IN HTA
11	("young* adult*") IN HTA
12	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11
13	MeSH DESCRIPTOR DISABLED PERSONS EXPLODE ALL TREES IN HTA
14	MeSH DESCRIPTOR MENTAL DISORDERS EXPLODE ALL TREES IN HTA
15	MeSH DESCRIPTOR COMMUNICATION DISORDERS EXPLODE ALL TREES IN HTA
16	MeSH DESCRIPTOR INTELLECTUAL DISABILITY EXPLODE ALL TREES IN HTA
17	(disable* or disabilit* or handicap* or retard* or disorder* or impair* or condition* or difficulty or difficulties or deficit* or dysfunct*):TI IN HTA
18	(((sever* or complex* or special or high) adj3 need*)) IN HTA
19	#13 OR #14 OR #15 OR #16 OR #17 OR #18
20	#12 AND #19

#	Searches
21	MeSH DESCRIPTOR DISABLED CHILDREN IN HTA
22	(CSHCN) IN HTA
23	(("Education Health" adj2 "Care plan*")) IN HTA
24	("EHC plan*") IN HTA
25	(EHCP*) IN HTA
26	#20 OR #21 OR #22 OR #23 OR #24 OR #25
27	MeSH DESCRIPTOR MODELS, ORGANIZATIONAL IN HTA
28	((inter* or multi* or joint*) adj5 (model or models)) IN HTA
29	((collaborat* or coordinat* or co-ordinat* or cooperat* or co-operat* or integrat* or partner*) adj3 (model or models)) IN HTA
30	((service or practice or care) adj3 (model or models)) IN HTA
31	(commissioner? or commissioning or commissioned) IN HTA
32	((joint* or pool*) adj3 (financ* or budget*)) IN HTA
33	#27 OR #28 OR #29 OR #30 OR #31 OR #32
34	#26 AND #33

Databases: Applied Social Sciences Index & Abstracts (ASSIA); Social Services Abstracts; Sociological Abstracts; and ERIC (Education Resources Information Centre)

Date of last search: 19/02/2020

#	Searches
1	AB,TI(adolescen* OR teen* OR youth* OR young OR juvenile? OR minors OR highschool* OR child* OR schoolchild* OR "school age" OR "school aged" OR preschool* OR toddler* OR kid? OR kindergar* OR boy? OR girl? OR infan* OR neonat* OR newborn* OR baby OR babies OR p?ediatric* OR "young* adult?")
2	TI(disable? OR disabilit* OR handicap* OR retard* OR disorder? OR impair* OR condition? OR difficulty OR difficulties OR deficit? OR dysfunct* OR ((sever* OR complex* OR special OR high) NEAR/3 need?) OR SHCN OR CSHCN OR "Education Health and Care plan?" OR "EHC plan?" OR EHCP?)
3	AB,TI((health* OR NHS OR clinical OR clinician? OR medical OR medic? OR physician? OR consultant? OR nurse? OR "general practitioner?" OR GP? OR "occupational therapist?" OR OT? OR "allied health professional?" OR AHP? OR "speech therapist?" OR "language therapist?" OR SLT?) AND social* AND (educat* OR school* OR teach* OR headmaster? OR headmistress* OR SENCO? OR DfE?))
4	TI(((health* OR NHS OR clinical OR clinician? OR medical OR medic? OR physician? OR consultant? OR nurse? OR "general practitioner?" OR GP? OR "occupational therapist?" OR OT? OR "allied health professional?" OR AHP? OR "speech therapist?" OR "language therapist?" OR SLT?) AND social*) OR ((health* OR NHS OR clinical OR clinician? OR medical OR medic? OR physician? OR consultant? OR nurse? OR "general practitioner?" OR GP? OR "occupational therapist?" OR OT? OR "allied health professional?" OR AHP? OR "speech therapist?" OR "language therapist?" OR SLT?) AND (educat* OR school* OR teach* OR headmaster? OR headmistress* OR SENCO? OR DfE?)) OR (social* AND (educat* OR school* OR teach* OR headmaster? OR headmistress* OR SENCO? OR DfE?)))
5	AB,TI(((inter* OR multi* OR collaborat* OR coordinat* OR co-ordinat* OR cooperat* OR co-operat* OR integrat* OR partner* OR service OR practice OR care) NEAR/3 model?) OR commissioner? OR commissioning OR commissioned)
6	1 AND 2 AND 3 AND 5 Additional limits - Date: From January 2000 to February 2020
7	1 AND 2 AND 4 AND 5 Additional limits - Date: From January 2000 to February 2020
8	6 OR 7

Database: British Education Index

Date of last search: 19/02/2020

#	Searches
1	TX (model? or commissioner? or commissioning or commissioned) AND TX (adolescen* OR teen* OR youth* OR young OR juvenile? OR minors OR highschool* OR child* OR schoolchild* OR "school age" OR "school aged" OR preschool* OR toddler* OR kid? OR kindergar* OR boy? OR girl? OR infan* OR neonat* OR newborn* OR baby OR babies OR p#ediatric* OR "young* adult?") AND TI (disable? OR disabilit* OR handicap* OR retard* OR disorder? OR impair* OR condition? OR difficulty OR difficulties OR deficit? OR dysfunct* OR "sever* need?" OR "complex* need?" OR "special need?" OR "special educat* need?" OR "high need?" OR SHCN OR CSHCN OR "Education Health and Care plan?" OR "EHC plan?" OR EHCP?) AND TI (interinstitution* OR multiinstitution* OR jointinstitution* OR interorgani?ation* OR multiorgani?ation* OR jointorgani?ation* OR intersector* OR multisector* OR jointsector* OR interagenc* OR multiagenc* OR jointagenc* OR interprovider* OR multiprovider* OR jointprovider* OR interstakeholder* OR multistakeholder* OR jointstakeholder* OR interprofession* OR multiprofession* OR jointprofession* OR service? OR collaborat* OR "care coordinat*" OR "care co-ordinat*" OR "coordinat* care" OR "coordinat* care" OR partnership? OR partnering OR network*) Limiters - Publication Date: 20000101- 20200231
2	TX (model? or commissioner? or commissioning or commissioned) AND TX (adolescen* OR teen* OR youth* OR young OR juvenile? OR minors OR highschool* OR child* OR schoolchild* OR "school age" OR "school aged" OR preschool* OR toddler* OR kid? OR kindergar* OR boy? OR girl? OR infan* OR neonat* OR newborn* OR baby OR babies OR p#ediatric* OR "young* adult?")

#	Searches
	AND TI (disable? OR disabilit* OR handicap* OR retard* OR disorder? OR impair* OR condition? OR difficulty OR difficulties OR deficit? OR dysfunct* OR "sever* need?" OR "complex* need?" OR "special need?" OR "special educat* need?" OR "high need?" OR SHCN OR CSHCN OR "Education Health and Care plan?" OR "EHC plan?" OR EHCP?) AND AB ((((health* OR NHS OR clinical OR clinician? OR medical OR medic? OR physician? OR consultant? OR nurse? OR "general practitioner?" OR GP? OR "occupational therapist?" OR OT? OR "allied health professional?" OR AHP? OR "speech therapist?" OR "language therapist?" OR SLT?) AND social*) OR ((health* OR NHS OR clinical OR clinician? OR medical OR medic? OR physician? OR consultant? OR nurse? OR "general practitioner?" OR GP? OR "occupational therapist?" OR OT? OR "allied health professional?" OR AHP? OR "speech therapist?" OR "language therapist?" OR SLT?) AND (educat* OR school* OR teach* OR headmaster? OR headmistress* OR SENCO? OR DfE?)) OR (social* AND (educat* OR school* OR teach* OR headmaster? OR headmistress* OR SENCO? OR DfE?)))) Limiters - Publication Date: 20000101- 20200231
3	1 or 2

1

2 Database: CINAHL Plus (Cumulative Index to Nursing and Allied Health 3 Literature)

4 Date of last search: 19/02/2020

#	Searches
1	TI (model? or commissioner? or commissioning or commissioned) AND TX (adolescen* OR teen* OR youth* OR young OR juvenile? OR minors OR highschool* OR child* OR schoolchild* OR "school age" OR "school aged" OR preschool* OR toddler* OR kid? OR kindergar* OR boy? OR girl? OR infan* OR neonat* OR newborn* OR baby OR babies OR p#ediatric* OR "young* adult?") AND TI (disable? OR disabilit* OR handicap* OR retard* OR disorder? OR impair* OR condition? OR difficulty OR difficulties OR deficit? OR dysfunct* OR "sever* need?" OR "complex* need?" OR "special need?" OR "special educat* need?" OR "high need?" OR SHCN OR CSHCN OR "Education Health and Care plan?" OR "EHC plan?" OR EHCP?) AND TI (interinstitution* OR multiinstitution* OR jointinstitution* OR interorgani?ation* OR multiorgani?ation* OR jointorgani?ation* OR intersector* OR multisector* OR jointsector* OR interagenc* OR multiagenc* OR jointagenc* OR interprovider* OR multiprovider* OR jointprovider* OR interstakeholder* OR multistakeholder* OR jointstakeholder* OR interprofession* OR multiprofession* OR jointprofession* OR service? OR collaborat* OR "care coordinat*" OR "care co-ordinat*" OR "coordinat* care" OR "coordinat* care" OR partnership? OR partnering OR network*) Limiters - Publication Date: 2000- 2020
2	TX (model? or commissioner? or commissioning or commissioned) AND TX (adolescen* OR teen* OR youth* OR young OR juvenile? OR minors OR highschool* OR child* OR schoolchild* OR "school age" OR "school aged" OR preschool* OR toddler* OR kid? OR kindergar* OR boy? OR girl? OR infan* OR neonat* OR newborn* OR baby OR babies OR p#ediatric* OR "young* adult?") AND TI (disable? OR disabilit* OR handicap* OR retard* OR disorder? OR impair* OR condition? OR difficulty OR difficulties OR deficit? OR dysfunct* OR "sever* need?" OR "complex* need?" OR "special need?" OR "special educat* need?" OR "high need?" OR SHCN OR CSHCN OR "Education Health and Care plan?" OR "EHC plan?" OR EHCP?) AND TI ((((health* OR NHS OR clinical OR clinician? OR medical OR medic? OR physician? OR consultant? OR nurse? OR "general practitioner?" OR GP? OR "occupational therapist?" OR OT? OR "allied health professional?" OR AHP? OR "speech therapist?" OR "language therapist?" OR SLT?) AND social*) OR ((health* OR NHS OR clinical OR clinician? OR medical OR medic? OR physician? OR consultant? OR nurse? OR "general practitioner?" OR GP? OR "occupational therapist?" OR OT? OR "allied health professional?" OR AHP? OR "speech therapist?" OR "language therapist?" OR SLT?) AND (educat* OR school* OR teach* OR headmaster? OR headmistress* OR SENCO? OR DfE?)) OR (social* AND (educat* OR school* OR teach* OR headmaster? OR headmistress* OR SENCO? OR DfE?)))) Limiters - Publication Date: 2000- 2020
3	1 or 2

5

6 Database: Social Sciences Citation Index (SSCI)

7 Date of last search: 19/02/2020

#	Searches
# 1	TOPIC: ((adolescen* or teen* or youth* or young or juvenile$ or minors or highschool*)) Indexes=SSCI Timespan=2000-2020
# 2	TOPIC: ((child* or schoolchild* or "school age" or "school aged" or preschool* or toddler* or kid$ or kindergar* or boy$ or girl$)) Indexes=SSCI Timespan=2000-2020
# 3	TOPIC: ((infan* or neonat* or newborn* or baby or babies)) Indexes=SSCI Timespan=2000-2020
# 4	TOPIC: (p$ediatric*) Indexes=SSCI Timespan=2000-2020
# 5	TOPIC: ("young* adult$") Indexes=SSCI Timespan=2000-2020
# 6	#5 OR #4 OR #3 OR #2 OR #1 Indexes=SSCI Timespan=2000-2020
# 7	TITLE: ((disable$ or disabilit* or handicap* or retard* or disorder$ or impair* or condition$ or difficulty or difficulties or deficit$ or dysfunct*)) Indexes=SSCI Timespan=2000-2020
# 8	TOPIC: (((sever* or complex* or special or high) near/3 need$)) Indexes=SSCI Timespan=2000-2020
# 9	TOPIC: (SHCN) Indexes=SSCI Timespan=2000-2020
# 10	#9 OR #8 OR #7 Indexes=SSCI Timespan=2000-2020
# 11	#10 AND #6 Indexes=SSCI Timespan=2000-2020
# 12	TOPIC: (CSHCN) Indexes=SSCI Timespan=2000-2020
# 13	TOPIC: ("Education Health and Care plan$") Indexes=SSCI Timespan=2000-2020
# 14	TOPIC: ("EHC plan$") Indexes=SSCI Timespan=2000-2020

#	Searches
# 15	TOPIC: (EHCP$) Indexes=SSCI Timespan=2000-2020
# 16	#15 OR #14 OR #13 OR #12 OR #11 Indexes=SSCI Timespan=2000-2020
# 17	TOPIC: (((health or healthcare or NHS or clinical or medical or medic or medics or nurse or nurses) near/5 social)) Indexes=SSCI Timespan=2000-2020
# 18	TOPIC: ((health or healthcare or NHS or clinical or medical or medic or medics or nurse or nurses) near/5 (education or educating or educator or educators or school or schools or teach or teaching or teachers)) Indexes=SSCI Timespan=2000-2020
# 19	TOPIC: ((social near/5 (education or educating or educator or educators or school or schools or teach or teaching or teachers))) Indexes=SSCI Timespan=2000-2020
# 20	#19 OR #18 OR #17 Indexes=SSCI Timespan=2000-2020
# 21	TOPIC: (((inter* OR multi* OR collaborat* OR coordinat* OR co-ordinat* OR cooperat* OR co-operat* OR integrat* OR partner* OR service OR practice OR care) NEAR/3 model$)) Indexes=SSCI Timespan=2000-2020
# 22	TOPIC: (commissioner$ OR commissioning OR commissioned) Indexes=SSCI Timespan=2000-2020
# 23	#22 OR #21 Indexes=SSCI Timespan=2000-2020
# 24	#23 AND #20 AND #16 Indexes=SSCI Timespan=2000-2020

1

2 Database: Social Care Online

3 Date of last search: 19/02/2020

#	Searches
	AND All fields:'disabled or disability or disabilities or handicap or retard or disorder or impaired or impairment or condition or difficulty or difficulties or deficit or dysfunction or "special need" or "complex need"'
	AND All fields:'child or children or schoolchild or schoolchildren or "school age" or "school aged" or preschool or toddler or kid or kindergarden or boy or girl or infant or neonate or newborn or baby or babies or pediatric or paediatric or "young people" or "young adults"'
	AND Title: 'model or commissioner or commissioning'
	AND PublicationYear:'2000 2020'

4

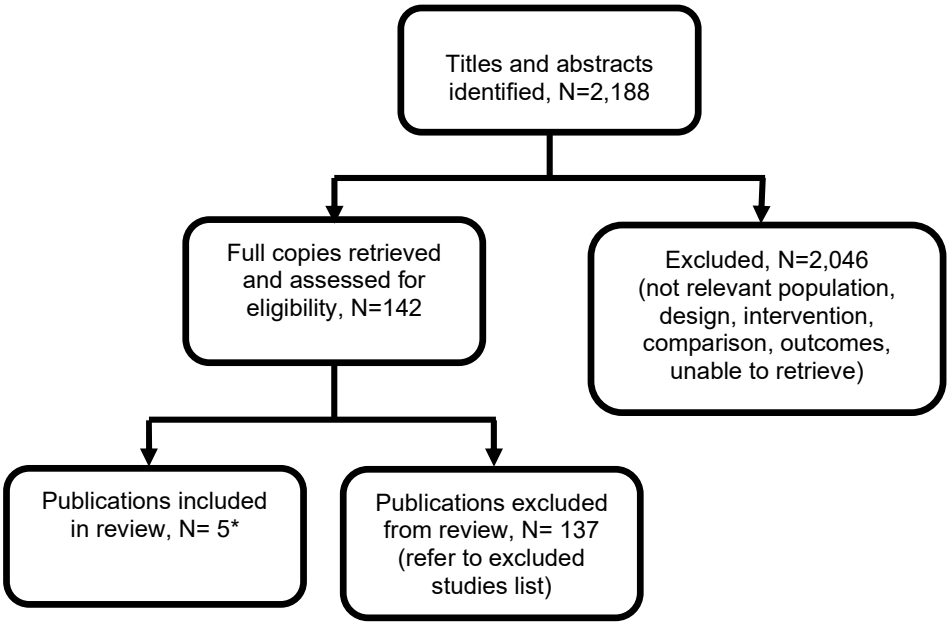
5

Appendix C – Effectiveness evidence study selection

Study selection for review questions: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Figure 1: Study selection flow chart



** Literature search and study selection undertaken for this review and the review of meeting health, social care and education needs simultaneously; 3 publications were included in this evidence review and 4 publications were included for the evidence review of meeting health, social care and education needs*

Appendix D – Effectiveness evidence

Evidence tables for review question: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

Table 8: Evidence tables

Study details	Results and risk of bias assessment using ROBINS-I
Full citation Craston Meera, et al., Evaluation of the SEND pathfinder programme: impact research brief, 9, 2013 **Ref Id** 1199241 **Country/ies where the study was carried out** UK **Study type** Mixed methods: Survey, qualitative interviews and cost analysis **Study dates** October 2011-March 2013 **Inclusion criteria** Intervention: Families receiving services from SEND pathfinder sites Comparator: No inclusion criteria reported **Exclusion criteria** No additional criteria reported **Patient characteristics**	**Results** **Commissioning models: Financial arrangements: Joint/pooled budgets** Parents very satisfied with assessment process: Pathfinder families: 83/237 versus Comparison families: 61/226 **1. Bias due to confounding (Low/Moderate/Serious/Critical/No information)** No information - Authors report that samples were matched by no information is reported about which domains were matched, or the reliability and validity of measurements of these domains. **2. Bias in selection of participants into the study (Low/Moderate/Serious/Critical/No information)** Serious - selection into the study may have been related to intervention and outcome and this could not be adjusted for in analyses. **3. Bias in classification of interventions (Low/Moderate/Serious/Critical/No information)** Low - intervention status is well defined and intervention definition is based solely on information collected at the time of intervention. **4. Bias due to deviations from intended interventions (Low/Moderate/Serious/Critical/No information)** No information - No information is reported on whether there is deviation from

Study details	Results and risk of bias assessment using ROBINS-I
Not reported; n=237 pathfinder families; n=226 comparison families **Interventions** **SEND pathfinder programme:** Grant funded collaboration between local authorities, NHS, colleges and schools, voluntary and community sectors, and parent-carer groups. Aimed to reform the statutory SEN assessment and statement framework to better support outcomes of children and young people and give parents, professionals on the front line and communities more control. **Follow-up** Not applicable	the intended intervention. **5. Bias due to missing data (Low/Moderate/Serious/Critical/No information)** No information - No information is available to judge whether proportions of missing participants differ substantially across interventions. **6. Bias in measurement of outcomes (Low/Moderate/Serious/Critical/No information)** Serious - The outcome measure was subjective (i.e. vulnerable to influence by knowledge of the intervention received by study participants) and the outcome was assessed by assessors aware of the intervention received by study participants. **7. Bias in selection of the reported result (Low/Moderate/Serious/Critical/No information)** Serious - There is a high risk of selective reporting from among multiple analyses. **Overall risk of bias (Low/Moderate/Serious/Critical/No information)** Serious - The study is judged to be at serious risk of bias in at least one domain, but not at critical risk of bias in any domain. **Source of funding** No sources of funding reported **Other information** Brief report of SEND pathfinder programme. Final impact report presented in Thom 2015. Both studies retained as samples are non-overlapping (Craston 2013 covers pathfinder families receiving services October 2011-March 2013 and Thom 2015 covers pathfinder families receiving services August 2013-April 2014).
Full citation Greco, Veronica, et, al, An exploration of different models of multi-agency	**Results**

Study details	Results and risk of bias assessment using ROBINS-I
partnerships in key worker services for disabled children: effectiveness and costs, 206p., bibliog., 2005 **Ref Id** 1198910 **Country/ies where the study was carried out** UK **Study type** Mixed methods: Survey, qualitative interviews and cost analysis **Study dates** October 2003-March 2004 **Inclusion criteria** Families who were using 7 case study key worker services. Case study services were selected from a national survey of Children with Disabilities Teams in the UK; whether they had designated key workers and funding, where in urban or rural areas, and how long services had been running were considered to ensure a spread of different services. **Exclusion criteria** No additional criteria reported. **Patient characteristics** **Characteristics of children: n=189** Age (mean; SD; range): 8.06 years; 4.72; 6 months to 20 years Gender: n=126 (66.7%) male; n=63 (33.3%) female Diagnosis: n=46 (24.3%) Autistic spectrum; n=35 (18.5%) cerebral palsy; n=32 (16.9%) developmental/global delay; n=31 (16.4%) epilepsy; n=20 (10.6%) visual impairment; n=15 (7.9%) Down's syndrome; n=11 (5.8%) hearing impairment; n=10 (5.3%) dyspraxia; n=5 (2.6%) muscular dystrophy Difficulties: n=163 (86%) communication; n=133 (70.5%) behaviour; n=164	**Commissioning models: Financial arrangements** Parents' satisfaction with key worker services (scale of 1 [not at all satisfied] to 4 [very satisfied]): Service had some dedicated funding: M=3.32, SD=0.84, N=159 versus Service did not have any dedicated funding: M=2.71, SD=0.94, N=28 **Practice and service delivery models: Coordination of care and management of care processes: Management of care** Parents' satisfaction with key worker services (scale of 1 [not at all satisfied] to 4 [very satisfied]): Service had designated service manager: M=3.47, SD=0.73, N=106 versus Service did not have designated service manager: M=2.91, SD=0.96, N=81 Service had parental involvement in steering committee: M=3.36, SD=0.82, N=103 versus Service did not have parental involvement in steering committee: M=3.07, SD=0.93, N=84 **Practice and service delivery models: Coordination of care and management of care processes: Individual case management** Parents' satisfaction with key worker services (scale of 1 [not at all satisfied] to 4 [very satisfied]): Parents had designated key worker: M=3.48, SD=0.77, N=71 versus Parents had non-designated key worker: M=3.05, SD=0.92, N=112 Service had clear key worker job description: M=3.47, SD=0.73, N=106 versus Service did not have clear key worker job description: M=2.71, SD=0.94, N=28 Service had clear key worker job description: M=3.47, SD=0.73, N=106 versus Service had a partial key worker job description: M=3.02, SD=0.97, N=53 **1. Bias due to confounding (Low/Moderate/Serious/Critical/No information)** Serious - at least one known important domain was not appropriately measured, or not controlled for. **2. Bias in selection of participants into the study**

Study details	Results and risk of bias assessment using ROBINS-I
(86.7%) learning; n=154 (81.5%) mobility; n=124 (65.5%) health; n=78 (41.5%) vision; n=48 (25.6%) hearing; n=117 (62.1%) continence Statement of educational needs: n=140 (80.5%) **Interventions** **Key worker service A**: Based in a predominantly rural, Welsh county. Overseen by management group comprised of service manager, parents and management representatives from health, education, social services and voluntary agency. Service manager and administrative support is funded 50% by health and 25% by education and social services. One full-time designated key worker is funded by Children First and health, education and social services provide part-time non-designated key workers. **Key worker service B:** Based in a predominantly rural, Welsh county. Overseen by steering group comprised of service manager and management representatives from health, education and social services. Service and designated key workers funded by health, education and social services. **Key worker service C:** Based in a northern city. Overseen by a steering/advisory group comprised of parents and representatives from health, education and social services. At the time of the survey, the service was funded by a Children's services grant but it has received funding/designated key workers from Health Action Zone, social services and education. **Key worker service D:** Covers rural and urban areas in the Midlands. Overseen by steering group comprised of representatives from health, education and social services. voluntary organisations and parents. Initially funded by a joint finance bid by the county council and health authority. At the time of the survey, 50% of the funding comes from the primary care trust; social services and education are invoiced retrospectively rather than contributing pre-specified amounts. Non-designated key workers provided by various agencies.	**(Low/Moderate/Serious/Critical/No information)** Serious - selection into the study may have been related to intervention and outcome and this could not be adjusted for in analyses. **3. Bias in classification of interventions (Low/Moderate/Serious/Critical/No information)** Moderate - intervention status is well defined and some aspects of the assignments of intervention status were determined retrospectively **4. Bias due to deviations from intended interventions (Low/Moderate/Serious/Critical/No information)** No information - No information is reported on whether there is deviation from the intended intervention. **5. Bias due to missing data (Low/Moderate/Serious/Critical/No information)** Serious - Proportions of missing participants differ substantially across interventions (when classifying interventions based on site)/ No information - No information is available to judge whether proportions of missing participants differ substantially across interventions (when classifying interventions based on characteristics of service/service received). **6. Bias in measurement of outcomes (Low/Moderate/Serious/Critical/No information)** Serious - The outcome measure was subjective (i.e. vulnerable to influence by knowledge of the intervention received by study participants) and the outcome was assessed by assessors aware of the intervention received by study participants. **7. Bias in selection of the reported result (Low/Moderate/Serious/Critical/No information)** Serious - There is a high risk of selective reporting from among multiple analyses. **Overall risk of bias (Low/Moderate/Serious/Critical/No information)**

Study details	Results and risk of bias assessment using ROBINS-I
Key worker service E: Covers a predominantly rural southern county. Overseen by steering group comprising directorate manager, service managers, managers from the local education authority and Early Years, and the strategic health authority professional from the National Service Framework for Children, Young People and Maternity Services. Service managers funded jointly (50:50) by primary care trust and local authority. Key workers are seconded by the different agencies. **Key worker service F:** Covers a predominantly rural northern county. Comprised of two services, Team Around the Family and Special Needs Panel. Coordinator is supported by an advisory group comprised of parents and professionals from statutory and voluntary organisations. Health Action Zone provided funding to set up the panels but non-designated key workers are provided by multiple agencies within existing resources/financial arrangements. **Key worker service G:** Covers a Welsh county. Overseen by steering group comprising social services disability team manager, care coordination administrator, social services audit officer, pupil support officer for primary education, planning and development officer for children's services from the local council, and a parent (normally also a representative from health but this position was vacant at the time of the survey). No dedicated budget for the scheme; non-designated key workers providing service as part of their existing roles (unclear what agencies these are from). **Follow-up** Not applicable	Serious - The study is judged to be at serious risk of bias in at least one domain, but not at critical risk of bias in any domain. **Source of funding** Not industry funded. **Other information** For the purpose of this review we were only interested in chapter 5 of this study (surveys of families). Therefore, data extracted corresponds to this part of the study only. Comparative data was not reported for some outcomes.
Full citation Thom Graham, et al., The Special Educational Needs and Disability Pathfinder Programme evaluation: final impact research report, 238, 2015 **Ref Id** 1139296 **Country/ies where the study was carried out**	**Results** **Commissioning models: Financial arrangements: Joint/pooled budgets** Parents' satisfaction - Parents reported being very/fairly satisfied with the processes: Pathfinder families: 503/698 versus Comparison families: 640/1000 Parents' satisfaction - Parents reported being fairly/very dissatisfied with the processes:

Study details	Results and risk of bias assessment using ROBINS-I
UK **Study type** Mixed methods: Survey, qualitative interviews and cost analysis **Study dates** August 2013-April 2014 **Inclusion criteria** **Intervention:** Families who had received an EHC plan between August 2013 and April 2014 from one of 30 SEND pathfinder sites **Comparator:** Families who had a SEN statement/post-16 equivalent from one of 24 pathfinder areas, before the introduction of the SEND pathfinder programme **Exclusion criteria** No additional criteria reported **Patient characteristics** **Children and young people in pathfinder families: n=698** Age: 28% <5; 14% 6-8; 8% 9-10; 25% 11-15; 13% 1617; 16% ≥18 Gender: 68% male; 32% female Cognition and learning needs (dyslexia, dyspraxia, leaning difficulties): 80% Behaviour, emotional and social development needs (attention deficit disorder/ADHD): 72% Communication and interaction needs (speech and language difficulties, communication difficulties caused by Autism or Asperger's): 85% Sensory and/or physical needs (e.g., hearing, visual or motor impairment): 58% Impact of condition/disability on daily life: 6% mild; 31% moderate; 37%	Pathfinder families: 98/698 versus Comparison families: 240/1000 Parents' satisfaction - Parents reported being very/fairly satisfied with education services: Pathfinder families: 474/641 versus Comparison families: 605/917 Parents' satisfaction - Parents reported being fairly/very dissatisfied with education services: Pathfinder families: 96/641 versus Comparison families: 220/917 Parents' satisfaction - Parents reported being very/fairly satisfied with social care: Pathfinder families: 229/309 versus Comparison families: 203/332 Parents' satisfaction - Parents reported being fairly/very dissatisfied with social care: Pathfinder families: 40/309 versus Comparison families: 93/332 Parents' satisfaction - Parents reported being very/fairly satisfied with specialist health services: Pathfinder families: 221/294 versus Comparison families: 187/283 Parents' satisfaction - Parents reported being fairly/very dissatisfied with specialist health services: Pathfinder families: 41/294 versus Comparison families: 68/283 Access to services - Waiting times for services: Parents reported it had taken too long to access services: Pathfinder families: 272/698 versus Comparison families: 550/1000 Joined-up support - Cross sector planning: Parents reported that support planning had taken place jointly: Pathfinder families: 181/402 versus Comparison families: 144/435 Joined-up support - Effectiveness of information sharing: Parents reported information was shared across services very/fairly well: Pathfinder families: 496/698 versus Comparison families: 630/1000 Joined-up support - Effectiveness of information sharing: Parents reported information was shared across services not very/at all well: Pathfinder families: 154/698 versus Comparison families: 300/1000

Study details	Results and risk of bias assessment using ROBINS-I
severe; 23% profound or complex **Children and young people in comparison families: n=698** Age: 26% <5; 15% 6-8; 9% 9-10; 26% 11-15; 13% 1617; 12% ≥18 Gender: 71% male; 29% female Cognition and learning needs (dyslexia, dyspraxia, leaning difficulties): 81% Behaviour, emotional and social development needs (attention deficit disorder/ADHD): 72% Communication and interaction needs (speech and language difficulties, communication difficulties caused by Autism or Asperger's): 87% Sensory and/or physical needs (e.g., hearing, visual or motor impairment): 56% Impact of condition/disability on daily life: 7% mild; 28% moderate; 36% severe; 24% profound or complex **Interventions** **SEND pathfinder programme**: Grant funded collaboration between local authorities, NHS, colleges and schools, voluntary and community sectors, and parent-carer groups. Aimed to reform the statutory SEN assessment and statement framework to better support outcomes of children and young people and give parents, professionals on the front line and communities more control. **Follow-up** Not applicable	**1. Bias n to confounding (Low/Moderate/Serious/Critical/No information)** No information - groups were matched on all known important confounding domains but no information is reported about the reliability and validity of measurements of these domains. **2. Bias in selection of participants into the study (Low/Moderate/Serious/Critical/No information)** Serious - selection into the study may have been related to intervention and outcome and this could not be adjusted for in analyses. **3. Bias in classification of interventions (Low/Moderate/Serious/Critical/No information)** Low - intervention status is well defined and intervention definition is based solely on information collected at the time of intervention. **4. Bias due to deviations from intended interventions (Low/Moderate/Serious/Critical/No information)** No information - No information is reported on whether there is deviation from the intended intervention. **5. Bias due to missing data (Low/Moderate/Serious/Critical/No information)** Serious - Proportions of missing participants differ substantially across interventions. **6. Bias in measurement of outcomes (Low/Moderate/Serious/Critical/No information)** Serious - The outcome measure was subjective (i.e. vulnerable to influence by knowledge of the intervention received by study participants) and the outcome was assessed by assessors aware of the intervention received by study participants. **7. Bias in selection of the reported result**

Study details	Results and risk of bias assessment using ROBINS-I
	(Low/Moderate/Serious/Critical/No information) Moderate - the outcome measurements and analyses are clearly defined and there is no indication of selection of the reported analysis from among multiple analyses and there is no indication of selection of the cohort or subgroups for analysis and reporting on the basis of the results. **Overall risk of bias (Low/Moderate/Serious/Critical/No information)** Serious - The study is judged to be at serious risk of bias in at least one domain, but not at critical risk of bias in any domain. **Source of funding** Not industry funded. **Other information** Final impact report of SEND pathfinder programme. Brief report presented in Craston 2013. Both studies retained as samples are non-overlapping (Craston 2013 covers pathfinder families receiving services October 2011-March 2013 and Thom 2015 covers pathfinder families receiving services August 2013-April 2014).

ADHD: attention deficit hyperactivity disorder; EHC: education, health and care; M: mean; N: number of participants; NHS: National Health Service; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation; SEN: special educational needs; SEND: special educational needs and disability

Evidence tables for review question: What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Table 9: Evidence tables

Study details	Results and risk of bias assessment
Full citation Eskow, Karen Goldrich, Chasson, Gregory S., Summers, Jean Ann, A cross-sectional cohort study of a large, statewide Medicaid home and community-based services autism waiver program, Journal of Autism and Developmental Disorders, 45, 626-35, 2015	**Results** **Commissioning models: Financial arrangements: Access to funds for community home based services (versus residential services)** Family Quality of Life (scale not reported; but higher value indicates better

Study details	Results and risk of bias assessment
Ref Id 1207248 **Country/ies where the study was carried out** USA **Study type** Survey **Study dates** June 2011-May 2012 **Inclusion criteria** Families receiving the Maryland waiver for autistic spectrum disorders, or on the waitlist for the waiver. Waitlist families must have been receiving minimal waiver-like services **Exclusion criteria** No additional criteria reported **Patient characteristics** **Waiver group: n=130** Age (mean; SD): 13.97 years; 3.31 Gender: n=110 (85%) male; n=20 (15%) female ASD severity (mean; SD [scale from 0 to 20; higher scores indicate more severe]): 16.66; 2.92 **Waitlist group: n=130** Age (mean; SD): 13.16 years; 3.56 Gender: n=110 (85%) male; n=20 (15%) female ASD severity (mean; SD [scale from 0 to 20; higher scores indicate more	outcome): Waiver: M=4.02, SD=0.61, N=130; Waitlist: M=3.71, SD=0.63, N=130 Preparation for adulthood - Employment: Academic performance (three-point scale; higher scores indicate more improvement): Waiver: M=0.52, SD=0.50, N=130; Waitlist: M=0.41, SD=0.50, N=130 Preparation for adulthood - Independent living: Independent living skills (three-point scale; higher scores indicate more improvement): Waiver: M=0.59, SD=0.50, N=130; Waitlist: M=0.37, SD=0.49, N=130 Preparation for adulthood - Community Inclusion: Peer relationships (three-point scale; higher scores indicate more improvement): Waiver: M=0.26, SD=0.44, N=130; Waitlist: M=0.18, SD=0.39, N=130 **1. Bias due to confounding (Low/Moderate/Serious/Critical/No information)** Moderate - confounding expected, all known important confounding domains appropriately measured and controlled for and reliability and validity of measurement of important domains were sufficient, such that we do not expect serious residual confounding. **2. Bias in selection of participants into the study (Low/Moderate/Serious/Critical/No information)** Serious - selection into the study may have been related to intervention and outcome and this could not be adjusted for in analyses. **3. Bias in classification of interventions (Low/Moderate/Serious/Critical/No information)** Low - intervention status is well defined and intervention definition is based solely on information collected at the time of intervention. **4. Bias due to deviations from intended interventions (Low/Moderate/Serious/Critical/No information)**

Study details	Results and risk of bias assessment
severe]): 16.88; 2.31 **Interventions** **Maryland ASD waiver:** Home and Community-Based Service (HCBS) Waiver for children with ASD that allows access to Medicaid funds, which are normally reserved for residential facilities, for services in less restrictive environments to promote community living. Services for ASD available under the Maryland waiver include: service coordination through the school system; individual support/interventions; therapeutic integration (e.g., expressive therapy and recreation); residential habilitation; respite care; environment accessibility adaptations for the home; family training; planning for transition. **Follow-up** Years on waiver (mean; SD): 4.91; 3.16; Years on waitlist (mean; SD): 4.82; 2.65; Outcomes measured in terms of improvement in the last 12 months	No information - no information is reported on whether there is deviation from the intended intervention. **5. Bias due to missing data (Low/Moderate/Serious/Critical/No information)** Low - data were reasonably complete **6. Bias in measurement of outcomes (Low/Moderate/Serious/Critical/No information)** Serious - The outcome measure was subjective (i.e. vulnerable to influence by knowledge of the intervention received by study participants) and the outcome was assessed by assessors aware of the intervention received by study participants. **7. Bias in selection of the reported result (Low/Moderate/Serious/Critical/No information)** Moderate - the outcome measurements and analyses are clearly defined and there is no indication of selection of the reported analysis from among multiple analyses and there is no indication of selection of the cohort or subgroups for analysis and reporting on the basis of the results. **Overall risk of bias (Low/Moderate/Serious/Critical/No information)** Serious - The study is judged to be at serious risk of bias in at least one domain, but not at critical risk of bias in any domain. **Source of funding** Not industry funded. **Other information**
Full citation Greco, Veronica, et, al, An exploration of different models of multi-agency partnerships in key worker services for disabled children: effectiveness and costs, 206p., bibliog., 2005	**Results** **Commissioning models: Financial arrangements** Parents' Quality of Life (scale not reported; but higher value indicates better outcome):

Study details	Results and risk of bias assessment
Ref Id 1198910 **Country/ies where the study was carried out** UK **Study type** Mixed methods: Survey, qualitative interviews and cost analysis **Study dates** October 2003-March 2004 **Inclusion criteria** Families who were using 7 case study key worker services. Case study services were selected from a national survey of Children with Disabilities Teams in the UK; whether they had designated key workers and funding, where in urban or rural areas, and how long services had been running were considered to ensure a spread of different services. **Exclusion criteria** No additional criteria reported. **Patient characteristics** **Characteristics of children: n=189** Age (mean; SD; range): 8.06 years; 4.72; 6 months to 20 years Gender: n=126 (66.7%) male; n=63 (33.3%) female Diagnosis: n=46 (24.3%) Autistic spectrum; n=35 (18.5%) cerebral palsy; n=32 (16.9%) developmental/global delay; n=31 (16.4%) epilepsy; n=20 (10.6%) visual impairment; n=15 (7.9%) Down's syndrome; n=11 (5.8%) hearing impairment; n=10 (5.3%) dyspraxia; n=5 (2.6%) muscular dystrophy Difficulties: n=163 (86%) communication; n=133 (70.5%) behaviour; n=164 (86.7%) learning; n=154 (81.5%) mobility; n=124 (65.5%) health; n=78 (41.5%) vision; n=48 (25.6%) hearing; n=117 (62.1%) continence	Service had some dedicated funding: M=16.89, SD=2.67, N=149 versus Service did not have any dedicated funding: M=14.87, SD=1.68, N=24 **Practice and service delivery models: Coordination of care and management of care processes: Management of care** Parents' Quality of Life (scale not reported; but higher value indicates better outcome): Service had designated service manager: M=17.33, SD=2.68, N=98 versus Service did not have designated service manager: M=15.68, SD=2.30, N=75 Service had parental involvement in steering committee: M=17.18, SD=2.75, N=93 versus Service did not have parental involvement in steering committee: M=15.95, SD=2.36, N=80 **Practice and service delivery models: Coordination of care and management of care processes: Individual case management** Parents' Quality of Life (scale not reported; but higher value indicates better outcome): Parents had designated key worker: M=17.06, SD=2.68, N=68 versus Parents had non-designated key worker: M=16.19, SD=2.50, N=102 Service had clear key worker job description: M=17.33, SD=2.68, N=98 versus Service did not have clear key worker job description: M=14.87, SD=1.68, N=24 Service had clear key worker job description: M=17.33, SD=2.68, N=98 versus Service had a partial key worker job description: M=16.06, SD=2.47, N=51 **1. Bias due to confounding (Low/Moderate/Serious/Critical/No information)** Serious - at least one known important domain was not appropriately measured, or not controlled for. **2. Bias in selection of participants into the study (Low/Moderate/Serious/Critical/No information)** Serious - selection into the study may have been related to intervention and outcome and this could not be adjusted for in analyses.

Study details	Results and risk of bias assessment
Statement of educational needs: n=140 (80.5%) **Interventions** **Key worker service A:** Based in a predominantly rural, Welsh county. Overseen by management group comprised of service manager, parents and management representatives from health, education, social services and voluntary agency. Service manager and administrative support is funded 50% by health and 25% by education and social services. One full-time designated key worker is funded by Children First and health, education and social services provide part-time non-designated key workers. **Key worker service B:** Based in a predominantly rural, Welsh county. Overseen by steering group comprised of service manager and management representatives from health, education and social services. Service and designated key workers funded by health, education and social services. **Key worker service C:** Based in a northern city. Overseen by a steering/advisory group comprised of parents and representatives from health, education and social services. At the time of the survey, the service was funded by a Children's services grant but it has received funding/designated key workers from Health Action Zone, social services and education. **Key worker service D:** Covers rural and urban areas in the Midlands. Overseen by steering group comprised of representatives from health, education and social services. voluntary organisations and parents. Initially funded by a joint finance bid by the county council and health authority. At the time of the survey, 50% of the funding comes from the primary care trust; social services and education are invoiced retrospectively rather than contributing pre-specified amounts. Non-designated key workers provided by various agencies. **Key worker service E:** Covers a predominantly rural southern county. Overseen by steering group comprising directorate manager, service managers, managers from the local education authority and Early Years, and the strategic health authority professional from the National Service	**3. Bias in classification of interventions (Low/Moderate/Serious/Critical/No information)** Moderate - intervention status is well defined and some aspects of the assignments of intervention status were determined retrospectively **4. Bias due to deviations from intended interventions (Low/Moderate/Serious/Critical/No information)** No information - No information is reported on whether there is deviation from the intended intervention. **5. Bias due to missing data (Low/Moderate/Serious/Critical/No information)** Serious - Proportions of missing participants differ substantially across interventions (when classifying interventions based on site)/ No information - No information is available to judge whether proportions of missing participants differ substantially across interventions (when classifying interventions based on characteristics of service/service received). **6. Bias in measurement of outcomes (Low/Moderate/Serious/Critical/No information)** Serious - The outcome measure was subjective (i.e. vulnerable to influence by knowledge of the intervention received by study participants) and the outcome was assessed by assessors aware of the intervention received by study participants. **7. Bias in selection of the reported result (Low/Moderate/Serious/Critical/No information)** Serious - There is a high risk of selective reporting from among multiple analyses. **Overall risk of bias (Low/Moderate/Serious/Critical/No information)** Serious - The study is judged to be at serious risk of bias in at least one domain, but not at critical risk of bias in any domain. **Source of funding**

Study details	Results and risk of bias assessment
Framework for Children, Young People and Maternity Services. Service managers funded jointly (50:50) by primary care trust and local authority. Key workers are seconded by the different agencies. **Key worker service F:** Covers a predominantly rural northern county. Comprised of two services, Team Around the Family and Special Needs Panel. Coordinator is supported by an advisory group comprised of parents and professionals from statutory and voluntary organisations. Health Action Zone provided funding to set up the panels but non-designated key workers are provided by multiple agencies within existing resources/financial arrangements. **Key worker service G:** Covers a Welsh county. Overseen by steering group comprising social services disability team manager, care coordination administrator, social services audit officer, pupil support officer for primary education, planning and development officer for children's services from the local council, and a parent (normally also a representative from health but this position was vacant at the time of the survey). No dedicated budget for the scheme; non-designated key workers providing service as part of their existing roles (unclear what agencies these are from). **Follow-up** Not applicable	Not industry funded. **Other information** For the purpose of this review we were only interested in chapter 5 of this study (surveys of families). Therefore, data extracted corresponds to this part of the study only. Comparative data was not reported for some outcomes.
Full citation Klag, S., Fox, T., Martin, G., Eadie, K., Bergh, W., Keegan, F., Turner, D., Raeburn, N., Evolve Therapeutic Services: A 5-year outcome study of children and young people in out-of-home care with complex and extreme behavioural and mental health problems, Children and Youth Services Review, 69, 268-274, 2016 **Ref Id** 1199082 **Country/ies where the study was carried out** Australia	**Results** **Practice and service delivery models: Coordination of care and management of care processes: Individual case management/multidisciplinary teams/shared decision making** Preparation for adulthood - Independent living: Problems with self-care and independence (measured by HoNOSCA item 11; scale of 0 [no problems] to 4 [severe problems]): After ETS: M=0.85, SD=1.0, N=264 versus Before ETS: M=1.24, SD=1.1, N=264 Preparation for adulthood - Community inclusion: Problems with peer relationships (measured by HoNOSCA item 10; scale of 0 [no problems] to 4

Study details	Results and risk of bias assessment
Study type Before and after study **Study dates** 2006-2011 **Inclusion criteria** Children aged <18 years, in out of home care under and on and interim/finalised Child Protection order, presenting with severe and/or complex psychological and/or behavioural problems (i.e. a chronic trauma history, extreme behavioural problems across multiple settings, at risk of harming self/others and multiple placement breakdowns) **Exclusion criteria** No additional criteria reported **Patient characteristics** N=664 Age (mean; range): 10.6 years; 1 to 17 Gender: n=409 (61.6%) male; n=255 (38.4%) female Diagnosis: n=312 (49.1%) attachment disorders; n=132 (20.8%) PTSD; n=113 (17.8%) mood disorders; n=109 (17.1%) conduct disorders; n=109 (17.1%) disturbances of activity and attention; n=107 (16.9%) developmental and intellectual impairment; n=93 (14.6%) emotional and behavioural disorders; n=51 (8.0%) anxiety and stress disorders; n=31 (4.9%) childhood disorders; n=28 (4.4%) disorders in social functioning; n=14 (2.2%) substance abuse; n=2 (0.3%) personality disorders; n=1 (0.2%) psychotic disorders **Interventions** **Evolve Therapeutic Services (ETS):** Tertiary level collaborative wrap around mental health services embedded within Evolve Interagency Services (EIS). Includes clinical interventions such as comprehensive assessment and attachment and trauma focused therapies. Interventions are aimed at the	[severe problems]): After ETS: M=1.76, SD=1.2, N=267 versus Before ETS: M=2.59, SD=1.1, N=267 **1. Random sequence generation** High risk, controlled before-after study - no randomisation **2. Allocation concealment** High risk, controlled before-after study - no randomisation **3. Baseline outcome measurements similar** Low risk, only one baseline measurement was taken and baseline measures were only included if taken within the first four months of allocation to ETS as this is thought to coincide with the time taking for comprehensive assessment and treatment planning (i.e., before the initiation of interventions) **4. Baseline characteristics similar** Low risk, only one baseline measurement was taken and baseline measures were only included if taken within the first four months of allocation to ETS as this is thought to coincide with the time taking for comprehensive assessment and treatment planning (i.e., before the initiation of interventions) **5. Incomplete outcome data** Low risk, missing values were relatively high (20 to 30%) but authors report that missing data was random across teams, indicating no bias **6. Knowledge of the allocated interventions adequately prevented during the study** High risk, outcomes were not assessed blindly **7. Protection against contamination** Low risk, controlled before-after study so control group was pre-intervention **8.Selective outcome reporting**

Study details	Results and risk of bias assessment
individual, their families and professionals. Also includes systemic interventions such as development of multiagency stakeholder groups with a focus on shared understanding of the child's strengths and needs and working collaboratively to develop and review therapeutic goals. **Evolve Interagency Services (EIS):** Interagency partnership between Queensland Health, the Department of Communities, Child Safety & Disability Services, and the Department of Education, Training & Employment; based on principles of child centred care and interagency collaboration. Provides coordinated therapeutic and behaviour supports to children and young people in out of home to improve emotional wellbeing and participation in school and the community. **Follow-up** Data collected before and after ETS; mean program duration 19.2 months (SD 11.1)	Low risk, all outcomes reported sufficiently **9. Other risks of bias** High risk, no separate control group (pre-intervention scores act as control group for post-intervention scores) **Source of funding** Not reported **Other information**
Full citation Thom Graham, et al., The Special Educational Needs and Disability Pathfinder Programme evaluation: final impact research report, 238, 2015 **Ref Id** 1139296 **Country/ies where the study was carried out** UK **Study type** Mixed methods: Survey, qualitative interviews and cost analysis **Study dates** August 2013-April 2014 **Inclusion criteria**	**Results** **Commissioning models: Financial arrangements: Joint/pooled budgets** Extent to which needs are met: Parents reported child/young person was receiving all/most of the support they need: Pathfinder families: 377/698 versus Comparison families: 470/1000 Extent to which needs are met: Parents agreed/strongly agreed that support was suitable for child/young person's needs: Pathfinder families: 537/698 versus Comparison families: 710/1000 Extent to which needs are met: Parents agreed/strongly agreed that educational support was suitable for child/young person's needs: Pathfinder families: 506/641 versus Comparison families: 660/917 Extent to which needs are met: Parents agreed/strongly agreed that social care support was suitable for child/young person's needs: Pathfinder families: 238/309 versus Comparison families: 229/332 Extent to which needs are met: Parents agreed/strongly agreed that specialist health support was suitable for child/young person's needs: Pathfinder families: 235/294 versus Comparison families: 207/283

Study details	Results and risk of bias assessment
Intervention: Families who had received an EHC plan between August 2013 and April 2014 from one of 30 SEND pathfinder sites **Comparator:** Families who had a SEN statement/post-16 equivalent from one of 24 pathfinder areas, before the introduction of the SEND pathfinder programme **Exclusion criteria** No additional criteria reported **Patient characteristics** **Children and young people in pathfinder families: n=698** Age: 28% <5; 14% 6-8; 8% 9-10; 25% 11-15; 13% 1617; 16% ≥18 Gender: 68% male; 32% female Cognition and learning needs (dyslexia, dyspraxia, leaning difficulties): 80% Behaviour, emotional and social development needs (attention deficit disorder/ADHD): 72% Communication and interaction needs (speech and language difficulties, communication difficulties caused by Autism or Asperger's): 85% Sensory and/or physical needs (e.g., hearing, visual or motor impairment): 58% Impact of condition/disability on daily life: 6% mild; 31% moderate; 37% severe; 23% profound or complex **Children and young people in comparison families: n=1000** Age: 26% <5; 15% 6-8; 9% 9-10; 26% 11-15; 13% 1617; 12% ≥18 Gender: 71% male; 29% female Cognition and learning needs (dyslexia, dyspraxia, leaning difficulties): 81% Behaviour, emotional and social development needs (attention deficit disorder/ADHD): 72% Communication and interaction needs (speech and language difficulties, communication difficulties caused by Autism or Asperger's): 87%	Child/young person's Quality of Life: Reported by parents as very/fairly good: Pathfinder families: 524/698 versus Comparison families: 750/1000 Child/young person's Quality of Life: Reported by parents as fairly/very poor: Pathfinder families: 63/698 versus Comparison families: 110/1000 Parents' Quality of Life: Very/fairly good: Pathfinder families: 565/698 versus Comparison families: 800/1000 Parents' Quality of Life: Fairly/very poor: Pathfinder families: 35/698 versus Comparison families: 70/1000 Social Inclusion: Parents reported child/young person saw friends at least once a week: Pathfinder families: 272/698 versus Comparison families: 360/999 Social Inclusion: Parents reported child/young person saw friends at least once a month: Pathfinder families: 112/698 versus Comparison families: 190/999 Social Inclusion: Parents reported child/young person saw friends at least once a year: Pathfinder families: 35/698 versus Comparison families: 60/999 Social Inclusion: Parents reported child/young person saw friends less often than once a year/never: Pathfinder families: 209/698 versus Comparison families: 270/999 Preparation for adulthood - Community Inclusion: Parents reported child/young person gets on with people their own age very/fairly well: Pathfinder families: 440/698 versus Comparison families: 680/1000 Preparation for adulthood - Community Inclusion: Parents reported child/young person gets on with people their own age not very/at all well: Pathfinder families: 230/698 versus Comparison families: 290/1000 **1. Bias due to confounding (Low/Moderate/Serious/Critical/No information)**

Study details	Results and risk of bias assessment
Sensory and/or physical needs (e.g., hearing, visual or motor impairment): 56% Impact of condition/disability on daily life: 7% mild; 28% moderate; 36% severe; 24% profound or complex **Interventions** **SEND pathfinder programme:** Grant funded collaboration between local authorities, NHS, colleges and schools, voluntary and community sectors, and parent-carer groups. Aimed to reform the statutory SEN assessment and statement framework to better support outcomes of children and young people and give parents, professionals on the front line and communities more control. **Follow-up** Not applicable	No information - groups were matched on all known important confounding domains but no information is reported about the reliability and validity of measurements of these domains. **2. Bias in selection of participants into the study (Low/Moderate/Serious/Critical/No information)** Serious - selection into the study may have been related to intervention and outcome and this could not be adjusted for in analyses. **3. Bias in classification of interventions (Low/Moderate/Serious/Critical/No information)** Low - intervention status is well defined and intervention definition is based solely on information collected at the time of intervention. **4. Bias due to deviations from intended interventions (Low/Moderate/Serious/Critical/No information)** No information - No information is reported on whether there is deviation from the intended intervention. **5. Bias due to missing data (Low/Moderate/Serious/Critical/No information)** Serious - Proportions of missing participants differ substantially across interventions. **6. Bias in measurement of outcomes (Low/Moderate/Serious/Critical/No information)** Serious - The outcome measure was subjective (i.e. vulnerable to influence by knowledge of the intervention received by study participants) and the outcome was assessed by assessors aware of the intervention received by study participants. **7. Bias in selection of the reported result (Low/Moderate/Serious/Critical/No information)** Moderate - the outcome measurements and analyses are clearly defined and there is no indication of selection of the reported analysis from among

Study details	Results and risk of bias assessment
	multiple analyses and there is no indication of selection of the cohort or subgroups for analysis and reporting on the basis of the results. **Overall risk of bias (Low/Moderate/Serious/Critical/No information)** Serious - The study is judged to be at serious risk of bias in at least one domain, but not at critical risk of bias in any domain. **Source of funding** Not industry funded. **Other information**

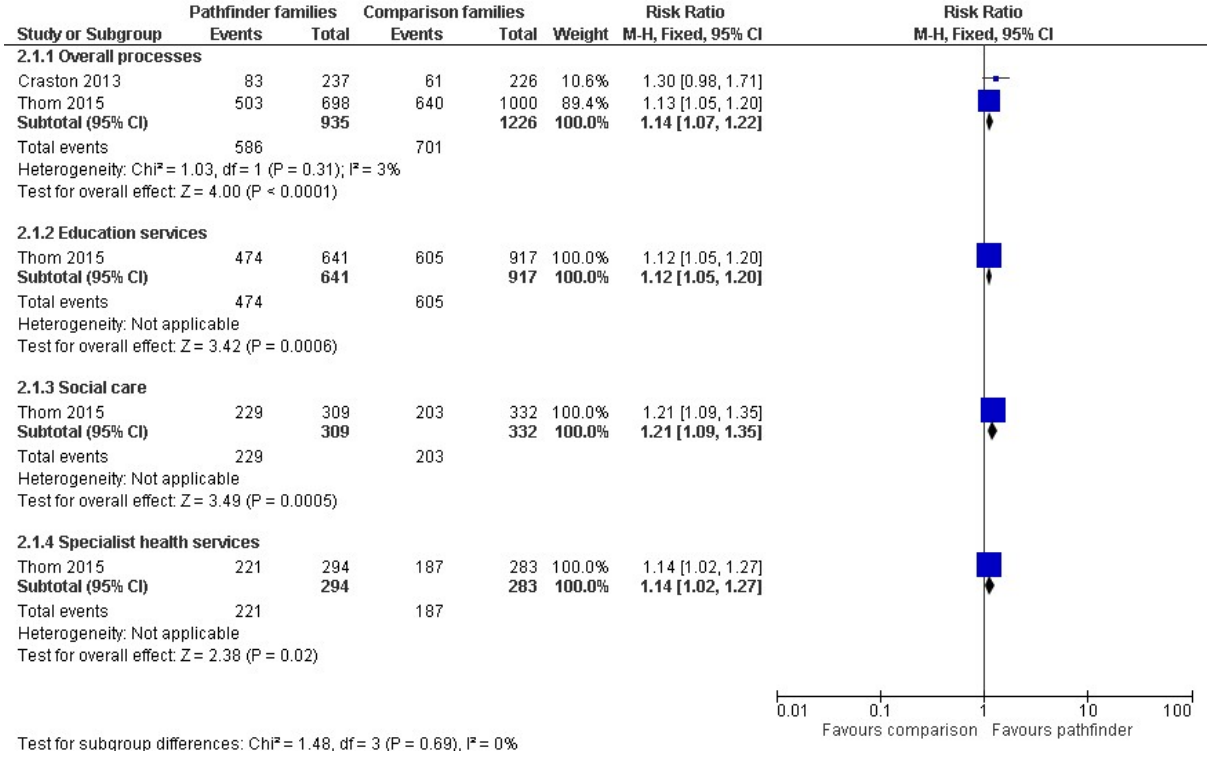
ADHD: attention deficit hyperactivity disorder; ASD: autistic spectrum disorder; EHC: education, health and care; EIS: Evolve Interagency Services; ETS: Evolve Therapeutic Services; HCBS: Home and Community-Based Service; HoNOSCA: Health of the Nation Outcome Scales for Children and Adolescents; M: mean; N: number of participants; NHS: National Health Service; PTSD: post-traumatic stress disorder; SD: standard deviation; SEN: special educational needs; SEND: special educational needs and disability

Appendix E – Forest plots

Forest plots for review question: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

This section includes forest plots only for outcomes that are meta-analysed. Outcomes from single studies are not presented here; the quality assessment for such outcomes is provided in the GRADE profiles in appendix F.

Figure 2: Joint/pooled budgets versus separate budgets: Parents very/fairly satisfied



Forest plots for review question: What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

No meta-analysis was conducted for this review question and so there are no forest plots.

Appendix F – GRADE tables

GRADE tables for review question: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

Table 10: Evidence profile for comparison 1: Service had some dedicated funding versus service did not have any dedicated funding (commissioning models: financial arrangements)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Dedicated funding	No dedicated funding	Relative (95% CI)	Absolute	Quality	Importance
Parents' satisfaction with key worker services (range of scores: 1-4; Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	159	28	-	MD 0.61 higher (0.24 to 0.98 higher)	LOW	CRITICAL

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

[2] 95% CI crosses 1 MID (0.5x control group SD, for 'parents' satisfaction with key worker services' = 0.47)

Table 11: Evidence profile for comparison 2: Joint/pooled budgets versus separate budgets (commissioning models: financial arrangements)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Joint/pooled budget	Separate budgets	Relative (95% CI)	Absolute	Quality	Importance
Parents very/fairly satisfied - Overall processes												
2*	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	586/935 (62.7%)	701/1226 (57.2%)	RR 1.14 (1.07 to 1.22)	80 more per 1000 (from 40 more to	MODERATE	CRITICAL

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Joint/pooled budget	Separate budgets	Relative (95% CI)	Absolute	Quality	Importance
										126 more)		
Parents very/fairly satisfied - Education services												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	474/641 (73.9%)	605/917 (66%)	RR 1.12 (1.05 to 1.2)	79 more per 1000 (from 33 more to 132 more)	MODERATE	CRITICAL
Parents very/fairly satisfied - Social care												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	229/309 (74.1%)	203/332 (61.1%)	RR 1.21 (1.09 to 1.35)	128 more per 1000 (from 55 more to 214 more)	LOW	CRITICAL
Parents very/fairly satisfied - Specialist health services												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	221/294 (75.2%)	187/283 (66.1%)	RR 1.14 (1.02 to 1.27)	93 more per 1000 (from 13 more to 178 more)	LOW	CRITICAL
Parents fairly/very dissatisfied - Overall processes												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	98/698 (14%)	240/1000 (24%)	RR 0.59 (0.47 to 0.72)	98 fewer per 1000 (from 67 fewer to 127 fewer)	MODERATE	CRITICAL
Parents fairly/very dissatisfied - Education services												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	96/641 (15%)	220/917 (24%)	RR 0.62 (0.5 to 0.78)	91 fewer per 1000 (from 53 fewer to 120 fewer)	MODERATE	CRITICAL
Parents fairly/very dissatisfied - Social care												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	40/309 (12.9%)	93/332 (28%)	RR 0.46 (0.33 to 0.65)	151 fewer per 1000 (from 98 fewer to 188	MODERATE	CRITICAL

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Joint/pooled budget	Separate budgets	Relative (95% CI)	Absolute	Quality	Importance
										fewer)		
Parents fairly/very dissatisfied - Specialist health services												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	41/294 (13.9%)	68/283 (24%)	RR 0.58 (0.41 to 0.82)	101 fewer per 1000 (from 43 fewer to 142 fewer)	LOW	CRITICAL
Access to services - Waiting times for services: Parents reported it had taken too long to access services												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	272/698 (39%)	550/1000 (55%)	RR 0.71 (0.64 to 0.79)	160 fewer per 1000 (from 115 fewer to 198 fewer)	MODERATE	CRITICAL
Joined-up support - Cross sector planning: Parents reported that support planning had taken place jointly												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	181/402 (45%)	144/435 (33.1%)	RR 1.36 (1.15 to 1.62)	119 more per 1000 (from 50 more to 205 more)	LOW	IMPORTANT
Joined-up support - Effectiveness of information sharing: Parents reported information was shared across services very/fairly well												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	496/698 (71.1%)	630/1000 (63%)	RR 1.13 (1.05 to 1.21)	82 more per 1000 (from 31 more to 132 more)	MODERATE	IMPORTANT
Joined-up support - Effectiveness of information sharing: Parents reported information was shared across services not very/at all well												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	154/698 (22.1%)	300/1000 (30%)	RR 0.74 (0.62 to 0.87)	78 fewer per 1000 (from 39 fewer to 114 fewer)	LOW	IMPORTANT

CI: confidence interval; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; RR: risk ratio
** See corresponding forest plot*
[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I
[2] 95% CI crosses 1 MID

Table 12: Evidence profile for comparison 3: Service had designated service manager versus service did not have designated service manager (Practice and service delivery models: Coordination of care and management of care processes: Management of care)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Service had designated service manager	No designated service manager	Relative (95% CI)	Absolute	Quality	Importance
Parents' satisfaction with key worker services (range of scores: 1-4; Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	106	81	-	MD 0.56 higher (0.31 to 0.81 higher)	LOW	CRITICAL

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

[2] 95% CI crosses 1 MID (0.5x control group SD, for 'parents' satisfaction with key worker services' = 0.48)

Table 13: Evidence profile for comparison 4: Service had parental involvement in steering committee versus service did not have parental involvement in steering committee (Practice and service delivery models: Coordination of care and management of care processes: Management of care)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Service had parental involvement in steering committee	No parental involvement in steering committee	Relative (95% CI)	Absolute	Quality	Importance
Parents' satisfaction with key worker services (range of scores: 1-4; Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	103	84	-	MD 0.29 higher (0.04 to 0.54 higher)	LOW	CRITICAL

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation
[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I
[2] 95% CI crosses 1 MID (0.5x control group SD, for 'parents' satisfaction with key worker services' = 0.47)

Table 14: Evidence profile for comparison 5: Parents had designated key worker versus parents had non-designated key worker (Practice and service delivery models: Coordination of care and management of care processes: Individual case management)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Parents had designated key worker	Non-designated key worker	Relative (95% CI)	Absolute	Quality	Importance
Parents' satisfaction with key worker services (range of scores: 1-4; Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	71	112	-	MD 0.43 higher (0.18 to 0.68 higher)	LOW	CRITICAL

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation
[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I
[2] 95% CI crosses 1 MID (0.5x control group SD, for 'parents' satisfaction with key worker services' = 0.46)

Table 15: Evidence profile for comparison 6: Service had clear key worker job description versus service had a partial/no clear key worker job description (Practice and service delivery models: Coordination of care and management of care processes: Individual case management)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Service had clear key worker job description	Partial/no clear job description	Relative (95% CI)	Absolute	Quality	Importance
Parents' satisfaction with key worker services (range of scores: 1-4; Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	106	81	-	MD 0.56 higher (0.31 to 0.81	LOW	CRITICAL

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Service had clear key worker job description	Partial/no clear job description	Relative (95% CI)	Absolute	Quality	Importance
										higher)		

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

[2] 95% CI crosses 1 MID (0.5x control group SD, for 'parents' satisfaction with key worker services' = 0.48)

GRADE tables for review question: What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Table 16: Evidence profile for comparison 1: Service had some dedicated funding versus service did not have any dedicated funding (commissioning models: financial arrangements)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Dedicated funding	No dedicated funding	Relative (95% CI)	Absolute	Quality	Importance
Parents' Quality of Life (Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	149	24	-	MD 2.02 higher (1.22 to 2.82 higher)	MODERATE	IMPORTANT

CI: confidence interval; MD: mean difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

Table 17: Evidence profile for comparison 2: Joint/pooled budgets versus separate budgets (commissioning models: financial arrangements)

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Joint/pooled budget**	**Separate budgets**	**Relative (95% CI)**	**Absolute**		
Extent to which needs are met: Parents reported child/young person was receiving all/most of the support they need												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	377/698 (54%)	470/1000 (47%)	RR 1.15 (1.05 to 1.26)	70 more per 1000 (from 23 more to 122 more)	LOW	CRITICAL
Extent to which needs are met: Parents agreed/strongly agreed that support was suitable for child/young person's needs - Overall												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	537/698 (76.9%)	710/1000 (71%)	RR 1.08 (1.02 to 1.15)	57 more per 1000 (from 14 more to 106 more)	MODERATE	CRITICAL
Extent to which needs are met: Parents agreed/strongly agreed that support was suitable for child/young person's needs - Educational												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	506/641 (78.9%)	660/917 (72%)	RR 1.1 (1.04 to 1.16)	72 more per 1000 (from 29 more to 115 more)	MODERATE	CRITICAL
Extent to which needs are met: Parents agreed/strongly agreed that support was suitable for child/young person's needs - Social care												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	238/309 (77%)	229/332 (69%)	RR 1.12 (1.02 to 1.23)	83 more per 1000 (from 14 more to 159 more)	MODERATE	CRITICAL
Extent to which needs are met: Parents agreed/strongly agreed that support was suitable for child/young person's needs - Specialist health												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	235/294 (79.9%)	207/283 (73.1%)	RR 1.09 (1 to 1.2)	66 more per 1000 (from 0 more to 146 more)	MODERATE	CRITICAL
Quality of Life: Reported by parents as very/fairly good - CYPs' QoL												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	524/698 (75.1%)	750/1000 (75%)	RR 1 (0.95 to 1.06)	0 fewer per 1000 (from 38 fewer to 45 more)	MODERATE	IMPORTANT
Quality of Life: Reported by parents as very/fairly good - Parents' QoL												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	565/698 (80.9%)	800/1000 (80%)	RR 1.01 (0.96 to	8 more per 1000 (from 32	MODERATE	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Joint/pooled budget**	**Separate budgets**	**Relative (95% CI)**	**Absolute**		
									1.06)	fewer to 48 more)		
Quality of Life: Reported by parents as fairly/very poor - CYPs' QoL												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	63/698 (9%)	110/1000 (11%)	RR 0.82 (0.61 to 1.1)	20 fewer per 1000 (from 43 fewer to 11 more)	LOW	IMPORTANT
Quality of Life: Reported by parents as fairly/very poor - Parents' QoL												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	35/698 (5%)	70/1000 (7%)	RR 0.72 (0.48 to 1.06)	20 fewer per 1000 (from 36 fewer to 4 more)	LOW	IMPORTANT
Social Inclusion: Parents reported child/young person saw friends at least once a week												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	272/698 (39%)	360/999 (36%)	RR 1.08 (0.96 to 1.22)	29 more per 1000 (from 14 fewer to 79 more)	MODERATE	IMPORTANT
Social Inclusion: Parents reported child/young person saw friends at least once a month												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	112/698 (16%)	190/999 (19%)	RR 0.84 (0.68 to 1.04)	30 fewer per 1000 (from 61 fewer to 8 more)	LOW	IMPORTANT
Social Inclusion: Parents reported child/young person saw friends at least once a year												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	very serious[3]	none	35/698 (5%)	60/999 (6%)	RR 0.83 (0.56 to 1.25)	10 fewer per 1000 (from 26 fewer to 15 more)	VERY LOW	IMPORTANT
Social Inclusion: Parents reported child/young person saw friends less often than once a year/never												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	209/698 (29.9%)	270/999 (27%)	RR 1.11 (0.95 to 1.29)	30 more per 1000 (from 14 fewer to 78	LOW	IMPORTANT

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Joint/pooled budget	Separate budgets	Relative (95% CI)	Absolute		
										more)		
Preparation for adulthood - Community Inclusion: Parents reported child/young person gets on with people their own age very/fairly well												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	440/698 (63%)	680/1000 (68%)	RR 0.93 (0.86 to 1)	48 fewer per 1000 (from 95 fewer to 0 more)	MODERATE	IMPORTANT
Preparation for adulthood - Community Inclusion: Parents reported child/young person gets on with people their own age not very/at all well												
1 (Thom 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	230/698 (33%)	290/1000 (29%)	RR 1.14 (0.98 to 1.31)	41 more per 1000 (from 6 fewer to 90 more)	LOW	IMPORTANT

CI: confidence interval; CYP: child or young person; QoL: quality of life; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; RR: risk ratio

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

[2] 95% CI crosses 1 MID

[3] 95% CI crosses 2 MIDs

Table 18: Evidence profile for comparison 3: Access to funds for community home based services versus funds reserved for residential services (Commissioning models: Financial arrangements)

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Access to funds for community home based services	Funds reserved for residential services	Relative (95% CI)	Absolute		
Family Quality of Life (Better indicated by higher values)												
1 (Eskow 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	130	130	-	MD 0.31 higher (0.16 to 0.46 higher)	LOW	IMPORTANT

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Access to funds for community home based services	Funds reserved for residential services	Relative (95% CI)	Absolute	Quality	Importance
Preparation for adulthood - Employment: Academic performance (improvement in last 12 months) (Better indicated by higher values)												
1 (Eskow 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	130	130	-	MD 0.11 higher (0.01 lower to 0.23 higher)	MODERATE	IMPORTANT
Preparation for adulthood - Independent living: Independent living skills (improvement in last 12 months) (Better indicated by higher values)												
1 (Eskow 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	130	130	-	MD 0.22 higher (0.1 to 0.34 higher)	LOW	IMPORTANT
Preparation for adulthood - Community Inclusion: Peer relationships (improvement in last 12 months) (Better indicated by higher values)												
1 (Eskow 2015)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	130	130	-	MD 0.08 higher (0.02 lower to 0.18 higher)	MODERATE	IMPORTANT

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

[2] 95% CI crosses 1 MID (0.5x control group SD, for 'family quality of life' = 0.32; for 'independent living skills' = 0.25)

Table 19: Evidence profile for comparison 4: Service had designated service manager versus service did not have designated service manager (Practice and service delivery models: Coordination of care and management of care processes: Management of care)

Quality assessment	No of patients	Effect	Quality	Importance

No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Service had designated service manager	No designated service manager	Relative (95% CI)	Absolute		
Parents' Quality of Life (Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	98	75	-	MD 1.65 higher (0.91 to 2.39 higher)	LOW	IMPORTANT

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

[2] 95% CI crosses 1 MID (0.5x control group SD, for 'parents' quality of life = 1.15)

Table 20: Evidence profile for comparison 5: Service had parental involvement in steering committee versus service did not have parental involvement in steering committee (Practice and service delivery models: Coordination of care and management of care processes: Management of care)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Service had parental involvement in steering committee	No parental involvement in steering committee	Relative (95% CI)	Absolute	Quality	Importance
Parents' Quality of Life (Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	93	80	-	MD 1.23 higher (0.47 to 1.99 higher)	LOW	IMPORTANT

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

[2] 95% CI crosses 1 MID (0.5x control group SD, for 'parents' quality of life' = 1.18)

Table 21: Evidence profile for comparison 6: Parents had designated key worker versus parents had non-designated key worker (Practice and service delivery models: Coordination of care and management of care processes: Individual case management)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Parents had designated key worker	Non-designated key worker	Relative (95% CI)	Absolute	Quality	Importance
Parents' Quality of Life (Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	68	102	-	MD 0.87 higher (0.07 to 1.67 higher)	LOW	IMPORTANT

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation

[1] Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I

[2] 95% CI crosses 1 MID (0.5x control group SD, for 'parents' quality of life' = 1.25)

Table 22: Evidence profile for comparison 7: Service had clear key worker job description versus service had a partial/no clear key worker job description (Practice and service delivery models: Coordination of care and management of care processes: Individual case management)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Service had clear key worker job description	Partial/no clear job description	Relative (95% CI)	Absolute	Quality	Importance
Parents' Quality of Life (Better indicated by higher values)												
1 (Greco 2005)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	98	75	-	MD 1.65 higher (0.92 to 2.38 higher)	LOW	IMPORTANT

CI: confidence interval; MD: mean difference; MID: minimally important difference; ROBINS-I: Risk Of Bias In Non-randomized Studies - of Interventions; SD: standard deviation

[1] *Serious risk of bias in the evidence contributing to the outcomes as per ROBINS-I*
[2] *95% CI crosses 1 MID (0.5x control group SD, for 'parents' quality of life' = 1.11)*

Table 23: Evidence profile for comparison 8: After Evolve Therapeutic Services (ETS) versus before ETS (Practice and service delivery models: Coordination of care and management of care processes: Individual case management/multidisciplinary teams/shared decision making)

Quality assessment							No of patients		Effect			
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**After ETS**	**Before ETS**	**Relative (95% CI)**	**Absolute**	**Quality**	**Importance**
Preparation for adulthood - Independent living: Problems with self-care and independence (measured by HoNOSCA item 11) (range of scores: 0-4; Better indicated by lower values)												
1 (Klag 2016)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	264	264	-	MD 0.39 lower (0.57 to 0.21 lower)	VERY LOW	IMPORTANT
Preparation for adulthood - Community inclusion: Problems with peer relationships (measured by HoNOSCA item 10) (range of scores: 0-4; Better indicated by lower values)												
1 (Klag 2016)	observational studies	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	267	267	-	MD 0.83 lower (1.03 to 0.63 lower)	VERY LOW	IMPORTANT

CI: confidence interval; EPOC: Effective Practice and Organisation of Care; ETS: Evolve Therapeutic Services; HoNOSCA: Health of the Nation Outcome Scales for Children and Adolescents; MD: mean difference; MID: minimally important difference; RoB: risk of bias; SD: standard deviation
[1] *Very serious risk of bias in the evidence contributing to the outcomes as per EPOC RoB tool for before and after studies*
[2] *95% CI crosses 1 MID (0.5x control group SD, for 'problems with self-care and independence' = 0.55)*

Appendix G – Economic evidence study selection

Economic evidence study selection for review questions: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

One global search was undertaken – please see Supplement B for details on study selection.

Appendix H – Economic evidence tables

Economic evidence tables for review questions: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Table 24: Economic evidence tables for practice and service delivery models

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Revill 2013 Ireland Cost analysis Conflict of interest: none declared Funding: not reported	Service comprising of: - Home nursing care and respite services - A monthly care budget to families based on their child's individual care needs, which parents can then utilize to employ nurses and skilled carers - Continuity of care by assigning a single team of nurses - Liaison services to advise parents on services available to them from other organizations This care is often	Severely disabled children (under 4 years old) who are born with or develop brain damage and suffer from conditions such as cerebral palsy, and experience severe neurological and developmental delay. Observational retrospective study / interrupted time series i.e. n=30 children taken from the case lists Source of effectiveness data: NA	Costs: home care and respite service provision including nurses and skilled carers, liaison service, local early intervention services, social work support, physiotherapy and occupational therapy; direct and indirect costs falling on families including specialist equipment, transport to health centres and hospital appointments, other unspecified costs of care, parents' time to provide care; overhead costs	Mean cost per participant: €41,148 (€16,267 provider costs, €22,261 indirect family costs, €2,620 direct family costs) Sensitivity analyses: Mean cost per participant: Including hospital inpatient costs: €56,926 Excluding indirect costs: €18,887	Perspective: healthcare payer (plus costs accruing to families) Currency: Euro Cost year: 2008 prices Time horizon: 1 year Discounting: NA Applicability: partially applicable Quality: potentially serious limitations

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	supplemented by Primary Community and Continuing Care services This service is available from birth to the age of 4 years. Comparator: NA, i.e. non-comparative cost analysis	Source of resource use data: To estimate acute hospital stay costs the case mix was matched on to representative nationally collected Diagnosis Related Groups (DRG) cost data; this was supplemented with survey data from families and nurses/carers. Source of unit costs: Not reported but seems to be nationally collected i.e. DRG cost data, and also local costs			
Cohen 2012 Canada Cost-utility analysis Conflict of interest: none reported. Funding: not reported.	Co-management model with existing primary care providers (PCPs) - Clinics staffed by local community paediatricians together with a tertiary care affiliated nurse practitioner - Focus on care coordination (e.g. coordinating multiple subspecialty consultations or ensuring availability of equipment from home healthcare agencies), complex symptom	Children (<16 years) with a known and/or suspected diagnosis of a complex chronic condition that is associated with medical fragility; technology assistance (e.g. gastrostomy tube, tracheostomy tube) or the need for as high an intensity of care as a technology assisted child; involvement of multiple specialists, such	Costs: accident and emergency visits, outpatient visits, inpatient care, tertiary care; out of pocket expenses (community support services; specialist treatment [chemotherapy, antibiotics, injections, vaccinations, etc.] and supplies, aids or devices [wheelchairs, syringes, walker, etc.]) Mean monthly cost per participant:	Using mean costs and QALYs coordinated model resulted in QALY loss of <0.001 and cost reduction of $12,840 with an ICER of $14.2 mil per QALY lost/disinvested. Using median costs and QALYs coordinated model	Perspective: healthcare payer (plus out of pocket expenses) Currency: CAD Cost year: 2009 Time horizon: 12 months Discounting: NA Applicability: partially applicable Quality: potentially serious limitations

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	management (e.g. complex feeding problems and/or respiratory issues), and goal setting (e.g. advanced directives) - A care plan was developed - Allied health support from a social worker and dietician, and other community-based providers (e.g. home care nurses and/or case managers and teachers) - Community-based therapists and professional support may have been accessed - Nurse practitioner also had access to hospital based paediatricians Comparator: Uncoordinated services (not defined).	as gastroenterologists, neurologists, etc. Pre-, post-observational study Source of effectiveness data: pre-, post-observational study (n=81) Source of resource use data: pre-, post-observational study participants (n - unclear) Source of unit costs: unclear (seem to be local i.e. from Ontario Case Costing Initiative)	Pre-enrolment: $1,439 (SD: $3,511) Post-enrolment: $369 (SD: $708) The difference: -$1,070, p<0.007 Median monthly cost per participant: Pre-enrolment: $244 (IQR: $982) Post-enrolment: $131 (IQR: $355) The difference: -$113, p<0.007 Primary outcome measure: SF-36 (SF-36 summary scores for each domain were converted to EQ-5D scores using Ara 2008[1] algorithm and QALYs over 12 months were estimated assuming pre-enrolment utilities for 'no intervention' arm and post-enrolment utilities for 'intervention' arm); Caregiver Priorities and Child Health Index of Life with Disabilities (CPCHILD); Child Health-Related Quality of Life (PedsQL) - no summary score and Parental Perceptions of Family-	was dominant i.e. it resulted in QALY gain of 0.0050 and cost reduction of $1,356. At 12 months using mean costs and mean CPCHILD scores coordinated model was dominant i.e. it resulted in cost savings and higher ratings on CPCHILD scale. At 12 months using median costs and median CPCHILD scores co-management model resulted in an ICER of $1,506 per point lost on CPCHILD scale (range 0-100) (i.e. lower costs and lower scores on CPCHILD scale). At 12 months using PedsQL findings a co-management model would be preferred on the	

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
			Centeredness of Care MPOC - no summary score provided Mean QALYs per participant over 12 months: No co-management: 0.8375 Co-management model: 0.8366 The difference: -0.0009 Median QALYs per participant over 12 months: No co-management: 0.9011 Co-management model: 0.9061 The difference: 0.0050 Mean total score on CPCHILD scale: Baseline: 58.2 (SD: 15.4) 6 months: 59.0 (SD: 16.1) 12 months: 58.4 (SD: 18.2) Median total score on CPCHILD scale: Baseline: 57.0 (IQR: 19.9) 6 months: 57.6 (IQR: 21.9) 12 months: 56.1 (IQR: 25.5) On PedsQL no difference in an average score at 12 months.	basis of cost minimisation. A co-management model is dominant using findings on MPOC scale 'Enabling and partnership', 'Coordinated and Comprehensive Care', and 'Respectful and Supportive Care' domains (i.e. better outcomes and lower costs). In the first six months mean out of pocket expenses per child increased by $1,608 (p=0.001) but declined by $440 (p=0.0001) by 12 months. In the first six months' median out of pocket expenses per child increased by $2,298 (p=0.001) but declined by $275 (p=0.0001) by 12	

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
			On MPOC statistically significant improvements at 12 months only on the following domains: Enabling and partnership, p=0.01 Coordinated and Comprehensive Care, p=0.004 Respectful and Supportive Care, p=0.01	months. Sensitivity analyses: none undertaken.	
Peter 2011 Australia Cost analysis Conflict of interest: none declared Funding: not reported	Ambulatory Care Coordination (ACC) - Nurse led programme that offered integrated care coordination - A small team of experienced tertiary nurses provided 24/7 telephone support, developed personalised integrated care plans, were familiar with enrolled children's care, facilitated communication between multiple hospital specialists and community professionals, and were proactive in discharge planning when the children required a hospital admission - Nurses had a responsibility of liaising and information sharing among key	Complex care needs defined as those that required care coordination and frequently utilised the hospital services (i.e. more than 2 A&E presentations, or more than 2 hospital admissions, or longer than 14 days' length of hospital stay). The predominant medical specialties involved in the care included neurology, pulmonology, and general paediatrics. Sixty percent of children had three or more specialties involved in their care.	Costs: telephone support, emergency department visits, hospital admissions Mean cost per participant: Pre ACC: $38,950 Post ACC: $19,723 The difference: -$19,228	ACC was cost saving Sensitivity analyses: none undertaken	Perspective: narrow healthcare payer Currency: AUS$ Cost year: 2008 Time horizon: 10 months Discounting: NA Applicability: partially applicable Quality: potentially serious limitations

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	stakeholders, healthcare professionals, other agencies, and across acute and community services Comparator: Pre-ACC care (undefined)	Pre-, post-observational study (n=101) Source of effectiveness data: NA Source of resource use data: Pre-, post-observational study (n=101) Source of unit costs: not reported (likely local costs relevant to tertiary hospital in Western Australia)			
Gordon 2007 US Cost analysis Conflict of interest: not reported. Funding: not reported.	Special needs programme (SNP) - A tertiary-primary care partnership model based on the premise that each child would have a community primary care physician (PCP) and the SNP would assist the PCP in ensuring that participants had medical homes (a concept of accessible, continuous, comprehensive, family-centred, coordinated, compassionate, and	Children meeting major complexity criteria i.e. the need for 5 or more specialists and involvement of 3 or more organ systems; major fragility criteria were 2 or more admissions and 10 or more hospital days or 10 or more clinic visits in the year before enrolment. Children were eligible for enrolment if they met both major fragility and complexity criteria or if they met multiple minor criteria. 98% met major	Costs: hospital admissions, accident and emergency visits, clinic visits, short stay visits Median daily charges per participant in PNCM-MD group: CHW Pre-enrolment: $803 Post-enrolment: $199 MCW Pre-enrolment: $193 Post-enrolment: $157	PNCM-MD group Post-enrolment median daily charges per participant were reduced by $604 ($p<0.01$) and $36 ($p=0.78$) in CHW and MCW groups, respectively. PNCM group Post-enrolment median daily charges per participant were reduced by $19 ($p=0.002$) at CHW centre, and	Perspective: healthcare payer Currency: USD Cost year: likely 2006 Time horizon: one day Discounting: NA Applicability: partially applicable Quality: potentially serious limitations

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	culturally effective healthcare provided by primary care physicians). Weekly intake rounds attended by SNP personnel, a social worker, a parent advocate, and professionals from other services or specialties as needed. This was a 2-tiered programme: PNCM-MD group was assigned an SNP paediatric nurse case manager and SNP physician. These children required more frequent and longer hospital admissions and had uncertain or disputed diagnoses. PNCM group was assigned only an SNP paediatric nurse case manager who worked directly with the PCP and often another tertiary care centre specialist involved in the care of the child. PNCMs served as a single	complexity criteria. Observational pre-, post study Source of effectiveness data: NA Source of resource use data: observational study participants (n=227, n=57 PNCM-MD, N=170 PNCM) Source of unit costs: local and national unit costs (private insurance reimbursement rates and Medicaid)	Median daily charges per participant in PNCM group: CHW Pre-enrolment: $92 Post-enrolment: $73 MCW Pre-enrolment: $23 Post-enrolment: $55	increased by $32 (p=0.004) in MCW group. Sensitivity analyses: none undertaken.	

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	point of contact for patients, families, PCPs and community resources; prepared a plan of care, facilitated communication among specialists and PCPs and attended appointments, often advocating for the child and family; worked with community agencies; occasionally made home visits, attended appointments at PCPs' offices, and attended school meetings; provided psychological support and care coordination education for the patients and caregivers. SNP physicians examined children on enrolment, synthesized the child's many problems in a comprehensive care coordination summary which was provided to family, PCP, and specialists; saw patients electively in the clinic, urgently in A&E, and occasionally made home visits; facilitated admissions and coordinated care during hospital stay; in close contact with PCPs thus providing them with tertiary centre presence.				

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	SNP was established at Children's Hospital of Wisconsin (CHW) and the Medical College of Wisconsin (MCW). Comparator: pre-enrolment care (not defined).				
Palfrey 2004 US Cost analysis Conflict of interest: not reported Funding: Robert Wood Johnson Foundation, the US Department of Health and Human Services Maternal and Child Health Bureau, The Dyson Foundation,	Paediatric Alliance for Coordinated Care (PACC) model -Comprehensive care at the community level to improve the coordination and communication among primary care physicians, subspecialists, and families. --Family centred care to ensure integration of health and other services including education, social services, and recreation -The model comprised the following components: (1) the services of a designated paediatric nurse practitioner, (2) consultation from a local parent of a child with special healthcare needs, (3) modifications to office routines, (4) implementation of an individualised health plan (IHP), (5) regularly	Serious medical, developmental, and/or emotional problems. 60% had 5 or more conditions (mix of cognitive, emotional, and physical), and nearly 41% were dependent on medical technology. Observational study / interrupted time series (n=150) Source of effectiveness data: NA Source of resource use data: Observational study (n=150, n=117 at 2 year follow up) Source of unit costs:	Costs: intervention only (primary nurse practitioner, training, and supplies) The annual cost per PACC participant: $400	The overall impact is unclear	Perspective: narrow healthcare payer Currency: USD Cost year: likely 2003 Time horizon: 2 years Discounting: none Applicability: partially applicable Quality: potentially serious limitations

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
and proceeds from Hillary Clinton's book It Takes a Village to Raise a Child.	scheduled continuing medical and nursing education, and (6) expedited referrals and communication with specialists and hospital-based personnel. PACC physicians met periodically to discuss practice based management. PACC physicians received semi-annual continuing medical education. Primary care nurse practitioners (PNP) received special bimonthly training. PNPs 1. Visited each child who was enrolled in PACC at home to get understanding of the context of the child's life. 2. Were able to conduct sick visits at home. 3. Developed systems to streamline the ordering of medications and supplies and worked to coordinate patient appointments 4. Developed an individual health plan (IHP) for each child. PNPs worked with the family to put in	unclear (likely local)			

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	one accessible place the information to be shared with other professionals. With parental consent, the IHP could be faxed to subspecialists, emergency departments, intensive care units, schools, etc., to facilitate information sharing and referrals. Each community practice was given a stipend for a local parent consultant (LPC). LPCs were parents themselves and could: 1. Provide peer support and steer others to community resources. 2. LPCs met regularly to share resources and plan informational and recreational events for families. Outreach and social activities were available, and a newsletter was published to families several times each year. 3. On occasion, LPCs met with the staff to work through issues in the practice that families identified.				

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	Comparator: NA, i.e. non-comparative cost analysis				

1. *Ara R, Brazier J. Deriving an algorithm to convert the eight mean SF-36 dimension scores into a mean EQ-5D preference-based score from published studies (where patient level data are not available). Value in Health. 2008 Dec;11(7):1131-43.*

Abbreviations: A&E: Accident and Emergency; ACC: Ambulatory Care Coordination; CHW: Children's Hospital of Wisconsin; CPCHILD: Caregiver Priorities and Child Health Index of Life with Disabilities; CYSHCN: Children and youth with special healthcare needs; DRG: Diagnosis Related Groups; ICER: incremental cost effectiveness ratio; IQR: interquartile range; LCP: local parent consultant; MCW: Medical College of Wisconsin; MPOC: Measure of Processes of Care; NA: not applicable; PACC: Paediatric Alliance for Coordinated Care; PCP: primary care physician/provider; PedsQL: Child Health-Related Quality of Life; PNCM: Pediatric nurse case manager; PNCM-MD: Pediatric nurse case manager and Special needs physician; PNP: Primary care nurse practitioner; QALY: quality adjusted life year; SD: standard deviation; SF-36: 36-Item Short Form Survey; SNP: Special needs programme.

Appendix I – Economic model

Economic model for review questions: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

No economic analyses were conducted for these review questions.

Appendix J – Excluded studies

Excluded studies for review questions: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Excluded effectiveness studies

Table 25: Excluded studies and reasons for their exclusion

Study	Reason for Exclusion
Adams, R. C., Tapia, C., Murphy, N. A., Norwood Jr, K. W., Burke, R. T., Friedman, S. L., Houtrow, A. J., Kalichman, M. A., Kuo, D. Z., Levy, S. E., Turchi, R. M., Wiley, S. E., Bridgemohan, C., Peacock, G., Strickland, B., Wells, N., Wiznitzer, M., Mucha, S., Early intervention, IDEA part C services, and the medical home: Collaboration for best practice and best outcomes, Pediatrics, 132, e1073-e1088, 2013	Publication type: Narrative review/overview of model
Alexander, J., Callahan, B., King, A., King, J., Hooper, S., Bartel, S., North Carolina's TBI project ACCESS. Assuring coordinated care, education, and support for survivors of pediatric brain injury, North Carolina medical journal, 62, 359-63, 2001	Publication type: Overview of model implementation, barriers and recommendations. No data on effectiveness
Alonso, M., Escorcia, C., Franco, I., Ayuso, V., Santandreu, A., Molt, O. E., Sanchis, C., Domenech, M., CaNadas, M., The role of the physical therapist in the familycentered model justified by ICF, Developmental Medicine and Child Neurology, 55, 48, 2013	Publication type: Conference abstract
Anderson, L., Ringle, J. L., Ingram, S. D., Ross, J. R., Thompson, R. W., Care Coordination Services: A Description of an Alternative Service Model for At-Risk Families, Journal of Evidence-Informed Social Work, 14, 217-228, 2017	Population: Children referred for poor anger control or school behaviour problems
Arya, Saroj, Sen, Arya Raj Madhavan Madhavan Malin Mendis Otoole Rangaswami Reddy Thornburn, Delivery of services through itinerant service model, Journal of Personality and Clinical Studies, 18, 67-72, 2002	Non-OECD country: India
Bachmann, M. O., O'Brien, M., Husbands, C., Shreeve, A., Jones, N., Watson, J., Reading, R., Thoburn, J., Mugford, M., Brandon, M., Franklin, A., Harvey, I., Haynes, R., Lanyon, C., Lorgelly, P., Lu, Y., Norris, N., Sinclair, R., Sykes, I., Walker, R., Integrating children's services in	Study design and outcomes: Non-comparative. Description of services and qualitative experiences

Study	Reason for Exclusion
England: National evaluation of children's trusts, Child: care, health and development, 35, 257-265, 2009	
Bachmann, M. O., Reading, R., Husbands, C., O'Brien, M., Thoburn, J., Shemilt, I., Watson, J., Jones, N., Haynes, R., Mugford, M., Brandon, M., Harvey, I., Lorgelly, P., Lu, Y., Norris, N., Shreeve, A., Sinclair, R., Sykes, I., Walker, R., What are children's trusts? Early findings from a national survey, Child: Care, Health and Development, 32, 137-146, 2006	Study design and outcomes: Non-comparative. Description of services
Botha, Johan, Kourkoutas, Elias, A Community of Practice as an Inclusive Model to Support Children with Social, Emotional and Behavioural Difficulties in School Contexts, International Journal of Inclusive Education, 20, 784-799, 2016	Study design: Qualitative
Brahmbhatt, K., Integrating care across the subspecialty pediatric continuum: Experience from the university of California, San Francisco in pediatric epilepsy, Journal of the American Academy of Child and Adolescent Psychiatry, 56, S17, 2017	Publication type: Conference abstract
Brosseau-Lapre, F., Greenwell, T., Innovative Service Delivery Models for Serving Children with Speech Sound Disorders, Seminars in Speech and Language, 40, 113-123, 2019	Publication type and outcomes: Overview of models and recommendations for implementation. No data on effectiveness
Brown Helen, et al.,, What works in the delivery of independent support? Final report from the national evaluation of the Independent Support Programme 2014 - 2016, 93, 2017	Study design and outcomes. Non-comparative. Descriptive and qualitative outcomes
Bruce, S. M., Bashinski, S. M., The Trifocus Framework and Interprofessional Collaborative Practice in Severe Disabilities, American Journal of Speech-Language Pathology, 26, 162-180, 2017	Publication type: Narrative review
Bruns, E. J., Duong, M. T., Lyon, A. R., Pullmann, M. D., Cook, C. R., Cheney, D., McCauley, E., Fostering SMART partnerships to develop an effective continuum of behavioral health services and supports in schools, American Journal of Orthopsychiatry, 86, 156-170, 2016	Publication type: Overview of service delivery framework and recommendations. No data on effectiveness
Bryant Ben, Swords Beth, Isos, Partnership, Developing and sustaining an effective local SEND system: a practical guide for councils and partners, 51, 2018	Publication type: Guidance. No data on effectiveness
Butler, Michelle, et, al, Using the voluntary sector to provide services to children and families with complex needs as an alternative to social work services: what are the benefits and risks?, 47, 2017	Outcomes: Narrative/thematic summary of results. No data on effectiveness
Butler, Michelle, et, al, Supporting children and families with complex needs: an exploration of the risks and benefits of voluntary sector service provision as an alternative to statutory services, 69, 2019	Outcomes: Narrative/thematic summary of results. No data on effectiveness

Study	Reason for Exclusion
Cady, R. G., Looman, W. S., Lindeke, L. L., LaPlante, B., Lundeen, B., Seeley, A., Kautto, M. E., Pediatric Care Coordination: Lessons Learned and Future Priorities, Online Journal of Issues in NursingOnline J Issues Nurs, 20, 3, 2015	Publication type: Overview of models for care coordination and plan for evaluation. No data on effectiveness
Campbell, Denise, Garg, Pankaj, Ong, Natalie, Tomsic, Gail, Silove, Natalie, An innovative model of care for meeting the health and social needs of children and young people with intellectual disability, International Journal of Integrated Care (IJIC), 19, 1-2, 2019	Publication type: Conference abstract
Care Quality, Commission, Health care for disabled children and young people: a review of how the health care needs of disabled children and young people are met by the commissioners and providers of health care in England: special review, 48p., 2012	Outcomes: No comparative data presented for outcomes of interest
Carrey, N. J., Curran, J. A., Greene, R., Nolan, A., McLuckie, A., Embedding mental health interventions in early childhood education systems for at-risk preschoolers: An evidence to policy realist review, Systematic Reviews, 3, 84, 2014	Publication type: Protocol for realist review
Carter, M., Stephenson, J., Clark, T., Costley, D., Martin, J., Williams, K., Bruck, S., Davies, L., Browne, L., Sweller, N., A comparison of two models of support for students with autism spectrum disorder in school and predictors of school success, Research in Autism Spectrum Disorders, 68, 101452, 2019	Insufficient presentation of results
Centre For Effective, Services, On the right track: implementation. Learning from investment in prevention and early intervention in Ireland, 18, 2019	Publication type: Guidance/overview of implementation processes. No data on effectiveness
Chaplin, Eddie, Better services for people with an autistic spectrum disorder, Advances in Mental Health and Learning Disabilities, 1, 27-28, 2007	Publication type: Commentary
Chatenoud, C., Villeneuve, M., Dionne, C., Minnes, P., Parent collaboration with educators and health professionals during preschool transition, Journal of Intellectual Disability Research, 56, 740, 2012	Publication type: Conference abstract
Chenoweth, B., Leitner, R., Lenroot, R., Metro-Regional intellectual Disability Network: A partnership model for integrated health services for people with intellectual disability in regional and rural NSW, Journal of Intellectual Disability Research, 56, 756, 2012	Publication type: Conference abstract
Children'S Improvement, Board, Commissioning for families with complex needs, 33p., 2013	Publication type: Commissioning guide. No data on effectiveness
Children'S Services Development, Group, In it together: achieving quality outcomes for young people with complex needs, 25p., 2009	Publication type and outcomes: Examples of good practice and case studies. No data on effectiveness
Chu, S., Reynolds, F., Occupational therapy for	Outcomes: No comparative data provided for

Study	Reason for Exclusion
children with attention deficit hyperactivity disorder (ADHD), Part 2: A multicentre evaluation of an assessment and treatment package, British Journal of Occupational Therapy, 70, 439-448, 2007	outcomes of interest
Chu, Sidney, Reynolds, Frances, Occupational therapy for children with Attention Deficit Hyperactivity Disorder (ADHD), Part 1: a delineation model of practice, British Journal of Occupational Therapy, 70, 372-383, 2007	Publication: Overview of model. No data on effectiveness
Cirrin, F. M., Schooling, T. L., Nelson, N. W., Diehl, S. F., Flynn, P. F., Staskowski, M., Torrey, T. Z., Adamczyk, D. F., Evidence-based systematic review: Effects of different service delivery models on communication outcomes for elementary school-age children, Language, Speech, and Hearing Services in Schools, 41, 233-264, 2010	Population: Not limited to children and young people with severe complex needs
Dang, K., Bent, S., Lawton, B., Warren, T., Widjaja, F., McDonald, M. G., Breard, M., O'Keefe, W., Hendren, R. L., Integrating autism care through a school-based intervention model: A pilot study, Journal of Clinical Medicine, 6 (10) (no pagination), 2017	Insufficient presentation of results
Dang, M. T., Warrington, D., Tung, T., Baker, D., Pan, R. J., A school-based approach to early identification and management of students with ADHD, The Journal of school nursing : the official publication of the National Association of School Nurses, 23, 2-12, 2007	Publication type: Overview of framework. No data on effectiveness
Dodge, Nancy, Keenan, Sandra, Lattanzi, Theresa, Strengthening the capacity of schools and communities to serve students with serious emotional disturbance, Journal of Child and Family Studies, 11, 23-34, 2002	Publication type: Overview of service development. No data on effectiveness
Easton, C., et al.,, Supporting families with complex needs: findings from LARC4: report for the Local Authority Research Consortium (LARC), 42p., 2012	Outcomes: Qualitative, descriptive and costs. No data on effectiveness
Ebbels, S. H., McCartney, E., Slonims, V., Dockrell, J. E., Norbury, C. F., Evidence-based pathways to intervention for children with language disorders, International journal of language & communication disorders, 54, 3-19, 2019	Publication type: Discussion/narrative review. No effectiveness data presented
El Aissati, D., Jackson, C., Birmingham early intervention service redesign: Improving recovery and social outcomes for young people with psychosis, Early Intervention in Psychiatry, 6, 86, 2012	Publication type: Conference abstract
Erickson, C. D., Splett, P. L., Mullett, S. S., Heiman, M. B., The healthy learner model for student chronic condition management--part I, The Journal of school nursing : the official publication of the National Association of School Nurses, 22, 310-318, 2006	Publication type: Overview of model development and implementation. No data on effectiveness
Eskow, Karen Goldrich, Summers, Jean Ann,	Sample: Subset of population reported in Eskow

Study	Reason for Exclusion
Chasson, Gregory S., Mitchell, Renae, Act, Adams Angell Baio Barnard Bartels Benjamini Billingsley Blue-Banning Brookman-Frazee Burke Cheak-Zamora Claire Cohen Constantino Davern Davis Dempsey Dunst Enders Epley Eskow Eskow Fereday Hayes Hoffman Karst Kovacs Markow Matson McWilliam Merryman Miller Moh Olmstead Poston Reiter Renty Ruble Ruble Schopler Selya Starr Summers Summers Timberlake Turnbull Turnbull Turnbull Turnbull Verhoeven Warfield Whitaker Winton Zablotsky Zionts, The association between family-teacher partnership satisfaction and outcomes of academic progress and quality of life for children/youth with autism, Journal of Policy and Practice in Intellectual Disabilities, 15, 16-25, 2018	2015
Fitzmaurice, Eimear, Richmond, Janet E., An Investigation of Service Providers' understanding, perspectives and implementations of the Transdisciplinary model in Early Intervention settings for Children with Disabilities, Internet Journal of Allied Health Sciences & Practice, 15, 1-12, 2017	Outcomes: No data on effectiveness presented
Frey, A. J., Lingo, A., Michael Nelson, C., Positive behavior support: A call for leadership, Children and Schools, 30, 5-14, 2008	Population and intervention: Implemented at the school/population level. Not limited to disabled children and young people with severe complex needs
Gaines, R., Missiuna, C., Egan, M., McLean, J., Educational outreach and collaborative care enhances physician's perceived knowledge about Developmental Coordination Disorder, BMC Health Services Research, 8, 21, 2008	Intervention: Collaborative care within healthcare only
Gaines, Robin, Missiuna, Cheryl, Egan, Mary, McLean, Jennifer, Gaines, Hamilton Missiuna Missiuna Missiuna Polatajko, Interprofessional care in the management of a chronic childhood condition: Developmental coordination disorder, Journal of Interprofessional Care, 22, 552-555, 2008	Publication type: Overview of the development of a service delivery model. No data on effectiveness
Giroux, Catherine M., Corkett, Julie K., Alquraini, Canter Cohen Cunningham Giacomini Graham Harris Kearney, Interprofessional collaboration for children with special healthcare needs: A review of effective education integration, Journal of Sociology and Social Welfare, 43, 55-67, 2016	Publication type: Narrative review
Golos, Anat, Sarid, Miri, Weill, Michal, Weintraub, Naomi, Efficacy of an early intervention program for at-risk preschool boys: a two-group control study, The American journal of occupational therapy : official publication of the American Occupational Therapy Association, 65, 400-8, 2011	Population and outcomes: Children with or at risk of developmental delay. May not have had needs in all three areas. No relevant outcomes reported
Gordon, J. B., Colby, H. H., Bartelt, T., Jablonski, D., Krauthoefer, M. L., Havens, P., A tertiary care-primary care partnership model for medically complex and fragile children and youth	Intervention: Care coordination within health services only

Study	Reason for Exclusion
with special health care needs, Archives of Pediatrics and Adolescent Medicine, 161, 937-944, 2007	
Great Britain Department for Education, Spring, Consortium, Meeting the needs of complex adolescents: learning summary 2, 4, 2017	Publication type: Overview of service delivery models. No data on effectiveness
Great Britain Department of Health, Children and young people in mind: the final report of the national CAMHS review, 117p., 2008	Publication type/study design: Literature review, qualitative investigations and review of current practice. No data on effectiveness
Great Britain. Department of, Health, Better care : better lives : improving outcomes and experiences for children, young people and their families living with life-limiting and life-threatening conditions, 2008	Publication type: Review of existing practice and framework for service delivery. No data on effectiveness
Groleger Srsen, K., Vidmar, G., Zupan, A., The importance of the key worker in the processes of care for chronically ill or disabled children, Developmental Medicine and Child Neurology, 55, 13, 2013	Publication type: Conference abstract
Guralnick, M. J., Early intervention for children with intellectual disabilities: Current knowledge and future prospects, Journal of Applied Research in Intellectual Disabilities, 18, 313-324, 2005	Publication type: Narrative review
Halpin, Julia, Pitt, Sally, Dodd, Emma, EarlyBird in South Staffordshire: reflections on an innovative model of interagency working to deliver an intervention for families of preschool children with autistic spectrum disorder, BRITISH JOURNAL OF SPECIAL EDUCATION, 2011	Publication type: Overview of model implementation and evaluation. No data on effectiveness
Harris, Karen, Farrell, Peter, Beresford, Booth Boulton Boulton Closs Farrell Farrell Larcombe Lightfoot Lightfoot, Educating children and young people with medical needs: Effective provision and practice, Support for Learning, 19, 13-18, 2004	Outcomes: Thematic summary of results. No data on effectiveness
Hetrick, S. E., Bailey, A. P., Smith, K. E., Malla, A., Mathias, S., Singh, S. P., O'Reilly, A., Verma, S. K., Benoit, L., Fleming, T. M., Moro, M. R., Rickwood, D. J., Duffy, J., Eriksen, T., Illback, R., Fisher, C. A., McGorry, P. D., Integrated (one-stop shop) youth health care: best available evidence and future directions, The Medical journal of Australia, 207, S5-S18, 2017	Population: Not limited to disabled children and young people with severe complex needs
Hopkins, L. J., Hospital-based education support for students with chronic health conditions, Australian health review : a publication of the Australian Hospital Association, 40, 213-218, 2016	Publication type: Narrative review/overview of current practice. No data on effectiveness
Hughes, L., AD/HD is a bio-psychosocial condition requiring support from integrated services, Emotional and Behavioural Difficulties, 12, 241-253, 2007	Publication type: Overview of the development of a framework for interagency working. No data on effectiveness
Hunt, Pam, Soto, Gloria, Maier, Julie, Liboiron, Nicole, Bae, Soung, Beckman, Erwin Gaylord-Ross Giangreco Giangreco Guralnick Hanson	Study design: Case studies

Study	Reason for Exclusion
Hanson Hanson Hunt Hunt Hunt Hunt Hunt Janney Kalyanpur Kazdin Krueger LeLaurin Lieber Lincoln Merritt Morgan Odom Odom Odom Odom Rafferry Salisbury Siegel Strauss West, Collaborative Teaming to Support Preschoolers With Severe Disabilities Who Are Placed in General Education Early Childhood Programs, Topics in Early Childhood Special Education, 24, 123-142, 2004	
Johnson, M. H., George, P., Armstrong, M. I., Lyman, D. R., Dougherty, R. H., Daniels, A. S., Ghose, S. S., Delphin-Rittmon, M. E., Behavioral management for children and adolescents: Assessing the evidence, Psychiatric Services, 65, 580-590, 2014	Population: Children and young people with problem behaviours of elevated risk. Not limited to disabled children and young people with severe complex needs
Kaehne, Axel, User involvement in service integeration and carers' views of co-locating children's services, Journal of Health Organization and Management, 2013	Study design: Non-comparative
Kazak, A. E., Pediatric Psychosocial Preventative Health Model (PPPHM): Research, practice, and collaboration in pediatric family systems medicine, Families, Systems and Health, 24, 381-395, 2006	Publication type: Overview of model/narrative review
Kelly, A., Golnik, A., Cady, R., A medical home center: Specializing in the care of children with special health care needs of high intensity, Maternal and Child Health Journal, 12, 633-640, 2008	Publication type: Overview of model and case examples. No data on effectiveness
Kerfoot, Michael, Partnerships between health and local authorities, 2005	Publication type: Book chapter
Kieckhefer, G. M., Trahms, C. M., Supporting development of children with chronic conditions: from compliance toward shared management, Pediatric nursing, 26, 354-363, 2000	Publication type: Overview of models. No data on effectiveness
King, G., Tucker, M., Baldwin, P., Lowry, K., LaPorta, J., Martens, L., A life needs model of pediatric service delivery: services to support community participation and quality of life for children and youth with disabilities, Physical & Occupational Therapy in Pediatrics, 22, 53-77, 2002	Publication type: Overview of model. No data on effectiveness
Kotsopoulos, S., A model of continuous intervention for children with autism spectrum disorder (ASD), Child and Adolescent Mental Health, 16, 3, 2011	Publication type: Conference abstract
Lambert, M., Schottle, D., Bock, T., Schulte-Markwort, M., Naber, D., Karow, A., Hamburg model of integrated care for severely ill patients with psychotic disorders, Psychotherapeut, 59, 95-99, 2014	Non-English language
Lambros, Katina, Kraemer, Bonnie, Wager, James Derek, Culver, Shirley, Angulo, Aidee, Saragosa, Marie, Aman, Atkins Baker Barrett Batshaw Clair Brereton Bruns Dangan Dekker Eisenhower Emerson Emerson Esbensen Freeman Hoagwood Hunter Hurley Iovannone	Outcomes: No comparative data for outcomes of interest

Study	Reason for Exclusion
Kataoka Kutash Lecavalier Maes McCarthy McIntyre McIntyre Paschos Prout Snyder Stephan Tasse Taylor Weiss Weist Yell, Students with dual diagnosis: Can school-based mental health services play a role?, Journal of Mental Health Research in Intellectual Disabilities, 9, 3-23, 2016	
Langberg, J. M., Brinkman, W. B., Lichtenstein, P. K., Epstein, J. N., Interventions to promote the evidence-based care of children with ADHD in primary-care settings, Expert Review of Neurotherapeutics, 9, 477-487, 2009	Intervention: Aimed at increasing primary care provider adherence to ADHD guidelines. Primarily educational interventions delivered within healthcare only
Lenehan Christine, Geraghty Mark, Good intentions, good enough? A review of the experiences and outcomes of children and young people in residential special schools and colleges, 46, 2017	Publication type and study design: Overview of services, recommendations and qualitative experiences. No data on effectiveness
Lenehan, Christine, These are our children: a review by Dame Christine Lenehan Director, Council of Disabled Children, 37, 2017	Publication type and study design: Overview of services, recommendations and qualitative experiences. No data on effectiveness
Lewis, M., Noyes, J., Discharge management for children with complex needs, Paediatric nursing, 19, 26-30, 2007	Publication type: Commentary
Limbrick-Spencer, Gudrun, The Keyworker: a practical guide; a comprehensive description and evaluation of the one hundred hours model for supporting the families of children who have disabilities, 56p., 2001	Publication type: Book chapter
Local Government, Association, Improving outcomes for children and families in the early years: a key role for health visiting services, 24, 2017	Publication type: Case studies of different health visiting services. No data on effectiveness
Local Government, Association, The council role in special education, 26, 2014	Publication type: Case studies of different council services. No data on effectiveness
Lynch, Sean E., Cho, Jennifer, Ogle, Stacy, Sellman, Heather, dosReis, Susan, A Phenomenological Case Study of Communication Between Clinicians About Attention-Deficit/Hyperactivity Disorder Assessment, Clinical Pediatrics, 53, 11-17, 2014	Study design: Qualitative
Lynch, Sean, et, al, Pediatric integrated behavioral health service delivery models: using a federal framework to assess levels of integration, Social Work in Health Care, 58, 32-59, 2019	Intervention: Integrated service delivery within health care only
Maloney, Danielle, Walter, Garry, Contribution of 'school-link' to an area mental health service, Australasian psychiatry : bulletin of Royal Australian and New Zealand College of Psychiatrists, 13, 399-402, 2005	Population and intervention: Implemented at the school level. Not limited to disabled children and young people with severe complex needs
Mannell, Jenevieve, Treating children's mental health problems. Collaborative solutions for family physicians, Canadian family physician Medecin de famille canadien, 51, 1369-8, 2005	Publication type: Commentary
Marshall Lydia, Leach Thomas, Cornick Peter, Children's services omnibus: wave 1 research	Study design and outcomes: No comparative data for outcomes of interest

Study	Reason for Exclusion
report, 70, 2017	
Martin, Gordon, Costello, Helen, Leese, Morven, Slade, Mike, Bouras, Nick, Higgins, Stephen, Holt, Geraldine, G. Martin, H. Costello M. Leese M. Slade N. Bouras S. Higgins, G. Holt, An exploratory study of assertive community treatment for people with intellectual disability and psychiatric disorders: conceptual, clinical, and service issues, 49, 516-524, 2005	Population: Includes adults with intellectual disability (mean age 45)
Mayor, Susan, Service design. Putting research solutions to the test, The Health service journal, 123, 21-3, 2013	Publication type: Overview of collaboration for leadership in applied health research and care
McCartney, E., Boyle, J., Ellis, S., Bannatyne, S., Turnbull, M., Indirect language therapy for children with persistent language impairment in mainstream primary schools: outcomes from a cohort intervention, International journal of language & communication disorders, 46, 74â 82, 2011	Population: Children with language impairment only
McConkey, Roy, Barr, Owen, Baxter, Rosario, Complex needs: the nursing response to children and young people with complex physical healthcare needs, 36p., 2007	Publication type: Narrative review and development of consensus recommendations
McGonnell, M., Corkum, P., McKinnon, M., MacPherson, M., Williams, T., Davidson, C., Jones, D. B., Stephenson, D., Doing it right: An interdisciplinary model for the diagnosis of ADHD, Journal of the Canadian Academy of Child and Adolescent Psychiatry, 18, 283-286, 2009	Study design: Qualitative and non-comparative survey
McKay, C. E., Osterman, R., Shaffer, J., Sawyer, E., Gerrard, E., Olivera, N., Adapting services to engage young adults in ICCD clubhouses, Psychiatric rehabilitation journal, 35, 181-188, 2012	Outcomes: Descriptive characteristics of program participants and qualitative evaluation
McWilliam, R. A., The Routines-Based Model for supporting speech and language, Revista de Logopedia, Foniatria y Audiologia, 36, 178-184, 2016	Publication type: Overview of model and description of needs. No data on effectiveness
Meadan, Hedda, Daczewitz, Marcus E., Internet-Based Intervention Training for Parents of Young Children with Disabilities: A Promising Service-Delivery Model, Early Child Development and Care, 185, 155-169, 2015	Intervention: Increasing parental involvement in delivering care. Unclear what services were involved
Michael, M., Daub, S., Brecht, J., Hutchison, S. L., Washington, L., Edelsohn, G. A., Adolescent Behavioral Health Home Plus: An Integrated Care Model, Journal of the American Academy of Child and Adolescent Psychiatry, 57, S190, 2018	Publication type: Conference abstract
Miller, T. R., Elliott, T. R., McMaughan, D. M., Patnaik, A., Naiser, E., Dyer, J. A., Fournier, C. J., Hawes, C., Phillips, C. D., Personal care services provided to children with special health care needs (CSHCN) and their subsequent use of physician services, Disability and Health Journal, 6, 317-324, 2013	Intervention: Health services only

Study	Reason for Exclusion
Missiuna, C., Pollock, N., Campbell, W., Decola, C., Hecimovich, C., Sahagian Whalen, S., Siemon, J., Song, K., Gaines, R., Bennett, S., McCauley, D., Stewart, D., Cairney, J., Dix, L., Camden, C., Using an innovative model of service delivery to identify children who are struggling in school, British Journal of Occupational Therapy, 80, 145-154, 2017	Intervention: Approach to screening school-aged children for motor coordination difficulties
Missiuna, C., Pollock, N., Hecimovich, C., Bennett, S., Gaines, B. R., Camden, C., Partnering for change: Transforming health service delivery for children with developmental coordination disorder, Developmental Medicine and Child Neurology, 55, 50, 2013	Publication type: Conference abstract
Moore, J. A., Karch, K., Sherina, V., Guiffre, A., Jee, S., Garfunkel, L. C., Practice procedures in models of primary care collaboration for children with ADHD, Families, systems & health : the journal of collaborative family healthcare, 36, 73-86, 2018	Intervention: Collaboration within health services only
Myers, K., Vander Stoep, A., Zhou, C., McCarty, C. A., Katon, W., Effectiveness of a telehealth service delivery model for treating attention-deficit/hyperactivity disorder: a community-based randomized controlled trial, Journal of the American Academy of Child & Adolescent Psychiatry, 54, 263-74, 2015	Intervention: Health services only
Nair, M. K. C., Chacko, D. S., Indira, M. S., Siju, K. E., George, B., Russell, P. S., A primary care approach for adolescent care and counseling services, Indian Journal of Pediatrics, 79, S79-S83, 2012	Non-OECD country: India
National Development Team For, Inclusion, Guide for commissioners of services for children and young people who challenge services, 28, 2017	Publication type: Guidance. No data on effectiveness
National Development Team For, Inclusion, In, Control, Reviewing the commissioning of services for children and young people who challenge: end of project report, 26, 2016	Publication type: Overview of local commissioning arrangement, qualitative experiences and examples of good practice. No data on effectiveness
National Youth, Agency, A guide to commissioning outcomes for young people, 24, 2019	Publication type: Commissioning guidance. No data on effectiveness
Nicoll Tricia, Making it personal: a provider guide to personalisation, personal budgets and education, health and care plans, 63, 2014	Publication type: Guidance. No data on effectiveness
Nicoll, Tricia, How to commission for personalisation: guidance for commissioners and others in children and young peopleâ ™s services, 149, 2014	Publication type: Commissioning guidance. No data on effectiveness
Noam, G. G., Bernstein-Yamashiro, B., The role of a student support system and the clinical consultant, New Directions for Youth Development, 2013, 85-98, 2013	Publication type: Commentary
Noell, G. H., Volz, J. R., Henderson, M. Y., Williams, K. L., Evaluating an integrated support	Intervention/comparison: Different supervision models for teachers implementing treatment

Study	Reason for Exclusion
model for increasing treatment plan implementation following consultation in schools, School psychology quarterly : the official journal of the Division of School Psychology, American Psychological Association, 32, 525-538, 2017	plans
Osher, David M., Bruner, Cuban Dwyer Goode Hodges Huberman Jewett Johnson Kagan McGuire Melville Merton Miles Osher Osher Rothman Schulberg, Creating comprehensive and collaborative systems, Journal of Child and Family Studies, 11, 91-99, 2002	Publication type: Commentary
Oxford Brookes University Institute of Public Care, Integrated services for children and young people with a disability in Conwy: a case study, 9, 2019	Publication type: Overview of an integrated service. No data on effectiveness
Oxford Brookes University Institute of Public Care, The integrated service for children with additional needs (ISCAN) in Gwent: a case study, 8, 2019	Publication type: Overview of a care co-ordination model. No data on effectiveness
Palfrey, J. S., Sofis, L. A., Davidson, E. J., Liu, J., Freeman, L., Ganz, M. L., The Pediatric Alliance for Coordinated Care: Evaluation of a Medical Home Model, Pediatrics, 113, 1507-1516, 2004	Population: Children with special health care needs; unclear if they had needs in all three areas and less than half described as having severe needs
Parker, G., et, al, A systematic review of the costs and effectiveness of different models of paediatric home care, 118p., 2003	Population: Very low birth weight babies or children with asthma, diabetes or mental health problems. Unlikely to have needs in all three areas
Parsons, Stephen, A service perspective on 'Evidence based pathways to intervention for children with Language Disorders', International Journal of Language & Communication Disorders, 54, 24-25, 2019	Publication type: Commentary
Preparing For, Adulthood, PfA factsheet: the links between the Children and Families Act 2014 and the Care Act, 19, 2014	Publication type: Factsheet
Raghavan, R., et, al, A randomized controlled trial of a specialist liaison worker model for young people with intellectual disabilities with challenging behaviour and mental health needs, Journal of Applied Research in Intellectual Disabilities, 22, 256-263, 2009	Intervention: Model does not include services working together
Ratzon, Navah Z., Lahav, Orit, Cohen-Hamsi, Shifra, Metzger, Yehiela, Efraim, Daniela, Bart, Orit, Comparing different short-term service delivery methods of visual-motor treatment for first grade students in mainstream schools, Research in Developmental Disabilities, 30, 1168-76, 2009	Population: Children with visual-motor difficulties only (children were excluded if they had a number of other conditions)
Reading, R., Marpole, S., Public health: Establishing an interagency equipment fund for children with disabilities, Archives of Disease in Childhood, 82, 188-91, 2000	Publication type: Overview of the development of an interagency equipment fund. No data on effectiveness
Regulation,, Quality Improvement, Authority, A baseline assessment and review of community services for children with a disability, 56, 2013	Publication type: Overview of services. No data on effectiveness

Study	Reason for Exclusion
Revill, P., Ryan, P., McNamara, A., Normand, C., A cost and outcomes analysis of alternative models of care for young children with severe disabilities in Ireland, Alter, 7, 260-274, 2013	Intervention: Health services only
Roge, Bernadette, Meeting the needs of persons with autism: A regional network model, Special Issue: International priorities for developing autism services via the TEACCH Model-1, 29, 35-49, 2000	Publication type: Narrative review/overview of model
Rowlandson, P. H., Smith, C., An interagency service delivery model for autistic spectrum disorders and attention deficit hyperactivity disorder, Child: care, health and development, 35, 681-690, 2009	Outcomes: Non-comparative.
Ruble, L. A., McGrew, J. H., Toland, M., Dalrymple, N., Adams, M., Snell-Rood, C., Randomized Control Trial of COMPASS for Improving Transition Outcomes of Students with Autism Spectrum Disorder, Journal of Autism and Developmental Disorders, 48, 3586-3595, 2018	Intervention: Education services only
Ruble, Lisa A., McGrew, John H., Toland, Michael D., Dalrymple, Nancy J., Jung, Lee Ann, A randomized controlled trial of COMPASS web-based and face-to-face teacher coaching in autism, Journal of Consulting and Clinical Psychology, 81, 566-72, 2013	Intervention: Education services only
Shepley, C., Grisham-Brown, J., Multi-tiered systems of support for preschool-aged children: A review and meta-analysis, Early Childhood Research Quarterly, 47, 296-308, 2019	Population and intervention: Educational interventions. Not limited to disabled children and young people with severe complex needs
Simpson, Wendy, Brown, Carolyn, Nisbet, Nara, Metcalfe, Ruth, Claisse, Zoe, Watson, Lorna, A new model of autism spectrum disorder assessment and diagnosis by multiagency community-based teams in primary schools, Child & Adolescent Mental Health, 18, 187-190, 2013	Outcomes: non-comparative study evaluating acceptability of a service
Singhal, S., Lim, H. H., Chua, A. K., Daniel, L. M., Lim, S. B., Improving access and quality of diagnostic services in a developmental and behavioural service for pre-school children-the triage-track model, Archives of Disease in Childhood, 100, A190, 2015	Publication type: Conference abstract
Social Care Institute For, Excellence, Models of care and care pathways to support mental health and wellbeing of looked after children: Findings of call for evidence, 63, 2017	Population: All looked after children. Data not presented separated for disabled children with severe complex needs
Spencer, A. E., Platt, R. E., Bettencourt, A. F., Serhal, E., Burkey, M. D., Sikov, J., Vidal, C., Stratton, J., Polk, S., Jain, S., Wissow, L., Implementation of Off-Site Integrated Care for Children: A Scoping Review, Harvard Review of Psychiatry, 27, 342-353, 2019	Intervention: Integrated care within health services only
Spring, Consortium, Great Britain Department for Education, Creating the conditions for innovation in children's social care: innovations	Publication type: Examples of innovative practice. No data on effectiveness

Study	Reason for Exclusion
insights from children's social care, 1, 2017	
Stalker Kirsten, Moscardini Lio, A critical review and analysis of current research and policy relating to disabled children and young people in Scotland: a report to Scotland's Commissioner for Children and Young People, 65, 2013	Publication type: Narrative review of qualitative studies/policy
Street, Cathy, Youth Access: Making Tracks Project (MtP) - final report, 2011	Population: Primarily mental health problems. Only 13% had a learning disability and 4% had a physical disability
Sultan, Meshal A., Pastrana, Carlos S., Pajer, Kathleen A., Shared Care Models in the Treatment of Pediatric Attention-Deficit/Hyperactivity Disorder (ADHD): Are They Effective?, Health services research and managerial epidemiology, 5, 2333392818762886, 2018	Intervention: review of collaboration between primary care providers and mental health services.
Tuominen, T., Harju, M., Oksman, E., Hujala, A., Co-designing integrated care for high-needs clients: the Help Team for school-aged children, JOURNAL OF INTEGRATED CARE, 27, 123-130, 2019	Publication type: Overview of integrated service. No data on effectiveness
Turner Sue, Giraud-Saunders Alison, Personal health budgets: including people with learning disabilities, 44, 2014	Publication type: Overview of good practice examples of including people with learning disabilities in personal budgets. No data on effectiveness
Valado, T., Tracey, J., Goldfinger, J., Briggs, R., HealthySteps: Transforming the promise of pediatric care, Future of Children, 29, 99-122, 2019	Publication type: expert review of Healthy Steps early health screening intervention.
von der Embse, N., Brown, A., Fortain, J., Facilitating inclusion by reducing problem behaviors for students with autism spectrum disorders, Intervention in School and Clinic, 47, 22-30, 2011	Publication type: expert review
Watson, D., Townsley, R., Abbott, D., Exploring multi-agency working in services to disabled children with complex healthcare needs and their families, Journal of Clinical Nursing, 11, 367-75, 2002	Publication type: expert review
Weatherill Pamela, Bahn Susanne, Cooper Trudi, Bespoke program design for school-aged therapy disability service delivery, Journal of Social Work in Disability and Rehabilitation, 11, 166-183, 2012	Publication type: qualitative
Wheatley, Helen, Pathways to success: good practice guide for children's services in the development of services for disabled children - evidence from pathfinder children's trusts, 2006	Publication type: narrative good practice guide for children's trusts
Wilkinson, Lee A., An evaluation of conjoint behavioral consultation as a model for supporting students with emotional and behavioral difficulties in mainstream classrooms, Emotional and Behavioural Difficulties, 10, 79-93, 2005	Intervention: not joint education, health and social care working
Williams, Dusti, Children's special services--providing services to families and children with	Publication type: Service advertisement

Study	Reason for Exclusion
special healthcare needs, Tennessee medicine : journal of the Tennessee Medical Association, 97, 43, 2004	
Window, Suzanne, Anderson, Lisa, Vostanis, Panos, A multi-agency service for child behavioural problems, Community Practitioner, 77, 180-184, 2004	Population: Children with behavioural problems. No mention of complexity or severity so may not have needs in all three areas
Wise, P. H., Huffman, L. C., Brat, G., A critical analysis of care coordination strategies for children with special health care needs, Title to be Checked, 36, 2007	Intervention: Coordination within health services only
Zanglis, Iris, Furlong, Michael J., Casas, J. Manuel, Achenbach, Adelman Adelman Coutinho Damery Duncan Forness Forness Hodges Hodges Maag Mattison Oswald Quinn Robertson Rosenblatt Rosenblatt Stroul Walrath Wood Wood, Case study of a community mental health collaborative: Impact on identification of youths with emotional or behavioral disorders, Behavioral Disorders, 25, 359-371, 2000	Population: Children with emotional or behavioural problems. No mention of complexity or severity so may not have needs in all three areas

ADHD: attention deficit hyperactivity disorder; OECD: Organisation for Economic Co-operation and Development
Literature search and study selection undertaken for this review and the review of meeting health, social care and education needs simultaneously. Therefore, studies listed in this table are those that are excluded from both reviews

Excluded economic studies

See Supplement B for the list of excluded studies across all reviews.

Appendix K – Research recommendations – full details

Research recommendations for review questions: What are the most effective commissioning, practice and service delivery models to deliver joined-up health, social care and education services for disabled children and young people with severe complex needs?

What combined commissioning, practice and service delivery models are most effective in meeting the health, social care and education needs (including changing and evolving needs) of disabled children and young people with severe complex needs?

Research recommendation

What are the most effective joint commissioning arrangements for disabled children and young people with severe complex needs?

Why this is important

The SEND code of practice (2015) specifies that local authorities and clinical commissioning groups must have joint commissioning arrangements in place to meet the needs of children and young people with severe complex needs. Evidence is lacking to determine which arrangement is most effective so further research is needed.

Rationale for research recommendation

Table 26: Research recommendation rationale

Importance to the population	Local authorities (LAs) and Clinical commissioning groups (CCGs) are responsible for commissioning services for their resident and registered populations, respectively. This research will inform the planning and commissioning approach for LAs and CCGs in how they commission services to meet the needs of children and young people with disabilities and severe complex needs and fulfil statutory duties in the SEND Code of Practice (2015), which states that LAs and CCGs must have joint commissioning arrangements.
Relevance to NICE guidance	This evidence would be essential to inform future updates of recommendations in the current guideline to enable evidence-based recommendations and guidance about the most effective joint commissioning arrangements of services for children and young people aged 0 to 25 years with severe complex needs and special educational needs and disabilities (SEND). Evidence-based recommendations would reduce variation in practice between local areas and reduce inequalities in access to services.
Relevance to the NHS and education and social care services	This research would enable local authorities and commissioners and health services to plan for high quality, value for money, outcome-focussed services that meet the needs of their population. It

	would provide an evidence-base of effective joint commissioning arrangements to inform local planning and commissioning decisions in accordance with legislation.
National priorities	Helping people with a learning disability and/or autism to lead longer, happier, healthier lives is a specific area targeted by the NHS Long Term Plan. However, there are a number of other areas in the plan that are applicable to children and young people with severe complex needs and SEND, such as digital transformation, mental health, personalised care and community health teams to support people in their own homes and keep people out of hospital. The work of the forthcoming inter-departmental SEND Review has focussed on a number of priority areas including effective long-term strategic planning that looks at issues of quality, sufficiency and affordability of specialist provision.
Current evidence base	There was a limited evidence base that joint or pooled budgets improved parents' satisfaction, waiting times to access services and joined-up support, relative to separate budgets for services held by LAs and CCGs. However, insufficient information was provided about what the joint or pooled budget arrangement was and there was no evidence comparing the effectiveness of different joint commissioning arrangements. There was also no evidence of how effective this arrangement was for meeting the needs and outcomes for the population of children and young people with severe and complex needs.
Equality considerations	Age and disability are relevant to this population and are two of the protected characteristics covered by the Equality Act (2010).

CCG: clinical commissioning group, LA: Local Authority; SEND: Special Education Needs and Disabilities

Modified PICO table

Table 27: Research recommendation modified PICO table

Population	Disabled children and young people from birth to 25 years with severe complex needs who require health, social care and education support
Intervention	Any joint commissioning arrangements, such as: • Joint planning and delivery of services • Joint commissioning, with separate budgets held by education, health and care • Pooled budgets (with or without risk/gain-sharing agreements)
Comparator	Alternative joint commissioning arrangements

Outcomes	• Service user satisfaction
	• Access to services:
	  ○ Local availability (e.g., time/distance travelled to access services)
	  ○ Waiting times for services

	• Presence of integrated pathways and models of care • Extent to which needs are met (at a population or individual level) • Quality of life • Cost-effectiveness/value for money
Study design	Retrospective or prospective audit or service evaluation.
Timeframe	Not specified.
Additional information	This might be best conducted as a phased research project, with collection of retrospective data in the first instance, followed by prospective service evaluations and changes in requirements for national data collection.

1 *PICO: population, intervention, comparator, outcome; SEND: Special Education Needs and Disability*
2

Research recommendation

What are the most effective commissioning, practice and service delivery models to deliver joined-up services to meet the education, health and social care needs of disabled children and young people with severe complex needs while enabling them to stay close to home?

Why this is important

Disabled children and young people with severe complex needs have an increased likelihood of being placed in residential placements, due to the intensity of provision that may be required to meet their needs and/or their behaviour that is challenging. Whilst some disabled children and young people may require a level of provision that cannot be provided outside of specialist residential placements, there are others who have an increased likelihood of being placed in residential placements but who may be able to stay close to home and in local services if there is proactive and early intervention. This is likely to have benefits for the child or young person and their family in terms of improved quality of life and maintaining family and social relationships. Further, when children and young people attend placement at a distance from their home, their families and the local area may not be equipped to meet their needs when they return, as there has not been the opportunity to build the capacity to effectively meet these needs.

Rational for research recommendation

Table 2826: Research recommendation rationale

Importance to the population	Keeping children and young people with severe complex needs in, or close to their family homes and local areas will promote and protect their health and wellbeing by keeping children in regular and close contract with their families and communities.
Relevance to NICE guidance	This evidence would be essential to inform future updates of recommendations in the current guideline to enable evidence-based recommendations about the effectiveness of staying close to home in meeting the needs of children and young people with severe complex needs.
Relevance to the NHS and education and social care services	This evidence would support commissioning decisions for education, health and social care that when implemented will keep the needs of the child or young person with severe complex needs central.
National priorities	Helping people with a learning disability and/or autism to lead longer, happier, healthier lives is a specific area targeted by the NHS Long Term Plan. Further, the plan states that they will continue to improve access to care in the community for those with most complex needs so that more people can live in or near to their own homes and families. The NHS Transforming Care Programme aims to improve health and care services so that people can live in the community, with the right support, and close to home.
Current evidence base	No evidence was identified that compared the effectiveness and cost-effectiveness of local service delivery arrangements compared with

	regional specialist residential provision. However, there was qualitative evidence that there is a lack of urgency to provide support until children or young people reach crisis points, which has resulted in children going into residential care which may have been avoided if earlier support was provided.
Equality considerations	None.

NHS: National Health Service

Modified PICO table

Table 2927: Research recommendation modified PICO table

Population	Children and young people (aged 0 to 25) with severe complex needs who are at risk of placement at a distance from their home, but may be able to have their needs effectively met close to home
Intervention	Any commissioning, practice and service delivery models (approaches, configurations of resources and services) delivering 2 or more of health, social care and education services in or close to the child or young person's home
Comparator	Any commissioning, practice and service delivery models (approaches, configurations of resources and services) delivering 2 or more of health, social care and education services that are at a distance to the child or young person's home
Outcomes	• Services provided in the family home • Services provided close to the family home • Services provided distant from home requiring residential stay • Distance between services provided and family home
Study design	Retrospective audit or service evaluation
Timeframe	Not specified.
Additional information	None.

PICO: population, intervention, comparator, outcome

Research recommendation

What is the effectiveness of dedicated key workers for delivering joined-up services to meet the education, health and social care needs of disabled children and young people with severe complex needs?

Why this is important

There is experiential evidence amongst children, young people and their families and professionals that supports the view that a trained, adequately resourced and supported key worker can provide a significant benefit in terms of: 1) coordinating and streamlining appointments which reduces the burden of care and time parents are required to take off work, which has economic consequences; 2) being a point of contact the family can go to with questions and for further information; 3) expediting delayed or cancelled appointments; and 4) holding professionals accountable to deadlines. However, there is little research evidence supporting this which is required to support the development and funding of such roles.

Rationale for research recommendation

Table 3026: Research recommendation rationale

Importance to the population	Dedicated key workers have the potential to improve children, young peoples and their family's quality of life by improving continuity and accessibility of services. Key workers can expedite appointments and the provision of support and minimise the time and energy spent by families coordinating and attending appointments and organising the provision of services. This would allow families to spend more time together.
Relevance to NICE guidance	This evidence would be essential to inform future updates of recommendations in the current guideline to enable evidence-based recommendations and guidance about dedicated key worker roles.
Relevance to the NHS and education and social care services	This research would provide an evidence base on the effectiveness of dedicated key workers and could enable the commissioning of such services to support disabled children and young people and their families.
National priorities	The NHS long term plan includes personalised care and community health teams to support people in their own homes and keep people out of hospital. The provision of key workers may help support this. Further, one of the targets of the plan is that, by 2023/24, children and young people with a learning disability, autism or both and the most complex needs will have a designated keyworker.
Current evidence base	There was some limited evidence that services with clear key worker job descriptions had important benefits over services with partial or no key worker job descriptions. There was also qualitative evidence that a key worker is important for having a holistic view of the child or young

	person and coordinating services. However, there was insufficient detail about the key worker roles and services reported in the evidence to determine the impact of having dedicated key worker roles.
Equality considerations	Key workers may be particularly beneficial for disadvantaged families that may be less demanding or assertive and, therefore, less likely to receive services.

Modified PICO table

Table 3127: Research recommendation modified PICO table

Population	Disabled children and young people from birth to 25 years with severe complex needs who require health, social care and education support, and their families and carers.
Intervention	• Dedicated* key worker roles *Defined as key workers that are readily accessible to children, young people and their families and carers who have sufficient protected time and resources to carry out the key working role for their caseload
Comparator	• Non-dedicated key workers (e.g., those taking on a key working role in addition to current role, without protected time and resources) • No key workers

Outcomes	• Service user satisfaction (child or young person and parent or carer)
	• Access to services:
	  ○ Local availability (e.g., time/distance travelled to access services)
	  ○ Waiting times for services
	• Joined-up support:
	  ○ Cross-sector planning
	  ○ Effectiveness of information sharing
	  ○ Timeliness of decision making
	• Impact of attending appointments:
	  ○ Time taken off work (parent or carer)
	  ○ Time taken out of education (child or young person)
	• Use of health, social care and education services
	• Extent to which education, health and care needs are met
	• Quality of life (both health- and social-related quality)
	• Mortality
	• Cost effectiveness

Study design	Randomised controlled trial, prospective non-randomised trial with children and young people matched on needs, age and family structure, or before and after study.

Timeframe	Not specified.
Additional information	Consideration should be given to conducting trial at critical points, such as throughout the EHC plan process (i.e., from requesting needs assessment to receiving a plan), or transition from child to adult services.

1 *EHC: education, health and care; PICO: population, intervention, comparator, outcome*