NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

INDICATOR DEVELOPMENT PROGRAMME

Consultation report

Indicator area: Multimorbidity and frailty

Consultation period: 17 April – 16 May 2019

Date of Indicator Advisory Committee meeting: 4 June 2019

Output: New indicators for general practice

Contents

Introduction

Multimorbidity is associated with reduced quality of life, higher mortality, polypharmacy and higher treatment burden, higher rates of adverse drug events and greater health service including unplanned admissions and emergency care.

Falls in older people are a costly and often preventable health issue. Reducing falls and associated injuries is important for maintaining health and wellbeing amongst older people. Falling has an impact on quality of life, health and healthcare costs. People 65 years and over have the highest risk of falling.

The NICE multimorbidity guideline (NG56) defines multimorbidity as two or more long-term health conditions that coexist independently in the same individual. NICE has developed a pragmatic definition of multimorbidity for the register using the presence of 4 or more condition categories which reflects an appraisal of international evidence, analysis of primary care data, and discussions with national academic, GP and clinical leads alongside the NICE Indicator Advisory Committee.

The conditions are based upon a cross-sectional study on the distribution of multimorbidity (Barnett et al. 2012)

Summary of indicators included in the consultation

ID	Indicator wording	Evidence source
IND1	The practice can produce a register of people with multimorbidity who would benefit from a tailored approach to care.	NICE guideline NG56 (2016) Multimorbidity: clinical assessment and management. Recommendations 1.1.1, 1.3.1. NICE quality standard QS153 (2017) Multimorbidity. Statement 1.
IND2	The practice can produce a register of people with moderate to severe frailty.	NICE guideline NG56 (2016) Multimorbidity: clinical assessment and management. Recommendation 1.4. NICE quality standard QS153 (2017) Multimorbidity. Statement 1.
IND14	The percentage of patients with moderate or severe frailty and/or multimorbidity who have received a medication review in the last 12 months which is structured, has considered the use of a recognised tool and taken place as a shared discussion.	NICE guideline NG5 (2015) Medicines optimisation: the safe and effective use of medicines to enable to best possible outcomes. Sections 1.4 and 1.6. NICE guideline NG56 (2016) Multimorbidity: clinical assessment and management. Recommendations 1.5.2 and 1.6.11. NICE quality statement QS120 (2016) Medicines optimisation. Statements 1 and 6. NICE quality standard QS153 (2017) Multimorbidity. Statement 4.
IND15.1	The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months	NICE guidance CG161 (2013) Falls in older people: assessing risk and prevention. Recommendations 1.1.1.1, 1.1.2.2. NICE quality standard QS86 (2017) Falls in older people. Statement 1.
IND15.2	The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months, were found to be at risk and have been provided with advice and guidance with regard to falls prevention (in the last 12 months).	NICE guidance CG161 (2013) Falls in older people: assessing risk and prevention. Recommendations 1.1.1.2, 1.1.3.1, 1.1.9.1 and 1.1.10.2. NICE quality standard QS86 (2017) Falls in older people. Statement 3.

Multimorbidity register – people with conditions in 4 or more categories

Category	Condition
Cancer	Cancer
Chronic pain	Painful condition[1]
Circulatory conditions	Coronary heart disease Atrial fibrillation or atrial flutter Heart failure Hypertension Stroke or TIA Peripheral vascular disease
Diabetes	Diabetes
Digestive system conditions	Currently treated constipation[2] Diverticular disease of intestine Inflammatory bowel disease Chronic liver disease
Learning disability	Learning disability
Mental health	Anorexia or Bulimia Anxiety & other neurotic, stress related and somatoform disorders Dementia (including Alzheimer's) Depression Schizophrenia and related non-organic psychosis Bipolar disorder Alcohol problems Psychoactive substance misuse
Musculoskeletal conditions	Rheumatoid arthritis Other inflammatory polyarthropathies Systemic connective tissue disorders
Neurological conditions	Currently treated epilepsy Multiple sclerosis Parkinson's (of any cause)
Renal conditions	Chronic kidney disease
Respiratory conditions	Currently treated asthma COPD Bronchiectasis

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[1] Defined by the presence of 4 or more prescription only medicine analgesic prescriptions or 4 or more specified anti-epileptics in the absence of an epilepsy Read code in last 12 months.
[2] Four or more laxative prescriptions in the last 12 months

IND1: Multimorbidity register

The practice can produce a register of people with multimorbidity who would benefit from a tailored approach to care.

Rationale

The indicator makes use of existing data to allow a register of people with multiple conditions to be constructed. For pragmatic reasons the register focuses on people with conditions in four or more of the categories.

The conditions included in the register are consistent with relevant studies (Barnett al al. 2012, Health Foundation, 2018) and are broadly aligned with a similar register that is used in Scotland.

The register will support interventions that lead to improvement in health-related quality of life, care related decisions and patient safety and reduce adverse outcomes such as unplanned admissions.

Summary of consultation comments

Stakeholders made the following positive comments in relation to this indicator:

- Supports a holistic approach to identifying patients to support multimorbidity.
- Increased multimorbidity is expected with increasing age. Use of the multimorbidity index will have a positive impact for earlier detection and management.
- Support for a template that can be shared and adapted at individual practice, primary care network (PCN) and CCG level to mitigate against duplication of cost and resource
- Suggestions that the report and its outputs should allow GPs more discretion to adapt the reports to become more or less restrictive.

Stakeholders outlined the following concerns about the indicator:

- Frailty is missing from these indicators.
- The correct IT tools are needed to capture this information including linking to the patient's registration on the frailty register.
- The proposed 'scoring system' would identify extremely large numbers of patients.

- GPs already use the electronic frailty index (EFI) which identifies multiple conditions so is there a benefit to a patient in being identified with both severe frailty and multimorbidity.

- Align with the NHS England risk stratification work to support the development of integrated care systems.

- It should state that patients with multimorbidity have an individualised management plan.

- Interrogation of the data by age and condition is important to support and monitor interventions to address multi-morbidity.

- It is unclear what a 'tailored approach to care' would mean in practice.

- Data on the prevalence of conditions should be published at GP practice and CCG level.

- A large number of comments were received on the conditions included and omitted from the register.

Considerations for the advisory committee

The committee is asked to consider:

- The merit of revising the list of conditions included in the register.

- The overlap between this register and the current data collection for frailty in people aged 65 years and above included in the GMS contract.

- Concerns over the size of the population identified by the proposed register.

- Suggestions that a template could be shared and adapted at a local level.

- Uncertainty of what a 'tailored approach to care' would mean in practice.

IND2: Frailty register – people with moderate or severe frailty

The practice can produce a register of people with moderate to severe frailty.

Rationale

The appropriate use of an evidenced based tool and clinical judgement to identify people aged 65 and over who may be living with moderate or severe frailty was a requirement in the 2017/18 GP contract.

Annual medication reviews, recording of falls and explicit consent to activate their enriched SCR are currently limited to people with severe frailty. This register underpins subsequent indicators, it is assumed that the required data are already routinely collected.

Background

As part of the 2017/18 GP contract agreement the Avoiding Unplanned Admissions DES was ended. The DES was replaced with a contractual requirement to focus on the identification and management of people living with frailty.

Through a contractual requirement date are collected on, the:

- number of patients recorded with a diagnosis of moderate frailty
- number of patients with severe frailty
- number of patients with severe frailty with an annual medication review
- number of patients with severe frailty who are recorded as having had a fall in the preceding 12 months
- number of severely frail patients who provided explicit consent to activate their enriched SCR.

Summary of consultation comments

Stakeholders made the following positive comments in relation to this indicator:

- Frailty is a good indicator for likelihood of hospital admission and risk of deterioration of overall health and outcomes.
- The register is a welcome addition.
- Generally, widely supported.

Stakeholders outlined the following concerns about the indicator:

- Concern about how frailty will be measured and quantified.
- The correct tools must be used to implement this change.
- Incorporate nutritional screening, assessment and management into frailty pathways.
- Include mild frailty in the register in future, to support practices to reduce progression of frailty in patients.

Considerations for the advisory committee

The committee is asked to note that the data required to underpin this indicator are already being collected.

IND14: People with moderate or severe frailty and / or multimorbidity - medication review

The percentage of patients with moderate or severe frailty and/or multimorbidity who have received a medication review in the last 12 months which is structured, has considered the use of a recognised tool and taken place as a shared discussion.

Rationale

Polypharmacy is often driven by the introduction of multiple medicines intended to prevent further morbidity and mortality but other conditions that reduce life expectancy such as frailty may not be considered. The difference made by each new medicine may be reduced when other medicines are used.

A structured medicine review provides an opportunity for medicines optimisation and can lead to a reduction in adverse events by identifying and minimising risks related to prescribing. Clinical outcomes and patient satisfaction are likely to be better when decisions are made jointly between the person taking the medicine and the prescriber.

Summary of consultation comments

Stakeholders made the following positive comments in relation to this indicator:

- Regular medication reviews mean greater consideration of different conditions and the impact treatment has on care and wellbeing and should reduce polypharmacy.
- Shared discussion is an opportunity for healthcare professionals to have a wider conversation about an individual's needs, circumstances and health.
- This is sensible because both groups of patients are covered by one indicator.
- Reviewing medicines in a structured fashion is supported and should reduce polypharmacy.

Stakeholders outlined the following concerns about the indicator:

- Wording is over-prescriptive and does not emphasise the importance of deprescribing.
- The "use of a recognised tool" is vague, subject to interpretation and it is not clear how to code or document it.
- Focus on medication review may distract from holistic conversations about care.

Considerations for the advisory committee

The committee is asked to consider:

- Whether examples of recognised tools should be given.
- How the indicator can decrease the likelihood of harm from overtreatment through emphasizing the importance of deprescribing.

IND15.1: Recording of falls in people aged ≥65 years with moderate or severe frailty - Falls prevention

The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months.

Rationale

A history of falls in the past year is a risk factor for falls and is a predictor of further falls. This indicator is intended to identify and minimise risks relating to falls.

Summary of consultation comments

Stakeholders made the following positive comments in relation to this indicator:

- This indicator is strongly supported
- Stakeholders highlighted that people with moderate frailty are the single largest identifiable patient group who will benefit from falls prevention interventions and may not be currently engaged.

Stakeholders outlined the following concerns about the indicator:

- Align with the wording in the GMS contract.
- It is very complex. Collecting data on patients at risk of falling is valuable but professionals should be trusted to act when risks are identified.
- Does this record whether the question has been asked in the past 12 months, or the number and type of falls in that time.
- Include nutritional screening, assessment and management in falls pathways.

Considerations for the advisory committee

The committee is asked to consider:

- Stakeholder comments that patient or carer recall of the number and type of falls is likely to be poor, resulting in poor quality data.
- Whether the wording should align more closely with the GMS contract, for people with severe frailty "the number of patients with severe frailty who are recorded as having had a fall in the preceding 12 months".

IND15.2: Falls prevention advice for people aged ≥65 years with moderate or severe frailty identified as being at risk

The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months, were found to be at risk and have been provided with advice and guidance with regard to falls prevention (in the last 12 months).

Rationale

Advice and guidance on falls prevention can lead to a reduced risk of falls, particularly in this population, leading to a reduction in harm, serious injury and personal and financial costs.

Summary of consultation comments

Stakeholders outlined the following concerns about the indicator:

- Clinicians should be relied on to take action if a significant problem is identified.
- Include nutritional screening, assessment and management in falls pathways.
- The 'provision of advice and guidance' is vague; specify the type of advice provided.
- There is no evidence that information provision reduces the rate or risk of falls.

Considerations for the advisory committee

The committee is asked to consider:

- Stakeholder suggestions that the identification indicator (15.1) is sufficient, healthcare professionals should be trusted to act appropriately.
- Whether examples of the types of advice should be included.
- Concerns about the evidence that information provision reduces the rate or risk of falls.

General comments

The following is a summary of general comments on the draft indicators:

- Link the heart failure and the multimorbidity and frailty indicators.
- Incorporate nutrition screening and management into all indicators especially relating to multimorbidity and frailty.
- Indicators on frailty are welcome, including monitoring of specific interventions for those living with frailty, such as medications review or falls prevention support.
- Threshold of 4+ conditions excludes many who would benefit from this review.

Suggestions for additional indicators

- Suggestion to include additional indicators on malnutrition, falls and frailty.
- Include an indicator on the nutritional assessment and management of frail patients pre and post fall or fracture.
- Indicators to monitor the comprehensive assessment and review of frail people, to help proactive and recurrent management of frailty in the community.

Appendix A: Consultation comments

ID	Indicator	Stakeholder	Comment
1	General comment	**Abbott**	Muscle naturally declines with age. Sarcopenia occurs as a natural part of age, which can lead to physical frailty and an increased risk of morbidity and mortality.[1] Loss of muscle mass is associated with increased rates of falls and fractures,[2] and frail patients are a risk group of falling and sustaining fractures.
			Nutrition can play a role in this. For older adults, intakes of vitamin D have been shown to reduce the risk of falls and hip fractures.[3,4]
			Protein intake is essential to help minimise declines in strength and function[5] and high protein oral nutritional supplements have been clinically proven to reduce hospital readmissions by 30%, as well as improve weight and grip strength.[6]
			Beta-hydroxy-beta-methylbutyrate (HMB) is also of interest in maintaining muscle, as HMB has been shown to have anticatabolic properties and contribute to the preservation of muscle through increased protein synthesis and decreased protein degradation.[7,8,9]
			A study of 75 older, malnourished female patients with hip fracture (mobile and ambulatory before the fracture) were randomised to receive standard post-operative nutrition (control) or standard post-operative nutrition with an oral nutritional supplement (ONS) high in in protein, with HMB and additional vitamin D (experimental group) for 30 days.[10]
			It showed that the patients in the experimental group (vs control):
			-Were significantly more mobile at day 30 -Were significantly stronger at day 30 -Had significantly improved wound healing times at day 30.
			Therefore, the inclusion of an indicator involving the nutritional assessment (including a parameter of measuring muscle mass/strength) and the appropriate nutritional management of frail patients pre and post fall/fracture, which may include offering an ONS high in protein, with HMB and additional vitamin D) would contribute to improved outcomes in these patients.
			1. Wilkinson DJ *et al. Ageing Res Rev* 2018;47:123-132. 2. Mithal A *et al. Osteoporos Int* 2013;24(5):1555-1566. 3. EFSA J 2011;9(9):2382.

			4. Bischoff-Ferrari HA *et al. N Eng J Med* 2012;367(1):40-49.
			5. Deutz NE *et al. Clin Nutr* 2014;33(6):929-936
			6. Cawood AL *et al. Ageing Res Rev* 2012;11(2):278-296.
			7. Wilson GJ *et al. Nutr Metab* (Lond) 2008;5:1
			8. Manzano M *et al*. Presented at 31st ESPEN Congress. 29 August-1 Sept 2009, Vienna, Austria.
			9. Eley HL *et al. Am J Physiol Endocrinol Metab* 2008;295(6):E1417-1426.
			Ekinci O *et al. Nutr Clin Pract* 2016;31(6):829-835
2	General comment	**Alliance for Heart Failure**	As well as the specific recommendations to the newly proposed indicators outlined below, we suggest the following general points to help improve overall management of patients living with heart failure. **Data Integrity** - It would be valuable to capture the *type of heart failure* and supporting data points within the QOF indicator menu. For example, more specific metrics to capture include a) the quantitative measure of ejection fraction b) NYHA[3] classification and c) disease severity of heart failure. By tracking these metrics, HCPs would generate a more robust dataset to actively manage patients with heart failure, potentially improving patient outcomes. **Multi-morbidity / Elderly checkup crossovers** – Currently, all of the measures contained in the heart failure indicator menu are post-diagnosis metrics. In other therapy areas such as cancer, measures are more proactive, also covering the pre-diagnosis stage of the patient pathway. We therefore propose including proactive metrics for heart failure and incorporate these into existing activity undertaken in primary care. For example, screening for and tracking patients that show early indicators of heart failure (shortness of breath, oedema, chronic fatigue etc.) at multi-morbidity or polypharmacy checkups[4]. At a minimum this should include a NT-proBNP test as part of the regular blood tests taken. We propose specific synergies between the *Heart Failure* and *Multi-morbidity and Frailty* indicator menus below, for consideration.
3	General comment	**Boehringer Ingelheim Limited**	Do you think the proposed indicators will lead to improvements in care and outcomes for patients? This is a welcome addition to the register. Elderly and frail patients, particularly with multi-morbidities are a vulnerable group (medically, psychologically and socially), and care must be taken in identifying and managing them appropriately to maximise quality and quantity of life.
4	General comment	**British Dietetic Association**	The NHS long-term plan makes it clear that preventing and managing frailty should form part of the new NHS service model for the 21st century. The significant links between frailty and malnutrition however, are often overlooked, as many people perceive unplanned weight loss as a natural part of ageing. Some weight loss is normal; however, the aging process is not the only contributing factor to Sarcopenia, this is linked with malnutrition and frailty (1). People that are malnourished are four times more likely to have a fall (2) and one out of every two people who are frail will also be malnourished (3).

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[3] New York Heart Association scale – a scale used to classify the severity of heart failure symptoms into four categories, 1-4
[4] "Symptom Clusters of Heart Failure" - CY Jurgens - 2009

			Therefore, recognising the signs of malnutrition early by screening and treating with diet is key to reducing the complications associated with frailty. We therefore recommend the following indicators in relation to frailty, falls and malnutrition: • The practice can produce a register of people who are at moderate to severe frailty and their risk of malnutrition (based on results of a validated nutritional screening tool*). • The practice can produce a register of people who have recently reported having a fall and their risk of malnutrition (based on results of the validated nutritional screening tool). * a validated nutritional screening tool, for example, the Malnutrition Universal Screening Tool ('MUST') (4) or Score Generated Subjective Global Assessment (PG-SGA) (5). References: 1. Friedrich L. End-of-life nutrition: is tube feeding the solution? Annals of Long-Term Care: Clinical Care and Aging. 2013; 21(10):30-33 2. Laur CV et al. Malnutrition or frailty? Overlap and evidence gaps in the diagnosis and treatment of frailty and malnutrition. Appl. Physiol. Nutr. Metab. 2017 May; 42(5):449-458 3. Bollwein J et al. Nutritional status according to the mini nutritional assessment (MNA) and frailty in community dwelling older persons: a close relationship. J. Nutr. Health Aging. 2013 April; 17(4): 351–356 4. British Association of Parenteral and Enteral Nutrition (BAPEN) Malnutrition Universal Screening Tool (MUST) http://www.bapen.org.uk/pdfs/must/must_full.pdf 5. Ottery FD. Definition of standardized nutritional assessment and interventional pathways in oncology. Nutrition. 1996; 12(1) 15-9
5	General comment	British Dietetic Association	Weight loss and adopting a healthy lower salt diet can have beneficial effects on blood pressure, similar to the magnitude of beneficial effects seen with alcohol reduction (1,2,3,4,5,6,7,8). Therefore, we recommend adding the following indicators for hypertension relating to obesity and a healthy diet, in particular salt intake: • The percentage of patients with a new diagnosis of hypertension in the preceding 12 months who have had their body mass index (BMI) calculated in the 3 months before or after the date of entry on the hypertension register. • The percentage of patients with a new diagnosis of hypertension in the preceding 12 months who have been found to be overweight (BMI >25kg/m^2) and who have been given weight reduction interventions within 3 months of the recording of the BMI. • The percentage of patients with a new diagnosis of hypertension in the preceding 12 months who have been given advice on a healthy diet which includes advice on reducing salt intake within 3 months of entry on the hypertension register.

<table>
<tr><td colspan="4">References:

1. <u>Neter JE</u>, <u>Stam BE</u>, <u>Kok FJ</u>, <u>Grobbee DE</u>, <u>Geleijnse JM</u>. Influence of weight reduction on blood pressure: a meta-analysis of randomized controlled trials. <u>Hypertension.</u> 2003 Nov;42(5):878-84. Epub 2003 Sep 15.
2. Graudal NA, Hubeck-Graudal T, Jurgens G. Effects of low sodium diet versus high sodium diet on blood pressure, renin, aldosterone, catecholamines, cholesterol, and triglyceride. Cochrane Database Syst Rev. 2011 Nov 9;11:CD004022.
3. He FJ, Li J, Macgregor GA. Effect of longer-term modest salt reduction on blood pressure. Cochrane Database Syst Rev. 2013 Apr 30;4:CD004937.
4. Aburto NJ, Ziolkovska A, Hooper L, Elliott P, Cappuccio FP, Meerpohl JJ. Effect of lower sodium intake on health: systematic review and meta-analyses. BMJ. 2013 Apr 3;346
5. Appel LJ, Moore TJ, Obarzanek E, Vollmer WM, Svetkey LP, Sacks FM, et al. Dietary patterns and blood pressure. DASH Collaborative Research Group. N Eng J Med.1997 Apr 17;337:637-8.
6. Bray GA, Vollner WM, Sacks FM, Obarzanek E, Svetkey LP, Appel LJ; DASH Collaborative Research Group. A further subgroup analysis of the effects of the DASH diet and three dietary sodium levels on blood pressure: results of the DASH-Sodium Trial. Am J Cardiol. 2004 Jul 15;94(2):222-7.
7. The Trials of Hypertension Prevention Collaborative Research Group. Effects of weight loss and sodium reduction intervention on blood pressure and hypertension incidence in overweight people with high-normal blood pressure: the Trials of Hypertension Prevention, Phase II. Arch Intern Med. 1997 Mar 24;157(6):657-67.
Elmer PJ, Obarzanek E, Vollmer WM, Simons-Morton D, Stevens VJ, Young DR, et al; PREMIER Collaborative Research Group. Effects of comprehensive lifestyle modification on diet, weight, physical fitness, and blood pressure control: 18-month results of a randomized trial. Ann Intern Med. 2006 Apr 4;144(7):485-95</td></tr>
<tr><td>6</td><td>General comment</td><td>**Elcena Jeffers Foundation**</td><td>There is a wish to know about self-care in general public education in life as different people has different diseases or ailments</td></tr>
<tr><td>7</td><td>General comment</td><td>**Managing Adult Malnutrition in the Community**</td><td>In light of the fact that the QOF aims to increase likelihood of improved patient outcomes, decrease likelihood of harm from overtreatment and improve the personalisation of care it should be noted that people who are malnourished :

• have greater healthcare needs (more GP visits, care at home, antibiotics), more hospital admissions and readmissions and longer length of hospital stay1
• have increased risk of falls2,3, impaired recovery from illness and surgery4, poorer clinical outcomes4, impaired immune response4, reduced muscle strength4 and frailty5,6, impaired wound healing4 and impaired pyscho-social function4
• have health and social care costs that are more than 3 times greater than a non- malnourished patient1 (the cost of healthcare for a malnourished patient is estimated as £5763 compared to £1715 for a non-malnourished patient, the cost of social care for a malnourished patient is estimated as £1645 compared to £440 for a non-malnourished patient)</td></tr>
</table>

			Malnutrition affects 11% of people at GP practices7, 35% of people recently admitted to care homes8, 29% of adults on admission to hospital9, 30% of those attending hospital outpatients10. We would therefore recommend that nutrition screening (using a validated screening tool such as 'MUST'11), assessment and management are incorporated into all indicators (and particularly in relation to multimorbidity, frailty, falls and COPD in relation to the issue of malnutrition). References: 1. Elia M, on behalf of the Malnutrition Action Group (BAPEN) and the National Institute for Health Research Southampton Biomedical Research Centre. The cost of malnutrition in England and potential cost savings from nutritional interventions (full report). 2015. http://www.bapen.org.uk/pdfs/economic-report-full.pdf 2. Brotherton, Simmonds and Stroud on behalf of BAPEN (2010), Malnutrition Matters. Meeting quality standards in nutritional care, UK: BAPEN 3. Meijers et al (2012). Predicting falls in elderly receiving home care: The role of malnutrition and impaired mobility, Journal of Nutrition, Health and Aging 16(7): 654-658 4. Stratton RJ et al. Disease-related malnutrition: an evidence-based approach to treatment. Oxford: CABI publishing; 2003. 5. Gossier S, Guyonnet S and Volkert D. The Role of Nutrition in Frailty: An Overview. The Journal of Frailty & Aging 2016; 5(2) 6. JAMDA. Frailty Consensus: A Call To Action. 2013; 14: 391-397 7. McGurk P et al. The burden of malnutrition in general practice. Gut 2012; 61 (Suppl 2): A18 (OC-042) 8. Russell C, Elia M on behalf of BAPEN and collaborators. Nutrition Screening Surveys in Care Homes in the UK: A report based on the amalgamated data from the four Nutrition Screening Week surveys undertaken by BAPEN in 2007, 2008, 2010 and 2011. 2015 http://www.bapen.org.uk/pdfs/nsw/care-homes/care-homes-uk.pdf 9. Russell C, Elia M on behalf of BAPEN and collaborators. Nutrition Screening Surveys in Hospitals in the UK, 2007-2011: A report based on the amalgamated data from the four Nutrition Screening Week surveys undertaken by BAPEN in 2007, 2008, 2010 and 2011. 2014. http://www.bapen.org.uk/pdfs/nsw/bapen-nsw-uk.pdf 10. Stratton RJ et al. Malnutrition in hospital outpatients: prevalence, concurrent validity and ease of use of the 'malnutrition universal screening tool' ('MUST') for adults. Br J Nutr (2004):92, 799-808. 11. The 'MUST' report. Nutritional screening for adults: a multidisciplinary responsibility. Elia M, editor. 2003. Redditch, UK, BAPEN.
8	General comment	**Managing Adult Malnutrition in the Community**	NICE QS24[1] Nutrition Support in Adults should be incorporated into all aspects of care. NICE QS24[1] recommends: • People in care settings are screened for the risk of malnutrition using a validated screening tool • People who are malnourished or at risk of malnutrition have a management care plan that aims to meet their complete nutritional requirements

			• All people who are screened for the risk of malnutrition have their screening results and nutrition support goals (if applicable), documented and communicated in writing within and between settings • People receiving nutrition support are offered a review of the indications, route, risks, benefits and goals of nutrition support at planned intervals. NICE has shown that substantial cost savings can result from identifying and treating malnutrition – implementation of Clinical Guideline 32[2]: Nutrition Support in Adults and supporting Quality Standard 24[1] have been shown to have a high impact with respect to cost savings – estimating savings of £71,800 per 100,000 people by implementing screening and management of malnutrition. However despite this nutrition continues to be ignored as a key indicator in many disease areas. References: 1. National Institute for of Health and Care Clinical Excellence (NICE). Nutrition support in adults. Quality Standard 24. 2012. 2. National Institute of Health and Care Excellence (NICE). Nutrition support in adults: oral nutrition support, enteral tube feeding and parenteral nutrition. Clinical Guideline 32. 2006.
9	General comment	**NHS England**	NHS England welcomes the consultation on revised and potential new indicators for inclusion on the NICE menu. Those relating to respiratory care and heart failure in particular are in line with the recommendations of the 2018 QOF review, The NHS Long-Term Plan and Investment and evolution: a five-year framework for GP contract reform. The remaining areas are also closely aligned to Long Term Plan objectives.
10	General comment	**Nutricia Advanced Medical Nutrition**	Advise the incorporation of nutrition screening and management into all indicators especially in relation to multimorbidity, frailty and COPD because for example in NICE QS24 it clearly states that • People in care settings are screened for the risk of malnutrition using a validated screening tool • People who are malnourished or at risk of malnutrition have a management care plan that aims to meet their complete nutritional requirements All people who are screened for the risk of malnutrition have their screening results and nutrition support goals (if applicable), documented and communicated in writing within and between settings
11	General comment	**Nutricia Advanced Medical Nutrition**	NICE has shown that substantial cost savings can result from identifying and treating malnutrition – implementation of Clinical Guideline 32: Nutrition Support in Adults and supporting Quality Standard 24 have been shown to have a high impact with respect to cost savings and therefore this supports the integration of nutrition into care pathways an including some form of indicator ie screening for malnutrition risk (as stated above in multimorbidity/frailty/COPD) using a validated screening tool such as 'MUST' and implementing a Managing Malnutrition Pathway such as the Managing Adult Malnutrition in the Community Pathway www.malnutritionpathway.co.uk

12	General comment	**Public Health England**	The indicators proposed for inclusion in relation to frailty are welcome, including monitoring of specific interventions for those living with frailty, such as medications review or falls prevention support.
			However, in future. we would encourage consideration of indicators which seek to monitor the provision of comprehensive assessment and review for those who are frail, which is likely to be key in proactive and recurrent management of frailty in the community.(BGS, 2019), This can be viewed at: https://www.bgs.org.uk/resources/resource-series/comprehensive-geriatric-assessment-toolkit-for-primary-care-practitioners.
13	General comment	**Royal College of General Practitioners**	The RCGP is a partner on the Multiple Conditions Taskforce, which has also submitted a response to this consultation
14	General-definition	**British Dietetic Association**	Re: page 16. We would suggest including the following conditions on the Multimorbidity register: Motor Neurons Disease, Huntington's Disease and Progressive Supranuclear Palsy.
15	General-definition	**British Thoracic Society**	This table should include a section on addiction/ substance abuse (including tobacco).
			There is alcohol and psychoactive substance abuse in the mental health section but there should be a separate section in the table for tobacco, alcohol and other substance addictions.
			These should count as a morbidity as they are listed in the NG56 guidance and NICE QS153 quality statement.
			They should also be listed separately because they multiply the risk of disease progression and exacerbation frequency/ NHS service use.
			The main focus for the multimorbidity guidance is for the elderly but this is a missed opportunity for single organ diseases in the younger patients with addictions.
			As we are moving more to treating tobacco addiction as one of the best and cost effective treatments for most respiratory diseases (and many others) this should be highlighted.
16	General - definition	**Chelsea and Westminster NHS Foundation Trust - HIV Clinical Reference Group**	The HIV CRG welcomes NICE's work on multimorbidity and the new indicator promoting a multimorbidity register in primary care. However we are concerned that the definition of multimorbidity for the register (presence of four or more condition categories) differs from the definition of multimorbidity in the NICE guideline. We are concerned by the arbitrary nature of classification using 4 categories with no adjustment made for the severity or impact of these. Although we understand that any indicator must be measurable this will potentially exclude those who should be included.
			People living with HIV are disproportionately affected by multimorbidity and work by Public Health England has shown that 73% of people living with HIV have to manage multiple health conditions (Positive Voices 2017). According to Positive Voices 2014, 38% of people living with HIV have three or more long-term conditions – it will be an even higher percentage now with an ageing patient cohort. This may well mean for many that they do come within the 'four or more condition categories' criterion. However, HIV is not listed as a condition, which will automatically subtract 'one' from their tally. And as stated above it is possible for conditions to cluster in categories – for example, anxiety, depression, alcohol problems and psychoactive substance misuse are all elevated in this population.

			The impact of implementing and using this indicator is untested and it may be subject to the law of unintended consequence. In view of the workstreams currently underway within the sector including within NHSE and the HIV CRG – we would propose that this indicator is deferred until the impact can be assessed more widely including within BHIVA and the HIV CRG.
17	General-definition	**Managing Adult Malnutrition in the Community**	Multimorbidity • People with multiple morbidities are particularly at risk of malnutrition • Many chronic conditions can affect the ability and desire to eat predisposing individuals to malnutrition • It is recommended that nutritional status should be included on the multimorbidity register list – this would be relevant to those who are over-nourished (overweight/obese) or undernourished (at risk of malnutrition/malnourished)
18	General-definition	**National AIDS Trust**	NAT welcomes NICE's work on multimorbidity and the new indicator promoting a multimorbidity register in primary care. We do, however, have grave concerns over the fact that the definition of multimorbidity for the register (presence of four or more condition categories) differs from the definition of multimorbidity in the NICE guideline. This is *prima facie* bad policy planning and can only result in confusion. There are, furthermore, many people with rarer long-term conditions, or with multimorbidity of a number of conditions but in fewer categories, who need and will benefit from the GP practice formally assessing them as experiencing multimorbidity and thus in need of planned and integrated care. This is of course a premise of NICE's guideline and quality standard. The unintended consequence of this restriction to the register will be the denial of appropriate care to many vulnerable people experiencing multimorbidity, as the GP practice focuses only on those in four or more categories. This criterion ignores the centrality of clinical assessment as to whether a patient is managing their multimorbidity well or is in need of significant support. People living with HIV are disproportionately affected by multimorbidity and work by Public Health England has shown that 73% of people living with HIV have to manage multiple health conditions (Positive Voices 2017). According to Positive Voices 2014, 38% of people living with HIV have three or more long-term conditions – it will be an even higher percentage now with an ageing patient cohort. This may well mean for many that they do come within the 'four or more condition categories' criterion. However, HIV is not listed as a condition, which will automatically subtract 'one' from their tally. And as stated above it is possible for conditions to cluster in categories – for example, anxiety, depression, alcohol problems and psychoactive substance misuse are all elevated in this population. Nor is it really clear how the proposed new indicator, that the practice can produce a register of people with multimorbidity who would benefit from a tailored approach to care, relates to the definition of multimorbidity in the 'Background/Rationale' section or to the subsequent list of categories and conditions. Is the expectation simply that the register include people in four or more categories, or that they only meet the indicator if all such patients on their list are on the register, or that the list must only and exclusively include such patients and not include those with multimorbidity but in fewer categories?

			A lot of work is currently taking place aiming to make the wider health system work to support people living with HIV as they experience multimorbidity, with a focus on engaging primary care around the needs of this patient group. This indicator as it stands, or as it might possibly be (mis)interpreted, will put back such work significantly and harmfully. We will be raising our concerns with BHIVA (the British HIV Association) and the HIV Clinical reference Group and urge NICE not to proceed with this indicator as currently drafted and certainly not before specific discussions with NAT, BHIVA and the HIV CRG.
19	General-definition	**Norgine Pharmaceuticals Limited**	The definition of currently treated constipation is defined by prescriptions for laxatives in the past 12-months. Using this definition of constipation will not pick up the entirety of the population suffering with constipation. Additionally, basing this on prescribing data will mean that the count of patients with constipation will be influenced by both the condition and also the CCGs adherence to NHSE guidelines. The impact of this on patients is that their status as having multiple morbidities is not recognised and they will not go on to have their care managed appropriately.
20	General-definition	**Nutricia Advanced Medical Nutrition**	Under neurological conditions will this also include motor neurone disease, Parkinson's, Huntingdon's Disease?
21	General-definition	**Resuscitation Council (UK)**	The Resuscitation Council (UK) welcomes increasing recognition of the importance of frailty and multimorbidity in predisposing to sudden deterioration in health and we hope that this will lead to plans for emergency care and treatment (e.g. ReSPECT) being made much more commonly than has been the case in the past.
22	General-definition	**Resuscitation Council (UK)**	The multimorbidity section covers all ages but is clearly written with an older adult population in mind. Babies and children can have multiple morbidities that make them frail and vulnerable; the range of problems is wide but may include developmental delay, learning difficulties, cerebral palsy, communication problems (speech delay / non-vocal), cardiac, respiratory or gastrointestinal problems. The list as it exists does not capture these issues well.
23	General-definition	**Resuscitation Council (UK)**	There are some important and not uncommon omissions that can contribute to frailty and risk, for example, **valvular heart disease and cardiomyopathy**.
24	General-definition	**Resuscitation Council (UK)**	There are some important and not necessarily uncommon omissions that can contribute to frailty and risk, for example, **pulmonary fibrosis cystic fibrosis**. We acknowledge that cystic fibrosis contributes to frailty by causing varying degrees of bronchiectasis and fibrosis but are surprised that **pulmonary fibrosis** has not been listed.
25	General-definition	**Resuscitation Council (UK)**	Re: page 16. There are some important and not necessarily uncommon omissions that can contribute to frailty and risk, for example, **motor neurone disease and cerebral palsy, and disability from previous head injury**.
26	IND1	**Alzheimer's Research UK**	We believe that producing practice registers of those with multimorbidity will support interventions assisting with the optimal management of conditions, such as types of dementia, where worsening cognition and memory can exacerbate the challenges of managing multimorbidities. Poor control of dementia and multimorbidities leads to an increased likelihood of hospitalisation, longer admissions and increased health and social care costs.
27	IND1	**Alzheimer's Research UK**	We would disagree that types of dementia (including Alzheimer's) should be included as a condition only within the mental health category. The World Health Organization's International Classification of Diseases 11th Revision, classifies types of dementia as a subcategory of neurocognitive disorders under mental, behavioural or neurodevelopmental disorders. Therefore we believe dementia should also feature in the neurological conditions category.

			Recognising Alzheimer's and other dementias as progressive neurodegenerative diseases is important in moving towards greater consideration of the mild, moderate and severe stages, and that the pathological changes associated with the disease are present years before symptoms might show.
28	IND1	**AstraZeneca**	AstraZeneca welcomes the decision by NICE to produce a register of people with multimorbidity who would benefit from a tailored approach to care. NICE define multimorbidity for the register as the presence of "four or more condition categories". However, the World Health Organisation (WHO) define multimorbidity as the "coexistence of two or more chronic conditions in the same individual"[1]. NICE also define multimorbidity in their "Multimorbidity: clinical assessment and management" NICE guideline [NG56] as "…the presence of 2 or more long-term health conditions". AstraZeneca propose that the definition of multimorbidity is reduced to the presence of 3 or more conditions to be a more pragmatic reflection of national and international classifications and evidence. 1. Multimorbidity: Technical Series on Safer Primary Care. WHO 216 (https://apps.who.int/iris/bitstream/handle/10665/252275/9789241511650-eng.pdf;jsessionid=3A22A47AC8FD22FB52F94DB7FA239491?sequence=1. Last accessed May 2019)
29	IND1	**British Medical Association**	IND1: The practice can produce a register of people with multimorbidity who would benefit from a tailored approach to care. We support the aim of identifying patients with multimorbidity but in order for this to be useful a quality measure there would need to be agreement concerning the IT tools available to populate the register in a reliable manner, and to differentiate between multimorbidity and frailty.
30	IND1	**KSS AHSN Respiratory Programme**	This is very welcome and will help support a holistic approach identifying patients who require services supporting multi-morbidity. Agree frailty is missing from these indicators and I would also like to see it added to the indicators in regards to COPD
31	IND1	**Leadgate Surgery A83636**	Great care needs to be exercised with this indicator. We need to ensure there is good evidence to support the approach recommended. There is a risk that poor implementation of a strategy with very little evidence to support it, will lead to similar problems seen with the disastrous implementation of the frailty elements of the GMS contract – where vast numbers of patients were incorrectly coded with frailty, or incorrect frailty severity. The proposed 'scoring system' would identify extremely large numbers of patients. In a sample of 160K patients in North Durham, 4.3% of all patients, and 7% of all adults would be identified as having multimorbidity by your scoring system. We would need really good evidence that the proposed (complex sounding) intervention aimed at such a large proportion of the population was clinically effective, evidence based and cost effective. It is likely the opportunity cost of this intervention will be very large.

			It is likely there will be a significant overlap with frailty diagnosis leading to the risk of multiple, overlapping, wasteful interventions and hassle for patients unless careful thought is given to this. In a smaller sample, 37% of people in the multimorbidity cohort have a diagnosis of frailty. There are particular problems with the mental health element of the indicator. Unlikely most of the indicators, many of the patients with mental health conditions will have had transient health problems, often many decades previously. This part of the scoring system is likely to identify many patients who do not have a current mental health problems.
32	IND1	**National Pharmaceutical Advisers Group (PAG)**	Agree but consideration to any existing frailty or multimorbidity indicators if they already exist in QoF however these may be more sensitive than exiting indicators.
33	IND1	**Parkinson's UK**	We welcome the addition of a multi-morbidity register as a NICE indicator to the quality outcomes framework. However, it is unclear what a 'tailored approach to care' would mean in practice, for example would it mean having a care plan put in place, longer GP appointments for those on the register or more regular reviews etc. We recommend more specificity or guidance on the meaning of 'a tailored approach to care' because there is a risk that people placed on this register do not actually experience improvements in care as a result of being on the register. For example to follow the NICE Multimorbidity: clinical assessment and management (NG56) 1.6.17 agreeing the individualised management plan.
34	IND1	**Parkinson's UK**	We recommend that when the multi-morbidity register is added to the Quality Outcomes Framework that data on the prevalence of the different conditions are published at GP practice and Clinical Commissioning Group level, so for examples we could see how many people with Parkinson's also have psychiatric or psychological comorbidities. Improved availability of data would aid the design of services for people with multiple and complex needs (All-Party Parliamentary Group on Parkinson's (2018) 'Mental health matters too - Improving mental health services for people with Parkinson's who experience anxiety and depression).
35	IND1	**Perspectum® Diagnostics**	We identify that there is potential for a differential impact of the multimorbidity indicator with respect to age and gender in patients that have comorbidities in cardiovascular and liver conditions. Recent publications based on magnetic resonance imaging (MRI) metrics support this. Arterial wall thickening is an early sign of atherosclerosis[1,2] and is associated with the prevalence and incidence of cardiovascular disease[3]. Age-related and gender-related differences in arterial wall thickening have been reported in several cross-sectional community-based studies[4-7,] so that increasing age and female gender is associated with reduced cardiac function. These have been based on cardiac MRI quantitative metrics (arterial wall thickness and pulse wave velocity) as well as clinical outcome and demographic data. Increased liver steatosis is associated with increasing age as identified in a large ongoing general based population study in the UK (n= 4775, based on MRI metric PDFF adopted in AASLD guidelines). Females (median 1.76%, IQR 1.14–3.54) had significantly lower liver fat than males (median 2.58%, IQR 1.48–5.47) (one-sided K-S test, $p = 10^{-34}$)[8]. There was an increase in liver fat with age, although this was more strongly present in the female participants than the males[8]. In terms of liver fibroinflammation among women, a highly significant, though numerically small difference between the ages of 40–49 years and 60–69 years has been observed, suggesting a lower risk for older women[9]. Elevated liver iron has been shown to be

related to male sex ($p < 10^{-16}$, $r^2 = 0.008$), increasing age ($p < 10^{-16}$, $r^2 = 0.013$ in the same study (based on MRI metric T2*)[10].

Given the above evidence we comment that increased multimorbidity will be expected with increasing age and that, additionally, prevalence of individual conditions will vary according to gender within patients presenting multimorbidity. Application of the multimorbidity index will have a positive impact for earlier detection and management of these patient subpopulations.

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36	IND1	**Perspectum® Diagnostics**	We would recommend that the NICE Indicator Advisory Committee considers the inclusion of pancreatic disease to the digestive system condition category in the multimorbidity register. The incidence of acute pancreatitis across Europe and the UK ranges from 4.6 to 100 cases per 100,000, respectively, and continues to rise[1]. 25% of acute pancreatitis cases are associated with kidney and respiratory failure which in severe cases can require prolonged hospital stay that carries a mortality rate of 25% (NICE Guideline on Pancreatitis, published 2018). Furthermore, chronic pancreatitis results in a significant reduction in pancreatic function and a cascade of complications including exocrine (digestive) and endocrine (diabetes) dysfunction, biliary disorders and pancreatic cancer. The development of multi-organ dysfunction is recognised as a major cause of death in acute pancreatitis[3]. An association between acute pancreatitis and increased systemic inflammation has been reported that results in increased risk of cardiovascular adverse events such as stroke and acute myocardial infarctions[4]. Typically referred to as pancreatogenic or type-3c, diabetes secondary to pancreatic disease is prevalent in around 5-10% of all western diabetics in which 80% of cases are attributed to chronic pancreatitis[5]. This means, therefore, that because chronic pancreatitis is not routinely screened for in suspected diabetics many patients are misdiagnosed, leading to a failure to receive appropriate medical therapy and increased short- and long-term health complications. Left untreated, clinical manifestations and secondary complications of type-3c diabetes are similar to those of type-1 and type-2 including retinopathy, nephropathy, neuropathy and cardiovascular disease[6]. It is reported that up to 90% of patients with chronic pancreatitis will develop type 3c diabetes mellitus[5], emphasising the need to recognise pancreatic disease in the scope of multi-organ dysfunction. This will allow the development of specific interventional targets, personalised care and the control of secondary conditions for patients with multi-organ dysfunction. References 1. Roberts, S.E., Morrison-Rees, S., John, A., Williams, J.G., Brown, T.H. and Samuel, D.G., 2017. The incidence and aetiology of acute pancreatitis across Europe. *Pancreatology*, *17*(2), pp.155-165. 2. NICE: Pancreatitis. 2018 3. Kylänpää, M.L., Repo, H. and Puolakkainen, P.A., 2010. Inflammation and immunosuppression in severe acute pancreatitis. *World journal of gastroenterology: WJG*, *16*(23), p.2867. 4. Willerson, J.T. and Ridker, P.M., 2004. Inflammation as a cardiovascular risk factor. *Circulation*, *109*(21_suppl_1), pp.II-2. 5. Ewald, N. and Hardt, P.D., 2013. Diagnosis and treatment of diabetes mellitus in chronic pancreatitis. *World journal of gastroenterology: WJG*, *19*(42), p.7276.

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37	IND1	**Perspectum® Diagnostics**	Unintended consequences for implementing the Multimorbidity Registry may include adoption of new technologies that will stratify disease severity and improve treatment allocation. There is a high workload in primary care creating an urgent need to identify and adopt new innovative and non-invasive health technology that will help transform patient management. By enabling fast and accurate treatment allocation decisions from clinicians and by eliminating the need for serial visits to ascertain optimal treatments, new technology has the potential to improve the patient experience and their care with reduced spending. This corresponds with NICE Guideline <u>multimorbidity: clinical assessment and management</u> recommendation 1.5.1 which includes 'when offering an approach to care that takes account of multimorbidity, focus on improvement quality of life by reducing treatment burden, adverse events, and unplanned care. Currently there is a shift in the medical imaging field towards quantitative imaging to better inform clinical decision making. An MRI diagnostic solution has the potential to enable rapid and comprehensive stratification of type 2 diabetes and related diseases (NAFLD, CKD, CVD), arming clinicians with the information needed to personalise treatment. This also has the potential to result in NHS cost savings and improve patient experience, whilst benefiting businesses within and outside of the UK from the clinical adoption of new diagnostics and advanced treatments. Magnetic resonance imaging (MRI) should be considered in the non-invasive assessment of adults with metabolic syndrome pathologies. Ectopic accumulation of hepatic lipids is strongly associated to the development of type-2 diabetes, hepatic insulin resistance and eventual progressive hepatic fibrosis resulting in higher rates of mortality due to cirrhosis[1]. Furthermore, an increase in microvascular defects such as retinopathy and chronic kidney disease and a 1.87-fold increase in cardiovascular adverse events associated with NAFLD in the scope of pre-existing type-2 diabetes has been reported[12]. Adult and paediatric symptoms of NAFLD may include complaints of abdominal pain (45%), vomiting (13.8%) and general fatigue[5] although >80% of patients may still present with normal liver blood tests (NICE: Non-alcoholic fatty liver disease (NAFLD): assessment and management. 2016)[13]. MRI-proton density fat fraction (PDFF) has emerged as a precise and reproducible measure of liver fat and is reported to correlate well with longitudinal changes in liver histology data[7]. Furthermore, the AASLD 2018 guidelines (statement 13) recognises MRE as a clinically useful tool for the identification of advanced fibrosis in patients with NAFLD[15]. MRI-PDFF can track subtle changes in liver PDFF not detectable via liver histology examination[9], has been correlated with diabetes in large population-based studies[11] and demonstrates high intra- and inter-observer repeatability in obese adults and children[9]. MRI corrected T1 mapping (cT1), whereby the biasing effect of elevated iron on T1 has been mitigated, has been used as a biomarker of fibroinflammatory disease[2] and is elevated in obese patients with Type 2 Diabetes[10]. Importantly, cT1 mapping reveals an association between diabetes and hepatic injury even in the absence of obesity[10]. cT1 has been shown to correlate with liver inflammation and fibrosis[2,3], hepatocyte ballooning, predict clinical outcomes such as ascites, encephalopathy, liver-related death and hepatocellular carcinoma with 100 % negative predictive value[5], and stage NAFLD/NASH[14].

Perspectum Diagnostics has developed a quantitative MRI method to detect and stage early liver disease (see MIB181 'LiverMultiScan for liver disease', NICE Medtech Innovation Briefing). This technology is now widely used in clinical trials and is available for clinical use. A significant number of surgical presentations in accident and emergency departments and emergency admissions to secondary care are due to acute biliary diseases. Perspectum Diagnostics has developed a quantitative MRI method, named MRCP+, to detect and analyse biliary tree abnormalities including dilations, stones and strictures. Increasing inpatient access to MRCP technology has reported to increase detection of complications and alternate pathologies, such as malignancy, that resulted in a 22% increase of additional interventions for patients[16].

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38	IND1	**Pfizer**	We would like to propose that osteoarthritis be included in the descriptor of musculoskeletal conditions for this indicator on the ground of links with frailty, obesity and mental health.
39	IND1	**Pfizer**	We would like to propose that lower back pain be included in the descriptor of musculoskeletal conditions for this indicator on the ground of links with frailty, obesity and mental health.
40	IND1	**Public Health England**	Given the impact of multimorbidity on quality of life, mortality risk and service use, a focus on this area is to be welcomed. However General Practitioners (GPs) are already mandated to use the electronic frailty index (see comment on falls prevention below) which is based on the presence / absence of 32 deficits including long-term conditions and physical, cognitive, or sensory impairments, and so already identifies multiple conditions (though a different set from the list defining multimorbidity). This raises a question about multiple stratification / diagnoses that is what the benefit to a patient in is being identified with both severe frailty and multimorbidity. As there is work ongoing elsewhere on risk stratification with NHS England such as in support of the development of Integrated Care Systems (ICSs) it would be useful to ensure alignment of approach if appropriate In addition to this, NICE recommendations regarding an approach that considers multimorbidity state that patients identified with multimorbidity should have an individualised management plan – this indicator should be explicit about this given the additional documentation and workload that this will entail. At the same time, using NICE's recommended approach to care to improve quality of life by, for example, looking at stopping treatment of limited benefit, considering non-pharmacological alternative treatments is to be welcomed. The ability to interrogate this data by age and condition will be important, to support and monitor interventions to address multi-morbidity.

41	IND1	**Royal College of General Practitioners**	IND1: The practice can produce a register of people with multimorbidity who would benefit from a tailored approach to care. **New**
			We support this indicator. However, it is vital that this register is implemented using the correct tools to properly capture this information, including linking to patient's registration on the frailty register below.
42	IND1	**Taskforce on Multiple Conditions**	We are broadly supportive of the idea that each practice can produce a register of people with MMB who would benefit from a tailored approach to care. The ability to intelligently segment the population is an essential first step to providing more tailored support. However, the criteria described risks excluding people who don't meet the 4-condition threshold but may have higher support needs that those who do:
			1. *Potential barriers:* at present there isn't an easy way for practices to identify people with multimorbidity, but we presume the intention is for GP software suppliers to create tools to identify people who fulfil the criteria defined. Similarly, re IND14, there will need to be software developments to enable practices to record this. To mitigate duplication of resource and cost to produce at individual practice or CCG/PCN level – we would advocate for a template to be shared for adaptation by one of the footprints already doing this type of segmentation. For example, the 3D trial at the University of Bristol developed a template to identify people with multimorbidity in practices that use the EMIS system and this resource is available online: http://www.bristol.ac.uk/primaryhealthcare/resources/multimorbidity-tool/
			2. *Potential unintended consequences:* the approach of selecting patients in 4 or more of the designated groups is attempting to categorise and oversimplify a problem which is inevitably complex and this could lead to an inappropriate tick box mentality. For example, having a long-term condition doubles your risk of having a mental health problem. Some patients meeting the defined criteria won't need any particularly tailored approach to care; conversely there will be many other patients with multimorbidity but not fulfilling the criteria who would benefit from a tailored approach to care e.g. someone with cancer, depression, and heart failure. This indicator could mean that the latter group get less attention than they need. We think it would be better to allow GPs more discretion e.g. develop a less restrictive tool which picks up people who are quite likely to benefit from a tailored approach (e.g. people within 3 of these categories) with GPs identifying those within this list who they think would benefit.
			From the Taskforce's own ethnographic research, we have seen that many of the challenges described by people living with multiple long term conditions are for non-clinical issues. For example, mobility, housing, finance and emotional wellbeing. A biomedical list risks missing many who don't meet the threshold (with less than 4 conditions/ conditions not included in the list) but whose daily lives are severely impacted by multiple conditions. How can we include non-clinical criteria to identify unmet need –for things like mobility, patient reported QoL etc.
			We accept that the challenge is that such an approach is not possible using automated searches of medical records by existing codes. Requiring GPs to code everyone with these additional fields would be significant amount of work which may undermine the indicator. One possibility is to use medical records as a screening step to identify people who might be at risk and then send these at-risk people a short questionnaire (perhaps online) to identify people who do have

			these types of problems, and then those above a certain score become the at-risk group. But again, that's a lot of extra work and there are challenges with differential impact. Allowing GPs discretion over who they include in the target group seems to be the pragmatic solution as a first step. 3. **Differential impact:** As above. In particular, some young people with multimorbidity due to only two or three conditions describe worse health and greater treatment burden than older people with more conditions. Similarly, for people with a disability or who are pregnant, for example, the impact of MMB may be greater, and therefore it is worth considering specific inclusion criteria for these groups. The criteria for chronic pain is prescribed analgesia. However, for many people living with chronic pain, they may not be taking prescribed pain medication, but are in chronic pain. However, balanced against this, there is a risk that in letting patients self-identify we inadvertently increase inequalities because younger more affluent patients are likely to report greater needs than older poorer patients. These are all reasons we would advocate for GPs to have more flexibility over who they prioritise for tailored care, via discussions with their patients based on the principles of shared decision-making. **Adverse impact in different groups in the community:** See above. We know that MMB, social inequalities and deprivation are strongly correlated. Using the index of multiple of deprivation within an automated screening tool to identify people who might be at risk would allow GPs discretion to pick the patients who most need more help and/or send these at risk patients a questionnaire to collect more info to identify the final target group.
43	IND1	**Perspectum® Diagnostics**	We agree with the NICE recommendation to create a multimorbidity indicator [IND1] for general practice and support the inclusion of hypertension, stroke or TIA, diabetes, chronic liver disease and chronic kidney disease as conditions in the multimorbidity register, amongst others. A current healthcare challenge is dealing with the huge increase in incidence of the metabolic syndrome (MetS) pathologies: Type-2 diabetes (T2DM), fatty liver disease, steatohepatitis, heart disease and stroke. Fuelled by an increase in the prevalence of obesity and related metabolic disorders, it is approximated that over one third of the UK population will have fatty liver disease and over 12 million people are at an increased risk of developing T2DM [NHS Digital]. The estimated UK prevalence of type-2 diabetes, which constitutes 90% of diabetes cases in Europe and USA, is 5.26%[16] and costs £8.8 billion annually, of which £7.04 billion are for associated complications[5,14]. There is a growing healthcare challenge to deal with the growing costs and resource needs of multi-organ dysfunction. This is specifically important for those with the MetS that is typically characterised by obesity and defective insulin sensitivity and is associated with serious adverse events such as stroke and heart disease. 90% of patients in Europe and USA with MetS are reported to present with T2DM[6,7], a condition frequently associated with a higher incidence of non-alcoholic fatty liver disease (NAFLD [60%])[1,2]; chronic kidney disease[3] (CKD [34.2-50.7%]); and cardiovascular disease (CVD [32.2%])[4]. Furthermore, 50% of patients with hypertension have NAFLD that is associated with

deleterious changes in arterial stiffness, myocardial remodelling, kidney disease and heart failure[5]. The American Diabetes Association (ADA) 2019 guidelines already recommend that 'Patients with type 2 diabetes or prediabetes and elevated liver enzymes (alanine aminotransferase) or fatty liver on ultrasound should be evaluated for presence of non-alcoholic steatohepatitis and liver fibrosis'[12]. Furthermore, the AASLD 2018 guidelines (statement 13) recognises MRE as a clinically useful tool for the identification of advanced fibrosis in patients with NAFLD[15]

T2DM costs the NHS £8.8bn each year, mainly due to secondary complications such as kidney failure, stroke and amputation[14]. Currently, T2DM is detected using circulating biomarkers that are not organ-specific and do not assess multi-organ dysfunction. We agree that there is a healthcare need to improve patient stratification and to support the accurate identification of people with multimorbidity within the primary care setting. As a Stakeholder, we support the development of pathways that incorporate recent advances in diagnostic tools to facilitate the rapid assessment and characterisation of the multimorbidity patient to enable their allocation to the most appropriate healthcare management. New technology that provides decision support for clinicians, combining information from images and biomarkers from multiple organs, would support recommendations for a multimorbidity approach to care. Non-invasive MRI imaging is a promising diagnostic tool to quantify multi organ-dysfunction and has already proven able to predict future adverse outcomes between healthy controls and patients with cirrhosis[6] and predict clinical outcomes in patients with chronic liver disease[13].

Detecting multi-organ dysfunction can allow the development of patient-specific treatment strategies therefore reducing the burden and costs of secondary complications such as amputation, for which 80% are preventable[7]. MRI technology can also enable the synthesis of multiple NICE clinical pathways, opening the possibility of more efficiently managing these overlapping clinical indications.

Good patient understanding and experiences can be linked to better patient outcomes. For patients who have a multimorbidity that include metabolic syndrome, a non-invasive magnetic resonance imaging scan can form part of an agreed individualised management plan with the patient (recommendation 1.6.17 of the multimorbidity: clinical assessment and management NICE guideline) as a means to monitor disease and intervention outcomes.

Encouraging patients with multimorbidity to take responsibility of their health by having their personal data (from MRI, circulating biomarkers and any future new metrics) reported in a portable format that they own for life, akin to the blue notes for pregnancy or red book for children, will promote shared decision making, patient self-determination[8] and behaviour change. This harmonises with recommendations 1.6.6 to 1.6.8 of the multimorbidity: clinical assessment and management NICE guideline, which asks people with multimorbidity to clarify what is important to them, including personal goals, values and priorities.

Whilst liver biopsy remains the 'gold standard' method for diagnosing liver disease, it is invasive, costly and only examines 0.002% of the liver leading to significant intra-and inter-observer variability in histological interpretation[9]. Use of MRI examinations can reduce biopsy requirement by 16%, saving £150,218 per 1,000 patients and does not suffer from the same limitations as ultrasound such as poor acoustic windows in obese patients[10]. Furthermore, MRI analysis can detect changes in hepatic lipids, proton density fat fraction (PDFF), left-ventricular function, myocardial mass and carotid plaque between

prediabetic, diabetic and healthy population allowing the stratification of high-risk patients[11]. MRI does not require the use of ionising radiation and is therefore more suitable than other imaging modalities, such as computed tomography (CT).

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			NCD Risk Factor Collaboration (NCD-RisC): Worldwide trends in diabetes since 1980: a pooled analysis of 751 population-based studies with 4.4 participants. Lancet 2016; 387:1513-1530.
44	IND2	**Alzheimer's Research UK**	We would support this approach. Four of the five most common comorbidities people living with dementia are admitted to hospital for in the UK are preventable conditions, such as a fall, fractured hip or hip replacement.
45	IND2	**British Medical Association**	IND2: The practice can produce a register of people with moderate to severe frailty We support the inclusion of this new indicator.
46	IND2	**Managing Adult Malnutrition in the Community**	Frailty – ageing and frailty can affect our activities of daily living and mealtime routines which can lead to reduced nutritional intake, eating and drinking become more difficult due to physical challenges for example, ability to cook, use cutlery, chew, swallow or see food and drink. Malnutrition and frailty are intrinsically linked[1,2]. The Managing Adult Malnutrition in the Community document is an endorsed resource under NICE CG32 and NICE QS24 and it is endorsed by a number of multi-professional bodies we would therefore recommend that nutritional screening, assessment and management should be incorporated into the Frailty pathways. References 1. Gossier S, Guyonnet S and Volkert D. The Role of Nutrition in Frailty: An Overview. The Journal of Frailty & Aging 2016; 5(2) JAMDA. Frailty Consensus: A Call To Action. 2013; 14: 391-397
47	IND2	**National Pharmaceutical Advisers Group (PAG)**	Agree – frailty is a good indicator for likelihood of hospital admission and risk of deterioration of overall health and outcomes. These patients would benefit from closer monitoring to reduce risk of deterioration.
48	IND2	**Public Health England**	A new indicator which requires the production of a register of people with moderate-severe frailty is a welcome addition, and ideally would be considered for inclusion in the QOF. Disaggregation by the severity of frailty is important, and we would also encourage consideration of the inclusion of mild frailty in the register in future, to support practices to reduce progression of frailty in patients, where possible.
49	IND2	**Individual**	I welcome the inclusion of an indicator around frailty as both an important incentive to give higher quality data around prevalence of frailty but also to help motivate clinical teams to better recognise and respond to frailty as a clinical issue. I am concerned as to how frailty is to be measured and quantified. The proposal is "use of an evidenced based tool and clinical judgement" and there is linkage to the NICE Multimorbidity Guidance suggest use of PRISMA or formal gait speed. Was the 'and' expected to be an 'or'?

			I recognise that these frailty assessments have evidence base and are practical within primary care but there is potential for disruptive mixed messaging here: Currently there is extensive work ongoing in implementing the Electronic Frailty Index within primary care as well as extensive piloting of the Clinical Frailty Score (Rockwood) in secondary care. This QOF is an important moment to further embed these important practices within high quality care. Introducing Timed Get Up and Go or PRISM additionally and not including EFI / CFS appears to be an opportunity lost and a way to increase confusion. Please consider specifically including EFI /CFS as the method indicators here.
50	IND2	**Royal College of General Practitioners**	IND2: The practice can produce a register of people with moderate to severe frailty **New** **We support this indicator.** However, as above, the correct tools must be used to implement this change.
51	IND14	**Alzheimer's Research UK**	Treatment burden can lead to an exacerbation of someone's dementia. Regular medication reviews should lead to greater consideration of different conditions and the impact their treatments may be having on their overall care and wellbeing. We would support this approach, however we would urge greater consideration be given to the difficulty those with dementia may have in communicating the impact of treatment burden.
52	IND14	**British Medical Association**	IND14: The percentage of patients with moderate or severe frailty and/or multimorbidity who have received a medication review in the last 12 months which is structured, has considered the use of a recognised tool and taken place as a shared discussion. We recognise the importance of medication reviews in these patients but consider the wording of this proposed indicator to be over-prescriptive and not emphasise sufficiently the importance of deprescribing. We would recommend alteration of the wording to 'The percentage of patients with moderate or severe frailty and/or multimorbidity who have (or their carers have) participated in a medication review in the last 12 months which included consideration of deprescribing.'
53	IND14	**National Pharmaceutical Advisers Group (PAG)**	Proportion of patients classed as moderately or severe frailty would benefit from a medication review and this is supported by the frequency of hospital admissions due to medication related incidents. This should reduce polypharmacy that also contributes towards adverse effects.
54	IND14	**Novartis Pharmaceuticals UK Ltd**	Patients follow various pathways to the diagnosis of heart failure, however, few appear to follow a pathway supported by guidelines for investigation and referral. Consequently, there are likely to be missed opportunities for earlier heart failure diagnosis in primary care.[1] We therefore recommend taking the opportunity to proactively recognise conditions of multi-morbidity (e.g. heart failure, diabetes and hypertension) as part of existing multi-morbidity assessment processes, to help support improved early identification of such conditions.

			Specifically, we suggest the wording of IND14, "use of a recognised tool", is ambiguous and subject to differing interpretations. For clarity, we advocate defining "use of a recognised tool" as, for example, **"the use of appropriate blood tests to diagnose conditions of multi-morbidity as early as possible".** **References:** 1. Cowie M, Bottle A, Kim D et al. Routes to diagnosis of heart failure: observational study using linked data in England. Heart 2018;104:600-605. Accessed May 2019: https://www.ncbi.nlm.nih.gov/pubmed/28982720
55	IND14	**Public Health England**	The proposed new indicator covering both patients with moderate and severe frailty and multimorbidity receiving a medicine review is a sensible one in that a) both groups of patients (frail and living with multiple conditions) are covered by one indicator and b) reviewing medicines in a structured fashion is to be supported.
56	IND14	**Royal College of General Practitioners**	IND14: The percentage of patients with moderate or severe frailty and/or multimorbidity who have received a medication review in the last 12 months which is structured, has considered the use of a recognised tool and taken place as a shared discussion. **New** **We support this indicator.** However, the focus on medication may take focus away from more holistic conversations about a patients' care, including areas that may benefit from deprescribing. We suggest this be included in the indicator explicitly
57	IND14	**South Eastern Hants CCG**	Consider using a recognised tool – how do you document this /code it accurately seems very vague
58	IND14	**Taskforce on Multiple Conditions**	1. See response to IND1. 2. We fully support annual medication review for patients with MMB. However, as above, the threshold of 4+ conditions will mean that many who would benefit (perhaps more) from this review will be excluded from this measure. 3. The element of shared meaningful discussion is critical to this review, and we would encourage framing this as an opportunity for healthcare professionals to have a wider conversation about an individual's personal care and support needs, social circumstances, emotional health and so on. We view these indicators as an important first step on a pathway towards practices improving their ability to identify MMB and/or frail patients, in order to better support them. These indicators focus on whether a register exists, but in an ideal world would also look at whether any tailored care actually occurs on the back of such a register (beyond the medication review). We would support this as a longer-term ambition.
59	IND15.1	**British Medical Association**	IND15.1: The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months Should be this aligned with the wording in the GMS contract, then we could support:

			'The percentage of patients (aged 65 years and over) with moderate or severe frailty who have had a discussion about whether they have fallen, recorded in the last 12 months' We believe that patient or carer recall of numbers of falls is likely to be poor and recording inaccurate.
60	IND15.1 and IND15.2	**Managing Adult Malnutrition in the Community**	Falls Prevention – nutritional status is an independent predictor of falls in older people in the community and improvement of nutritional status[1] has been found to reduce falls risk[2]. We would therefore recommend nutritional screening, assessment and management should be incorporated into the falls pathways. References 1. Chien MH and Guo HR. Nutritional status and falls in community-dwelling older people: a longitudinal study of a population-based random sample. PLoS One. 2014. www.ncbi.nlm.nih. gov/pubmed/24614184 2. Neyens et al. Malnutrition is associated with an increased risk of falls and impaired activity in elderly patients in Dutch residential long-term care: A cross-sectional study. Archives of Gerontology and Geriatrics. 2013; 56(1): 265-269.
61	IND15.1	**National Pharmaceutical Advisers Group (PAG)**	Frequency of falls is associated with frailty and adverse effects of some medicines and falls are a leading cause of hospital admission in the elderly with fractured neck of femur contributing to poor outcomes and worsening of frailty due to admission.
62	IND15.1 and IND15.2	**Nutricia Advanced Medical Nutrition**	Nutritional status and screening for malnutritional risk should be documented for those that have reported having a fall. https://www.ncbi.nlm.nih.gov/m/pubmed/21528166/ ; https://www.ncbi.nlm.nih.gov/m/pubmed/22836709/?i=2&from=/21528166/related; https://www.ncbi.nlm.nih.gov/m/pubmed/29460785/)
63	IND15.1	**Public Health England**	IND 15.1 This indicator is strongly supported – previously this indicator only applied to patients living with severe frailty. This group is likely to already be known to services. Expert consensus provided by clinical leads in the field following a previous consultation on the eFI from NHS England conclude that the group of people living with moderate frailty are the single largest identifiable patient group with a capacity to significantly benefit from falls prevention interventions such as strength and balance exercise programmes and many are likely to not be currently engaged
64	IND15.1	**Resuscitation Council (UK)**	For clarity we suggest a change of wording from '*The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months*'. It is unclear whether your intention is only to record whether the question has been asked in the past 12 months, or whether the question itself is also intended to elicit the number and type of falls in the 12 months preceding the question. If the latter is correct, we suggest a change to: '**The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked in the last 12 months whether they have had a fall in the previous 12 months, about the total number of falls in the previous 12 months and about the type of falls**.' If the question is not intended to ask about the preceding 12 months, the wording should be '**The percentage of patients (aged 65 years**

			and over) with moderate or severe frailty who have been asked in the last 12 months whether they have had a fall, about the total number of falls and about the type of falls.'
65	IND15.1	**Royal College of General Practitioners**	IND15.1: The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months **New** **We support this indicator.** This indicator, and indicator 15.2 are very complex. There is value in collecting data relating to patients at risk of falling. However, professionals should be trusted to act appropriately when risks are identified, depending on the availability of local service provision.
66	IND15.2	**British Medical Association**	IND15.2 The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months, were found to be at risk and have been provided with advice and guidance with regard to falls prevention (in the last 12 months). We oppose this indicator. Our concerns regarding IND15.1 apply here too and the professionalism of the clinician should be relied on to take appropriate action once a significant problem has been identified. This indicator is likely to become an automatic 'tick-box' exercise and so the recording will not indicate whether useful help has been offered.
67	IND15.1 and IND15.2	**Managing Adult Malnutrition in the Community**	Falls Prevention – nutritional status is an independent predictor of falls in older people in the community and improvement of nutritional status[1] has been found to reduce falls risk[2]. We would therefore recommend nutritional screening, assessment and management should be incorporated into the falls pathways. References 3. Chien MH and Guo HR. Nutritional status and falls in community-dwelling older people: a longitudinal study of a population-based random sample. PLoS One. 2014. www.ncbi.nlm.nih. gov/pubmed/24614184 4. Neyens et al. Malnutrition is associated with an increased risk of falls and impaired activity in elderly patients in Dutch residential long-term care: A cross-sectional study. Archives of Gerontology and Geriatrics. 2013; 56(1): 265-269.
68	IND15.2	**National Pharmaceutical Advisers Group (PAG)**	As above but could be combined with 15.1
69	IND15.1 and IND15.2	**Nutricia Advanced Medical Nutrition**	Nutritional status and screening for malnutritional risk should be documented for those that have reported having a fall. https://www.ncbi.nlm.nih.gov/m/pubmed/21528166/ ; https://www.ncbi.nlm.nih.gov/m/pubmed/22836709/?i=2&from=/21528166/related; https://www.ncbi.nlm.nih.gov/m/pubmed/29460785/)
70	IND15.2	**Public Health England**	IND 15.2 Intervening following the identification of patients at risk of falls is to be welcomed. However, the term 'provision of advice and guidance' is too vague. It would be preferable to specify exactly what sort of advice and guidance was provided e.g. on key risk factors such as physical activity, sensory impairment, the home environment, medicines (see comment

			above), alcohol use and adequate nutrition and hydration, any conditions that the patient is suffering from that might increase risk and relevant local services…Also to note – there is no evidence that information provision reduces the rate / risk of falls.
71	IND15.2	**Royal College of General Practitioners**	IND15.2 The percentage of patients (aged 65 years and over) with moderate or severe frailty who have been asked whether they have had a fall, about the total number of falls and about the type of falls, in the last 12 months, were found to be at risk and have been provided with advice and guidance with regard to falls prevention (in the last 12 months). **New** **We do not support this indicator.** This indicator, and indicator 15.2 are very complex. There is value in collecting data relating to patients at risk of falling. However, professionals should be trusted to act appropriately when risks are identified, depending on the availability of local service provision.