

## ANALYSIS

# The challenge of ageing populations and patient frailty: can primary care adapt?

Making frailty an integral part of primary care is not without considerable challenges, explain **David Reeves and colleagues**

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Healthcare systems worldwide are challenged to meet the needs of increasingly ageing populations, characterised more by multimorbidity and declining physical and mental function than by the individual acute diseases for which these systems were originally designed.<sup>1</sup> Especially problematic is the increasing number of frail elderly people. Frailty is a condition characterised by age related decline across multiple physiological systems,<sup>2</sup> resulting in high vulnerability to adverse health outcomes, including dependency, need for long term care, and mortality.<sup>3</sup>

Responding to these challenges, healthcare policy in the UK and many other countries<sup>4</sup> has increased its focus on the complex interplay between the multiple health problems frequently encountered in older people and the need to develop integrated and multidisciplinary health and social services. In the NHS, primary care is mainly delivered by general practitioners, medical generalists who also act as gatekeepers to specialist service providers. Primary care is typically the first point of contact for NHS patients (the majority of the population) so is considered the natural hub for integrated activity. Most GPs work in group practices, where several GPs are supported by ancillary medical and administrative staff. Practices are organised into Clinical Commissioning Groups responsible for planning and commissioning local healthcare services. Although practices are independent contractors, almost all practice funding comes from the UK government through the general medical services (GMS) contractual arrangement.

The UK primary care model, with its emphasis on holistic care and centralised policy, would seem well suited to meet the changing healthcare needs of an ageing population. In this context, the 2017 GMS contract for England introduced a new requirement for general practices to identify and appropriately

manage all patients aged 65 or over with moderate or severe frailty.<sup>5</sup> This reflects expanding international activity around frailty screening and assessment in primary care, using a wide variety of frailty measures<sup>6</sup>—foremost in Canada<sup>7</sup>, Europe,<sup>8</sup> and Scandinavia.<sup>9</sup> But to the best of our knowledge the UK is first to implement national policy on frailty screening and stratification, although the Netherlands conducted a four year national research programme into improving frailty care.<sup>10</sup>

Under the UK GMS contract changes, all patients identified with severe frailty should receive annual reviews of medications and falls and should receive appropriate interventions (box 1).<sup>11</sup> Practices are also encouraged to “go further” by organising comprehensive geriatric assessments and personalised care planning where appropriate.<sup>12</sup> The long term goal is to establish frailty assessment as an integral part of routine primary care practice and to improve the ability of GPs to organise high quality care for their more complex older patients, both in primary care and in collaboration with other services. The BMA has tried to reassure GPs that the work around frailty will not increase overall bureaucratic burden and will not undermine professional autonomy.<sup>11</sup> Furthermore, the National Institute for Health and Care Excellence has proposed that increased costs from longer appointments, training, and treatment optimisation will be offset by factors such as fewer unnecessary appointments, prescriptions, and unplanned admissions.<sup>13</sup>

**Box 1: 2017-18 GMS contract change on the identification and management of frailty**

Extract from the official contract outcomes letter sent to all primary care providers<sup>11</sup>:

"Practices will use an appropriate tool, eg, the electronic frailty index (eFI), to identify patients aged 65 and over who are living with moderate and severe frailty. For those patients identified as living with severe frailty, the practice will deliver a clinical review providing an annual medication review and, where clinically appropriate, discuss whether the patient has fallen in the last 12 months and provide any other clinically relevant interventions. In addition, where a patient does not already have an enriched summary care record (SCR), the practice will promote this by seeking informed patient consent to activate the enriched SCR.

Practices will code clinical interventions for this group appropriately . . . Data will be collected on the number of patients recorded with a diagnosis of moderate frailty, the number of patients with severe frailty, the number of patients with severe frailty with an annual medication review, the number of patients with severe frailty who are recorded as having had a fall in the preceding 12 months, and the number of severely frail patients who provided explicit consent to activate their enriched SCR. NHS England will use this information to understand the nature of the interventions made and the prevalence of frailty by degree among practice populations and nationally. This data will not be used for performance management purposes or benchmarking purposes."

Making frailty integral to primary care, however, has important challenges, including the acceptability to primary care professionals and patients of frailty as a relevant concept; robust and efficient assessment of patient frailty; effective use of that information to improve care planning and patient outcomes; and convincing already overstretched<sup>14</sup> primary care professionals that this approach will ultimately reduce, or at least not increase, their workloads.

**Prevalence of frailty in the UK**

Estimated prevalence rates of frailty in the population vary widely depending upon the measure used.<sup>15</sup> For the GMS contract, NHS England uses estimates based on the electronic frailty index (eFI)<sup>16</sup> and the ResearchOne database, which indicate that 3% of 207 720 people aged 65 and older are severely frail, and another 12% are moderately frail.<sup>16</sup> Replicating this in the Clinical Practice Research Datalink (CPRD) primary care database, we found similar rates: 2.7% and 10.2% of 964 486 patients, respectively (table 1). Based on this, the average GP practice of 7000 patients will have around 30 severely and 100 moderately frail patients.

**Challenges to adopting the frailty agenda in primary care****Acceptance of frailty as a relevant concept for primary care**

Frailty is not the only approach to identifying elderly patients with complex management needs. A focus on frailty replaced a previous initiative in the GMS contract that focused on patients at risk of an unplanned hospital admission, which was highly unpopular with GPs for various reasons, including excessive bureaucracy.<sup>11</sup> Another advocated approach is to focus on multimorbidity—people with two or more chronic conditions—and NHS England has published guidelines for multimorbidity management in primary care.<sup>17</sup> Overlap between these groups is less than one might expect: using ResearchOne, we found that more than half the patients in the top 2% of eFI scores were in neither the top 2% of multimorbidity counts nor the top 2% of unplanned admission risk. Regardless, implementing different schemes and guidelines for each group is unduly complex and inefficient, especially as they share several core management elements (medicines review, personalised assessment, care planning). In addition, more than 25% of adults have two or more chronic conditions,<sup>18</sup> hence the

multimorbidity guidelines require additional factors to be present such as frailty, risk for unplanned care, or management complexity,<sup>17</sup> further blurring distinctions between the groups. Although frailty is the more complex concept, it has a strong theoretical basis related to its origins in geriatric medicine.<sup>19</sup>

A focus on frailty aligns well with the generalist perspective of primary care and can motivate constructive dialogue between the primary care team, the patient, and key carers around frailty appropriate care and support needs. GPs might be of the opinion, however, that they are already aware of their relevant patients and are meeting their needs without labelling them frail. They may even view frailty as unnecessary medicalisation or oversimplification of a patient's medical complexity.<sup>20</sup> A frailty label also carries substantial stigma for many people through association with loss of independence and end of life and can deter people from seeking support or make them fear being denied sought after care.<sup>21</sup> This can close discussion down, instead of opening it up. Changing such perceptions of frailty will need a longer term focus, but there are precedents in the evolution of public understanding and acceptance of diagnoses such as cancer or dementia.

Frailty focuses solely on health deficits, an approach that has been criticised for undervaluing the effects of cognitive, material, and social capacities on a person's ability to manage their health and on clinical decisions about their care<sup>22</sup>—equally frail individuals may have very different access to social network support or abilities to manage their treatment burdens. Rather than making frailty identification irrelevant, however, this re-emphasises the importance of using a frailty diagnosis less as a label but more as an opportunity for a holistic discussion around care needs and the support and services required, in the broadest possible sense—not only health but also personal, public, private, voluntary, and community resources.<sup>23</sup> The argument for placing frailty in this broader context has strong theoretical underpinnings in the literature of cumulative complexity and minimally disruptive medicine.<sup>22,24</sup> Although this goes well beyond what most GPs have traditionally seen as their role and what practices are currently set up to do, it seems essential to the goal of providing the best possible personalised care.

**Identification of frail patients**

Frailty is a complex medical condition and correctly identifying those affected can be problematic. NHS England recommends a two stage process: an initial screen followed by direct clinical verification. The eFI is proposed by NHS England as an "appropriate tool" for screening<sup>12</sup> and generates a frailty rating (fit, mild, moderate, or severe; table 1) from a patient's primary care electronic health record, based on the accumulation of up to 36 health "deficits" (box 2). Now available in all general practices in England, the eFI can rapidly screen all registered patients using their healthcare records alone. The tool has shown moderate to good discrimination for the outcomes of mortality, unplanned hospitalisation, and nursing home admission.<sup>16</sup>

**Box 2: List of the 36 deficits making up the electronic frailty index (eFI)**

Activity limitation  
 Anaemia and haematinic deficiency  
 Arthritis  
 Atrial fibrillation  
 Cerebrovascular disease  
 Chronic kidney disease  
 Diabetes  
 Dizziness  
 Dyspnoea  
 Falls  
 Foot problems  
 Fragility fracture  
 Hearing impairment  
 Heart failure  
 Heart valve disease  
 Housebound  
 Hypertension  
 Hypotension or syncope  
 Ischaemic heart disease  
 Memory and cognitive problems  
 Mobility and transfer problems  
 Osteoporosis  
 Parkinsonism and tremor  
 Peptic ulcer  
 Peripheral vascular disease  
 Polypharmacy  
 Requirement for care  
 Respiratory disease  
 Skin ulcer  
 Sleep disturbance  
 Social vulnerability  
 Thyroid disease  
 Urinary incontinence  
 Urinary system disease  
 Visual impairment  
 Weight loss and anorexia

The accuracy of the initial screen is a major factor in the overall efficiency of the identification process. Screening tools other than the eFI can be used and may identify different sets of people,<sup>25</sup> but no consensus exists on which performs best. To our knowledge, most UK practices are using the eFI. Anecdotal reports from GPs and early pilots of the eFI<sup>26</sup> have indicated that, although classifications do not always correspond with subsequent clinical judgment, the degree of mismatch may be within acceptable limits.<sup>26</sup>

Even so, improvements in screening accuracy could produce substantial efficiency gains. The eFI analyses a patient's entire electronic health record, but the Clinical Practice Research Datalink shows a strong association with length of registration, implying underestimation for short records (<10 years), overestimation for long records, or both (fig 1). All deficits are treated as non-resolvable, so conditions recorded many years ago but not since, including some acute events such as urinary tract infections, count towards the current frailty score. Hence introducing criteria for the frequency of codes and how recently they were recorded might improve alignment with clinical diagnosis. Efficiencies might also be gained by introducing differential weighting of the included deficits and by basing the thresholds for frailty on clinical, rather than the current

statistical, criteria. To these ends, we are currently carrying out a study using a panel of GPs to evaluate modifications to the tool to improve its efficiency as a screening instrument.<sup>27</sup>

## Frailty and care management

Accurate identification of frailty is important but has little point unless it makes a difference to patients. The minimum contract requirement that all severely frail patients receive annual reviews of medications and falls is arguably already expected under NHS quality standards.<sup>28 29</sup> To have a transformative effect on patient care, practices will need to commit to doing more. The main NHS England recommendation, depending on individual need, is a brief comprehensive geriatric assessment (CGA) and personalised care plan,<sup>12</sup> with multidisciplinary CGA or less intensive GP led "holistic medical review" where appropriate. The supporting evidence base, however, is not strong. A well conducted review of CGA in community based people with multimorbidity found clinically important benefits for mortality and care home admissions, but limited effect on quality of life and no benefit for unscheduled care or functional outcomes.<sup>17</sup> An earlier meta-analysis of 24 trials of geriatric assessment of people selected as frail reported a small effect on hospital admissions only.<sup>30</sup> Three later randomised trials of CGA in the Netherlands' frailty care programme found almost no clinical benefits.<sup>31</sup> Available evidence for cost effectiveness is inconsistent and inconclusive.<sup>17 31 32</sup>

Most of this evidence is weak, however, and NHS England recommends further research based on the potential benefits for some critical outcomes.<sup>17</sup> Benefits may also be more certain for more resource intensive interventions<sup>17</sup> and for some patient subgroups.<sup>30</sup> Developing greater understanding of approaches that work and for whom will nevertheless take considerable time. More immediately, finding ways to streamline frailty related work would help. Examples include replacing condition specific annual reviews with a single holistic review for those with severe frailty and introducing a primary care nursing role for frail people, as exists in some other countries and with which some UK services are experimenting.<sup>33</sup> The expansion of clinical pharmacists in general practice teams and nursing homes can facilitate greater use of medication review, and more efficient means of delivering CGA and care planning could also help, such as geriatrician "outreach" clinics in primary care and involvement of carers and the voluntary sector in care planning.<sup>34 35</sup> Using frailty information more directly in management decisions might also bring efficiencies.<sup>19</sup> Adequate discussion of this is beyond the current article, but one example would be having specific guidelines for subgroups of frail older people, such as people with type 2 diabetes.<sup>36</sup> Such initiatives may already be happening locally, but frailty could offer opportunities on a national scale.

## Conclusion

The goal of making frailty an integral part of primary care practice provides opportunities for beneficial change but is not without considerable challenges (box 3). Further developments could help overcome the many current limitations and obstacles, but in the overstretched UK primary care system, the acid test is likely to be whether GPs find that a focus on frailty helps to reduce, rather than increase, professional burden in dealing with their most complex patients, while also benefiting their older patients with frailty.



**Box 3: Potential benefits and disadvantages of frailty in primary care****Potential benefits**

Help primary care professionals focus on managing the person as a whole, rather than on care for single diseases

Provide an opportunity for constructive dialogue with patients and families or carers about care goals and the services required, in the broadest sense

Improve coordination of care and outcomes for older people with frailty

Help reduce professional burden in dealing with complex patients

Decrease treatment burden for patients and unnecessary or harmful testing and drugs

Help identify patients who are more likely to benefit from specific interventions, regardless of age

Help identify those at risk of increasing frailty and offer preventive programmes

**Potential disadvantages**

May increase practice workload without adequate compensatory benefits

Might not produce the anticipated improvements in clinical outcomes or quality of life

Could be viewed as overmedicalisation and oversimplification of complex problems

Negative connotations of the label "frail" may undermine acceptance and interfere with the care planning process

By itself does not take into account a patient's personal and social capacities

More efficient means are needed for robustly identifying frail patients and for planning and delivering frailty appropriate care

**Key messages**

Increasing numbers of frail older people are a major concern to health services worldwide

In the UK, primary care is at the frontline of policy attempts to meet this challenge, but making frailty an integral part of primary care practice is challenging

GPs need convincing that this will help to reduce, rather than increase, professional burden in dealing with complexity, whilst also benefiting their older patients living with frailty

Future developments should focus on improving the identification of frail patients and the planning and delivery of frailty appropriate care, taking into account individual patient capacities and circumstances as well as frailty status

**Contributors and sources:** The idea for this article originated from an ongoing research programme around patient frailty. HvM and TB are academic GPs experiencing firsthand the implementation of the frailty agenda in their practices. AC is a consultant geriatrician who led the original development of the eFI and was involved in planning the frailty element of the new GMS contract. DR is principal investigator on an ongoing study to improve the current eFI, on which SP leads the statistical analysis. DR, SP, HvM, and DMA conceived of the article. DR wrote the manuscript with contributions and comments from SP, AC, HvM, EK, DMA, and TB. SP performed the statistical analysis. DR is guarantor of the article.

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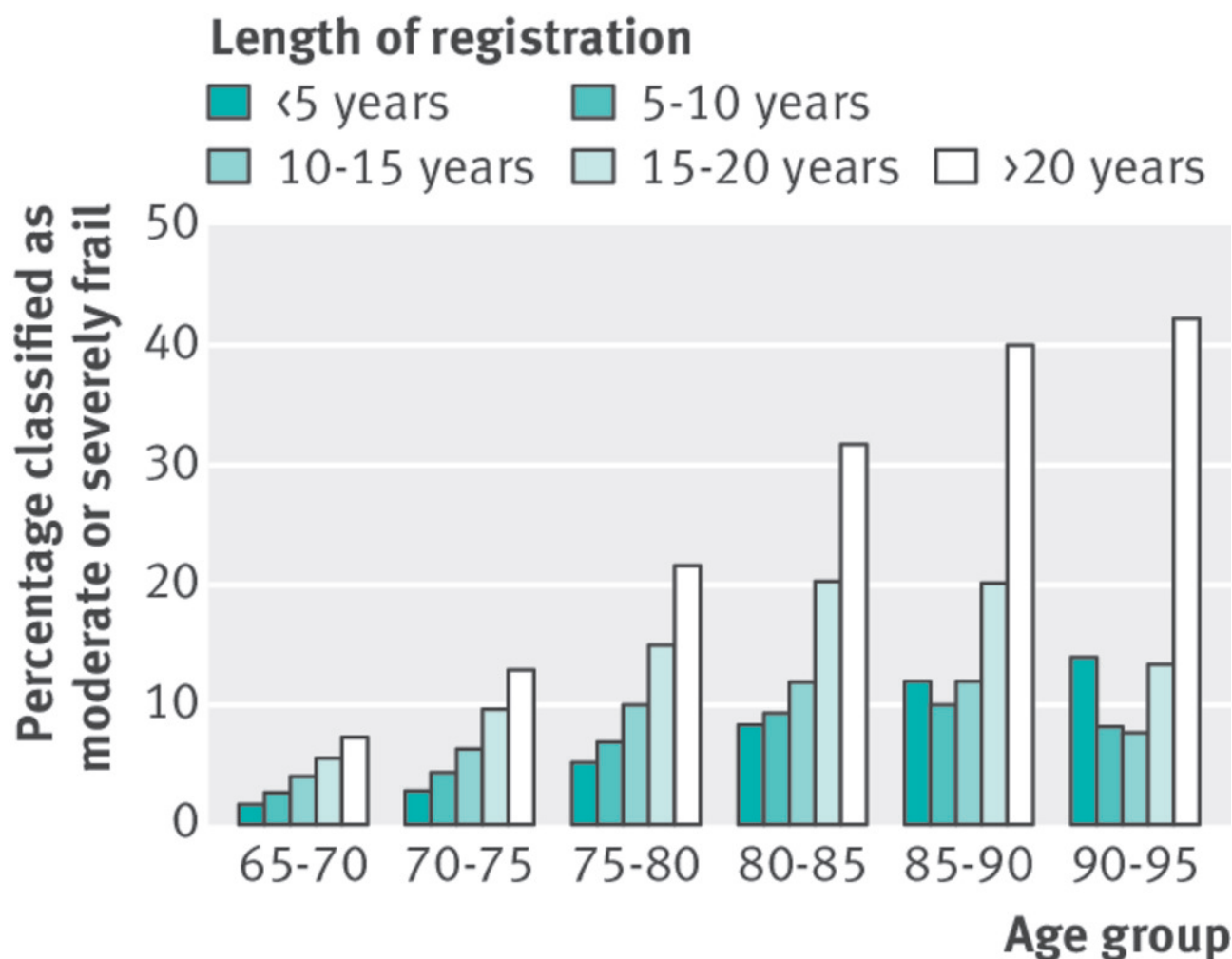


## Table

**Table 1** | Frailty categories and prevalence rates in 964 486 people aged 65 to 95 on 1 January 2015, from analysis of the Clinical Practice Research Datalink

Frailty category	eFI score range	Prevalence	
		n	%
Fit	0-0.12	591 527	61.3
Mild	>0.12-0.24	248 986	25.8
Moderate	>0.24-0.36	98 096	10.2
Severe	>0.36	25 877	2.7

Figure



**Fig 1** Association between length of registration with GP practice, age group, and frailty classification from Clinical Practice Research Datalink data