




# BMJ Open Understanding the implementation of interventions to improve the management of frailty in primary care: a rapid realist review

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## ABSTRACT

**Objective** Identifying and managing the needs of frail people in the community is an increasing priority for policy makers. We sought to identify factors that enable or constrain the implementation of interventions for frail older persons in primary care.

**Design** A rapid realist review.

**Data sources** Cochrane Library, SCOPUS and EMBASE, and grey literature. The search was conducted in September 2019 and rerun on 8 January 2022.

**Eligibility criteria for selecting studies** We considered all types of empirical studies describing interventions targeting frailty in primary care.

**Analysis** We followed the Realist and Meta-narrative Evidence Syntheses: Evolving Standards quality and publication criteria for our synthesis to systematically analyse and synthesise the existing literature and to identify (intervention-context-mechanism-outcome) configurations. We used normalisation processes theory to illuminate mechanisms surrounding implementation.

**Results** Our primary research returned 1755 articles, narrowed down to 29 relevant frailty intervention studies conducted in primary care. Our review identified two families of interventions. They comprised: (1) interventions aimed at the comprehensive assessment and management of frailty needs; and (2) interventions targeting specific frailty needs. Key factors that facilitate or inhibit the translation of frailty interventions into practice related to the distribution of resources; patient engagement and professional skill sets to address identified need.

**Conclusion** There remain challenges to achieving successful implementation of frailty interventions in primary care. There were a key learning points under each family. First, targeted allocation of resources to address specific needs allows a greater alignment of skill sets and reduces overassessment of frail individuals. Second, earlier patient involvement may also improve intervention implementation and adherence.

**PROSPERO registration number** The published protocol for the review is registered with PROSPERO (CRD42019161193).

## Strengths and limitations of this study

- ⇒ To our knowledge, this is the first realist review to explore factors supporting or inhibiting frailty interventions in primary care.
- ⇒ The synthesis was constructed based on Realist and Meta-narrative Evidence Syntheses: Evolving Standards standards entailing development and comparative analysis of intervention-context-mechanism-outcome configurations.
- ⇒ Normalisation process theory constructs helped us to highlight factors surrounding the implementation of interventions.
- ⇒ There was wide heterogeneity in the reporting of implementation processes, with more data for interventions that entailed qualitative evaluations.
- ⇒ The analysis focused on a defined 'frail' population within primary studies and excluded related elderly populations who were not diagnosed with frailty.

## INTRODUCTION

Frailty is a promising but also somewhat contested multidimensional syndrome characterised by a reduction in resilience due to the accumulation of health deficits.<sup>1–3</sup> It tends to be progressive, leading to loss of independence, often triggered by a stressor event such as an episode of acute illness.<sup>3</sup> Frailty places individuals at risk of adverse health outcomes, including falls, unplanned hospitalisation and death.<sup>1</sup> It is highly prevalent among older people, increasing from 4% in people aged 65–69 years to greater than 16% in those aged 80 years and over.<sup>4–6</sup> The heterogeneity of frailty status also increased the challenges of understanding a frailty intervention due to the differences between individuals' capacity (eg, prefrail and frail).<sup>7</sup> Informed by emergent evidence, targeted support from health and care services is now advocated to improve the lives and outcomes for older people with frailty.<sup>1 8 9</sup>

Interventions using exercise, nutritional supplementation and comprehensive geriatric assessment (CGA) appear to be effective in improving frailty among older people in a hospital setting.<sup>10 11</sup> The NHS Long Term Plan issued a new CGA guideline to support primary care providers working with older people.<sup>12</sup> However, a recent systematic review highlighted limited and mixed evidence concerning the introduction of CGA offered in the primary care setting to those perceived to be the most vulnerable older people.<sup>13</sup> There is a need to ensure that frailty interventions are adaptable because of the mixed evidence, for example, the interventions improved adherence to medications but show no improvement in functional outcome.<sup>13</sup> Furthermore, the diversity of interventions targeting frailty increases the challenge to define the best intervention that could be used to identify, assess and manage frailty in older people.<sup>7</sup> The Fistera guideline in Spain updated in 2020 'Frail elderly people: detection and management in primary care' highlighted that the most effective interventions in frailty are physical exercise and medication.<sup>14</sup>

However, there is no clear definition or tool for identifying frailty, and the lack of evidence regarding the usefulness of its detection is still considered to be a significant barrier to identifying and managing frailty in primary care.<sup>15</sup> Accordingly, screening for frailty in primary care is unlikely to translate into improved clinical outcomes in the absence of a clear evidence for clinical decision-making.<sup>15</sup> Moreover, without an active involvement of older patients in the study design and development of care plan related to frailty, it might negatively affect the impact of the intervention outcomes and its implementation.<sup>16</sup>

Therefore, recognising and acknowledging frailty in professional daily practice might help to enhance a better understanding of a person's frailty, which might help to overcome the challenges of providing good care for an expanding ageing population. Our study sought to gain greater clarity of factors that impact the implementation of frailty interventions in primary care.

## METHODS

### Objective

We conducted a rapid realist review (RRR) of the literature to understand the factors that support or inhibit implementation of frailty interventions in primary care.

### Patient and public involvement

No patients or public were involved in this study.

### Study design

This study has been informed by the principles underpinning RRR<sup>17</sup> in conjunction with normalisation process theory (NPT).<sup>18</sup> The published protocol for the review is registered with PROSPERO (CRD42019161193).<sup>19</sup> The reporting of this review is consistent with the Realist and Meta-narrative Evidence Syntheses: Evolving Standards publication standards.<sup>20</sup>

As stated by Saul *et al*, RRR methodology focuses on identifying 'families of interventions' (I) and to then explain why they produce 'outcomes' of interest (O) through generating specific changes in 'context' (C) that trigger particular 'mechanisms' (M).<sup>21</sup> This approach to applying realist methodology is particularly useful when research findings need to be rapidly adapted and iteratively refined to take account of emerging evidence in intervention development.<sup>21</sup> We considered implementation of frailty interventions in primary care through analysis of intervention-context-mechanism-outcome (ICMO) configurations. Reflecting our primary objective, our main outcome of interest was evidence of implementation. Realist methodology was appropriate as it allowed an illumination of the interactions between these configurations, particularly within the context of complex interventions implemented in primary care.

NPT is a theory of implementation that focuses on the work people do surrounding the implementation of new sets of practices.<sup>22 23</sup> NPT proposes four constructs, 'generative mechanisms', which characterise different types of work that 'people do as they work around a set of practices'.<sup>23</sup> The four NPT constructs comprise: coherence 'sense-making work', cognitive participation 'relational work to build and sustain a community of practice', collective action 'operational work to enact a set of practices' and reflexive monitoring 'formal and informal assessment of the new sets of practice'.<sup>23 24</sup> For the purposes of this study, NPT provided a sensitising framework to help consider mechanisms that enabled or constrained implementation of frailty interventions in primary care.

### Search process

#### Literature search

To obtain the relevant papers for review, groups of Medical Subject Headings and keywords highlighted (online supplemental table S1) were used to screen for English language articles. The first reviewer (KA) conducted an initial scoping search to develop familiarity with the various kinds of frailty interventions relevant to primary care settings in March 2019. Subsequently, iterative and progressively more focused searches were used and run in September 2019. The search was then rerun on 8 January 2022 to update our results. An electronic literature search was conducted using the following bibliographic databases: Cochrane Library, SCOPUS and EMBASE. Full search strategies for all databases were included in online supplemental table S1.

#### Data selection

The data selection process was performed in two stages with no time period restrictions. All forms of study design were included in order to present a comprehensive exploration of factors surrounding implementation, with acknowledgement that there might be varying strengths of evidence. Using the primary exclusion criteria, KA screened the papers to ensure the eligibility to the study's

**Table 1** Primary and secondary exclusion criteria for the primary search

Primary exclusion criteria to screen (title and abstract)	Secondary exclusion criteria to screen (full text)
<ul style="list-style-type: none"> <li>▶ Studies not written in English.</li> <li>▶ Studies that include participants who are not human.</li> <li>▶ Studies where the primary focus was not on the care of frail older people, for example, studies only focused on the prefrail population.</li> <li>▶ Studies which focused on managing a specific condition in frail individuals.</li> <li>▶ Studies which were letters, notes or conference abstracts only.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Studies where there was no description of any intervention or guidelines.</li> <li>▶ Studies that did not report any outcome or results.</li> <li>▶ Studies where there were no primary care elements.</li> <li>▶ Studies in which further information to make an assessment could not be obtained.</li> <li>▶ Studies where there was no description or detail on how frail individuals were included in the study.</li> </ul>

aim (table 1). On a weekly meeting, TB checked all of included studies. Then, following the secondary exclusion criteria, KA scanned and included the studies, and if there was doubt, TB double-checked the studies to ensure that inclusion criteria were met. During full-text screening, we considered all of the systematic reviews that might open a pathway of additional targeted searches explaining our interventions. Forward and backward citation searches were conducted on each identified key study, leading to additional studies being added to the review list throughout the process.

The secondary search was an iterative process from the published interventions identified in the primary search. This entailed:

- ▶ Searches of relevant articles in the reference list.
- ▶ Searches of the author on PubMed and ResearchGate.
- ▶ Searches of the author and research group on Google to identify relevant grey literature.

#### Participants in the interventions

To increase the clarity of our analysis and understanding of the intervention, the review examined the implementation of interventions that were primarily focused on recruiting a frail population (ie, we only excluded studies where the sole focus was prefrail populations). We included studies adopting any type of screening and case finding method for frailty, such as physical function, professionals' opinion, Groningen Frailty Indicator or Tilburg Frailty Indicator tools.

#### Data extraction

KA extracted the relevant data into a spreadsheet to prepare for analysis (online supplemental table S2). Then, an initial ICMO model was developed including use of NPT constructs. KA used this model to extract all of the relevant information, and created an ICMO model for each intervention in a separate file (online supplemental table S3). Following NPT, KA also applied a series of questions to guide the evaluation of factors affecting the implementation of an intervention (online supplemental table S4). On a weekly basis, KA shared the ICMO model and an original copy of each intervention study with TB and JYT, which enhanced their discussion and supported the development of themes.

The ICMO model was helpful to address how, when, why and where the intervention was implemented. Between three and five interventions were typically reviewed at each meeting.

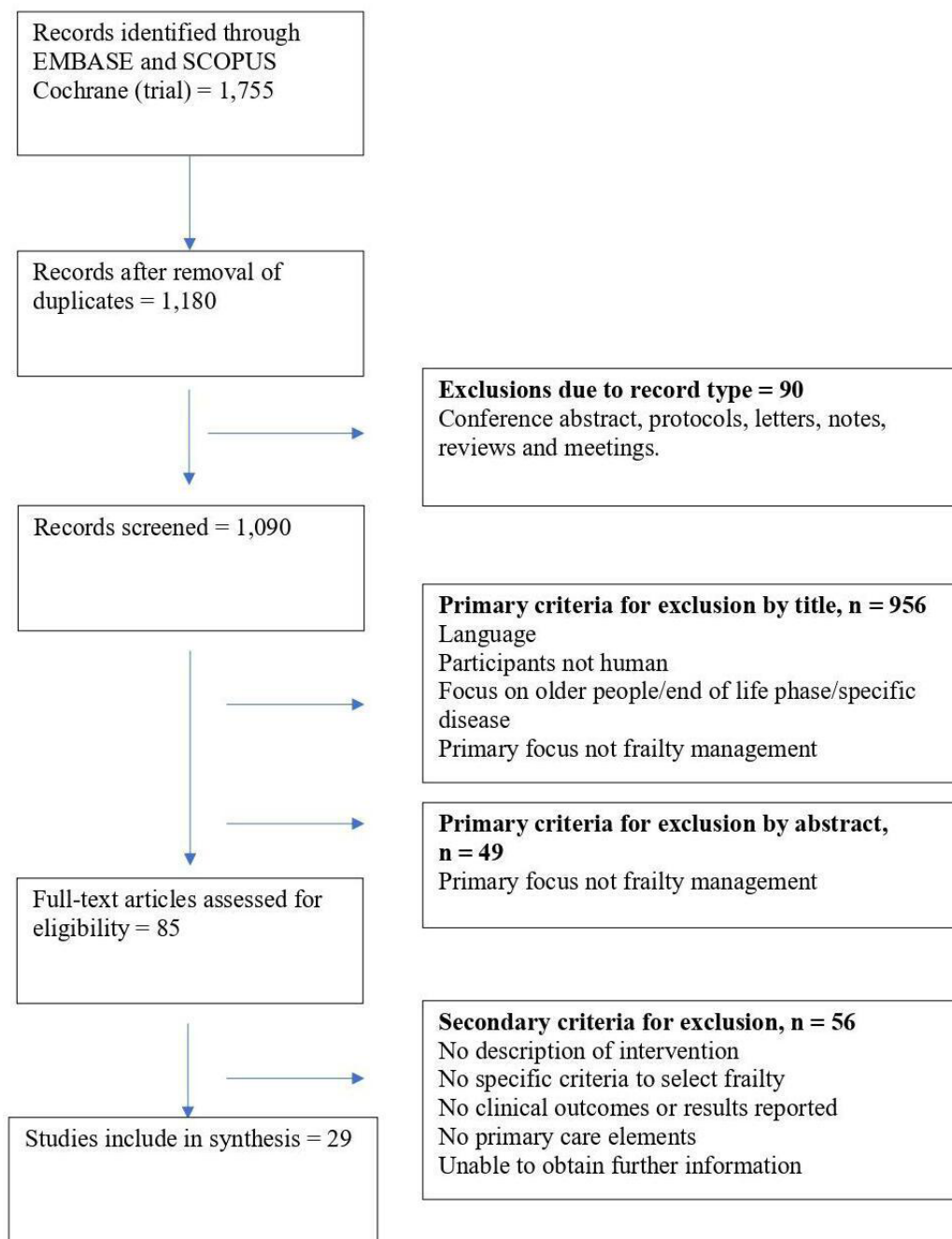
#### Data analysis

Three reviewers (KA, TB and JYT) independently extracted relevant themes from studies, and weekly data sessions were held to critically appraise, analyse and synthesise developing themes. After each meeting, themes were summarised and their relationships elicited. Through an iterative process, ICMO models for each intervention study developed as the study progressed, with researchers gaining increasing familiarity with RRR methodology.

Specifically, types of interventions targeting frailty in primary care (ie, 'families of interventions') were identified according to their common features and proposed sets of practices.<sup>21</sup> Analysis of the studies examined what local changes in practice 'context' occurred following the introduction of the intervention. NPT provided a sensitising framework to consider 'mechanisms' triggered. Using constant comparative methods, we examined the relationships between intervention, contextual changes, mechanisms and outcomes, both for individual studies and across types of 'families of intervention'. Through this iterative process, we constructed an understanding of factors underpinning the implementation of frailty interventions in primary care.

#### Quality appraisal

In keeping with realist methodology, appraising whether the main focus of each study was 'frailty in primary care' was a key factor.<sup>25</sup> Since we included multiple study designs in this RRR, all included studies were evaluated for methodological rigour by KA using the mixed methods appraisal tool,<sup>26</sup> and confirmed with TB and JYT. A score was assigned to each intervention for each appraisal criterion met (out of five), to inform the confidence of findings obtained (online supplemental table S5). This approach was helpful in focusing on more comprehensive papers without excluding any weaker papers.<sup>27</sup>



**Figure 1** Modified Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram for the primary literature search.

## RESULTS

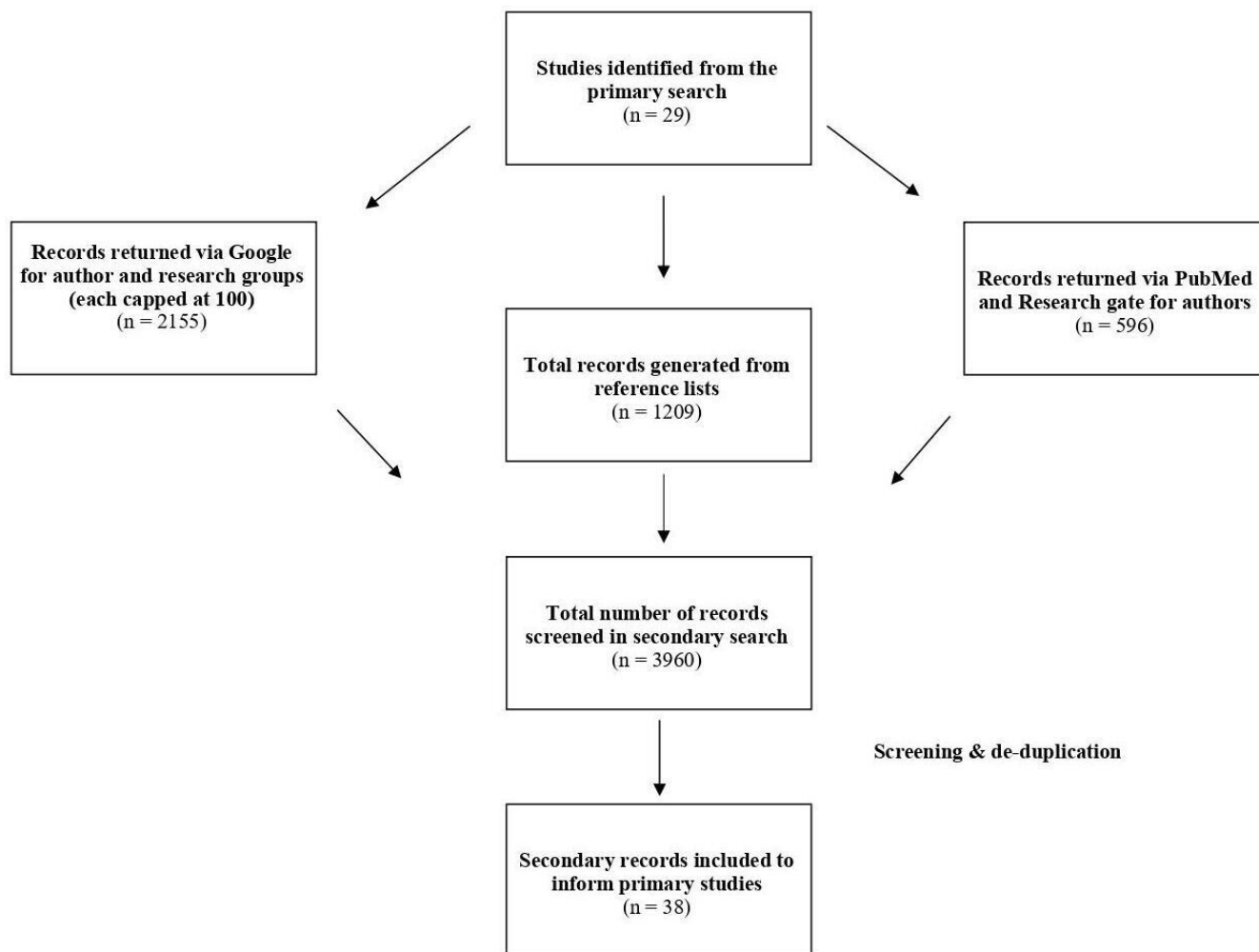
**Figure 1** illustrates the article selection process for the review. Of 1755 studies screened for relevance, 85 articles underwent full-text review, leading to 29 intervention studies contributing to the analysis. Included studies were published between 2000 and 2019. Most were conducted in Netherlands (n=17) and Spain (n=3), with nine other countries represented by one study each: Japan, China, Australia, Austria, Canada, France, USA, Switzerland and Mexico.

The iterative secondary search identified 38 records further that provided further insight into each of the 29 intervention studies (**figure 2**). A descriptive overview of

the interventions is presented in online supplemental table S6, and a list of the records identified by the secondary search is provided in online supplemental file 1.

### Families of frailty interventions

Through an iterative analysis of data from across the included studies, the interventions targeting frailty were grouped into two ‘families’: (1) interventions aimed at comprehensive assessment and management; and (2) interventions targeting specific frailty needs. Comparative analysis of the ICMO configurations identified three key related factors underpinning the implementation



**Figure 2** Secondary search processes.

of frailty interventions in primary care: distribution of resources, patient engagement and the skill set of the professionals involved. The studies used the term ‘resources’ in different ways and referred to the use of time, the presence of multidisciplinary team members, enabling technology, as well as access to secondary care and community resources.

### Family 1: comprehensive assessment and management of frailty

Of the 29 included studies, 23 interventions related to this family. Interventions were mostly carried out in the Netherlands (n=17),<sup>28–44</sup> with the others conducted (n=1) in France,<sup>45</sup> Switzerland,<sup>46</sup> Spain,<sup>47</sup> Canada,<sup>48</sup> Mexico<sup>49</sup> and the USA.<sup>50</sup>

Common design features across these interventions included a focus on developing a care plan and consideration of patients’ preferences, with some aiming to improve collaboration between primary and secondary care organisations.<sup>28–50</sup> Participants in the intervention groups tended to receive an in-home multidimensional geriatric assessment by a nurse. These were generally completed using assessment tools, which varied across the interventions: the CGA,<sup>28 48</sup> the Resident Assessment

Instrument-Home Care version,<sup>29 45</sup> the interRAI Community Health Assessment instrument<sup>41–44</sup> or the Easy-Care instrument.<sup>32 34</sup> In conjunction with general practitioners (GPs) or through extended team meetings, a preliminary care plan was formulated. The approach then tended to entail a second home visit conducted by the nurse to discuss and finalise the care plan with the patient. In the main, nurses were responsible for planning and coordinating care delivery, providing periodic evaluation and monitoring of care plans.<sup>28–50</sup> In only one intervention, participants were referred to a geriatrician or physical therapist who performed the CGA and then designed a tailored multifactorial intervention in the community.<sup>47</sup>

### Key factors influencing implementation

#### Distribution of resources

Our comparative analysis of the intervention studies suggested that in the main, professionals invested considerable time in performing an assessment to identify patients’ problems, with less time made available for managing the identified needs. For example, in the geriatric care model, nurses spent 50–90 min conducting the initial assessment, an average of 37 min writing care plans and a further 40 min preparing and carrying out



multidisciplinary team meetings,<sup>42</sup> but just over half an hour on ‘discussing care plans’ during follow-up visits.<sup>42</sup> Subsequently, care plans and follow-up visits were not always carried out as intended depending on time pressure or on assessment outcomes, with some nurses not writing a care plan at all when there was limited time or when no health needs were identified.<sup>42</sup>

The [G]OLD (Getting OLD the ealthy way) hpreventive home visitation programme invested on average 85 min per older person from preparation of the home visit to formulating the care plan.<sup>28 51</sup> Professionals considered home visiting helpful to gain an overview of a person’s living environment, which supported decision-making (ie, a possible transition to a nursing home).<sup>28 51</sup> However, in some cases, the time needed to complete an assessment and develop a care plan for frail older people proved considerably longer than anticipated.<sup>52 53</sup> For example, it took extra evaluation to clarify the urgency of the problem,<sup>52</sup> or it took time for elderly patients to become acquainted with the nurses and to share their stories.<sup>53</sup> In the disability prevention programme, some nurses substituted second home visits by a telephone discussion of the care plan for patients with less complicated issues.<sup>37 54</sup> No data were available for time spent on executing the care plan or the suggested management for any of these studies. A key implementation barrier for proactive elderly care is that nurses spent most of the time doing the assessment to develop a care plan and then they struggle to implement the care plan for each individual.

In contrast, the ‘+AGIL Barcelona’ intervention allocated resources for both a comprehensive assessment and the management of identified frailty needs. This entailed evaluating the needs through a CGA conducted by a geriatrician and physical therapist, and then providing exercise groups (also encouraging socialisation), promotion of a Mediterranean diet, health education and medication reviews, along with ongoing primary care practitioner input. The patients and family also received the CGA results on the same day of the evaluation and agreed a tailored care plan together—there was no time lag to patient involvement. Adjusting the available resources and support of the geriatric team and community resources were a facilitator that allowed the intervention to be adaptable and sustainable for primary care teams and for older people (figure 3).<sup>47</sup>

### Patient engagement

As the first home visit in most interventions tended to focus on assessment, with the care plan then being created in discussion between the nurse and the GPs with the patient more involved in the second visit,<sup>28 30 32 39 41 42 44 55</sup> this could create a mismatch between patients and professionals’ priorities. Some patients then lack motivation to implement the intervention or resisting changes.<sup>28</sup> For example, one patient indicated that proactive nurse visits tended to be ‘meddling in other people’s affairs’, especially when there was no specific request for help.<sup>28</sup> In other interventions, it became ‘overwhelming’ for older

people when it did not match their needs or provided no further perceived benefits.<sup>56</sup> Implementing proactive care plans can thus create tensions around people’s autonomy. Conversely, nurses indicated that in some cases it was important to gain trust before older people would want to share their problems, if they had these, and experiences with them.<sup>53</sup> Proactive visits by nurses in some interventions were well received by older people, as they felt anything could be discussed with nurses,<sup>57</sup> including non-medical issues.<sup>36</sup> One intervention conducted in the Netherlands attempted to maintain patient and professional relationships through the use of a web-based conference table. However, although patients appreciated their concerns being delivered to their GPs, they were less comfortable using the computer and preferred face-to-face contact.<sup>31</sup> Only one study completed the assessment and a care plan on the same day.<sup>47</sup> Involving patients directly into the development of care plans resulted in high adherence (90.2% attended >75% exercise sessions) and significant improvements in physical function.<sup>47</sup> There was limited evidence on the degree to which patients were involved in developing and executing their care plan. Although many projects saw the importance of involving older people when designing the intervention, there was evidence to suggest that older people priorities and preferences were not considered during implementation (figure 3).

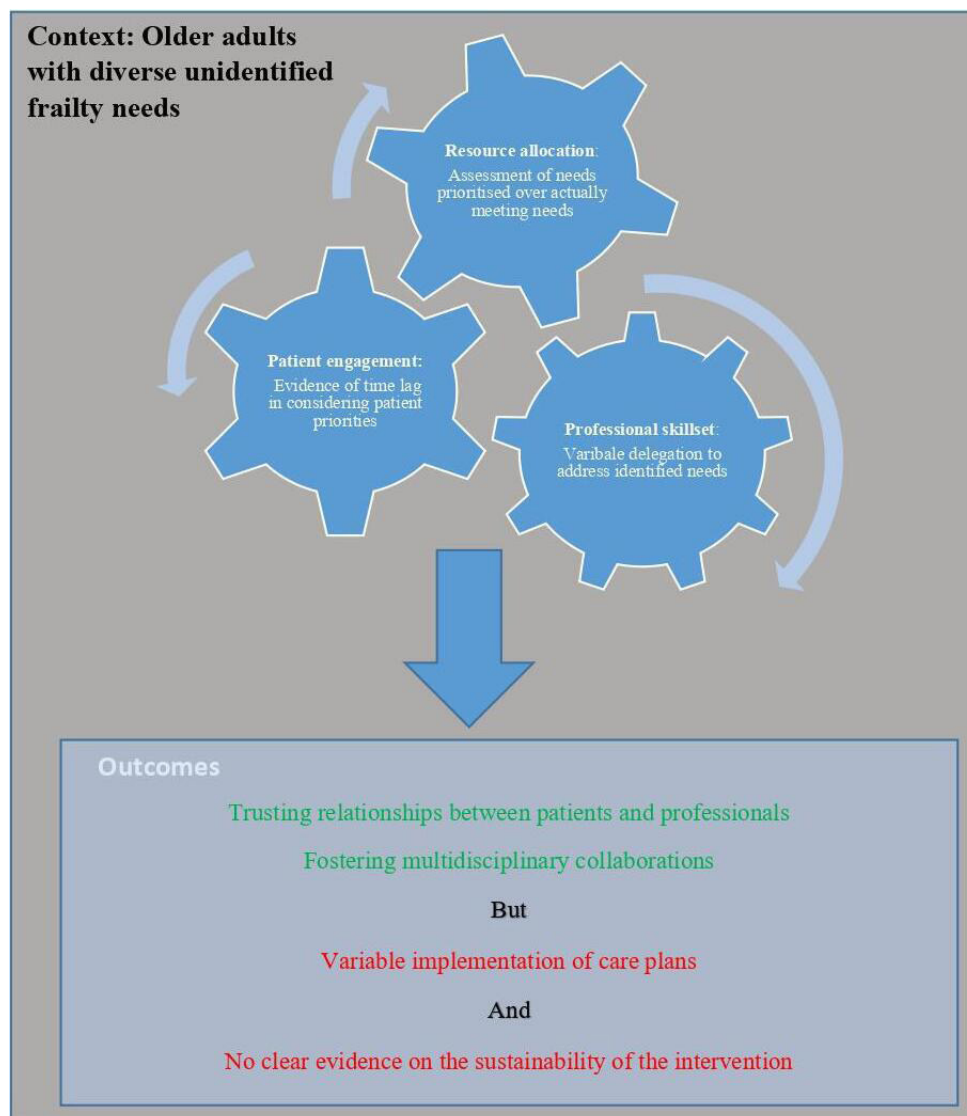
### Professional skill set

Use of a multidisciplinary team was a key feature across this family of frailty interventions. However, in the main, there was limited evidence on how management of needs identified in a care plan was delegated across different disciplines, which limited the analysis to understand the translation of care plan into practice. Analysis indicated that professionals encountered a number of barriers to deliver the care for frail older persons based on the intervention and skill set. For example, nurses were responsible for the assessment and development of the care plan, and were reported to have good organisation and communication skills.<sup>37</sup> However, at times, this was insufficient to implement a care plan with difficulties reported undertaking medication reviews,<sup>51</sup> or creating plans for patients with mental problems.<sup>28</sup> Alternatively, a successful feature was the enhanced role of geriatricians in fostering collaboration and sharing information between primary care and hospital settings, which enabled smoother transitions of care (ie, more appropriate admissions) and allowed identified needs to be more swiftly met (figure 3).<sup>45 46</sup>

### Family 2: targeting specific frailty needs

Out of the 29 intervention studies, six related to screening and targeting specific frailty needs. The interventions were conducted in Spain (n=2),<sup>58 59</sup> and in Australia (n=1),<sup>60</sup> Austria,<sup>61</sup> China<sup>62</sup> and Japan.<sup>62</sup>

In the main, these interventions aimed to address a specific need and produce observable outcomes such as mobility, functional, cognitive and emotional status,



**Figure 3** Summary of identified context, mechanisms and outcomes for family 1—comprehensive assessment and management of frailty.

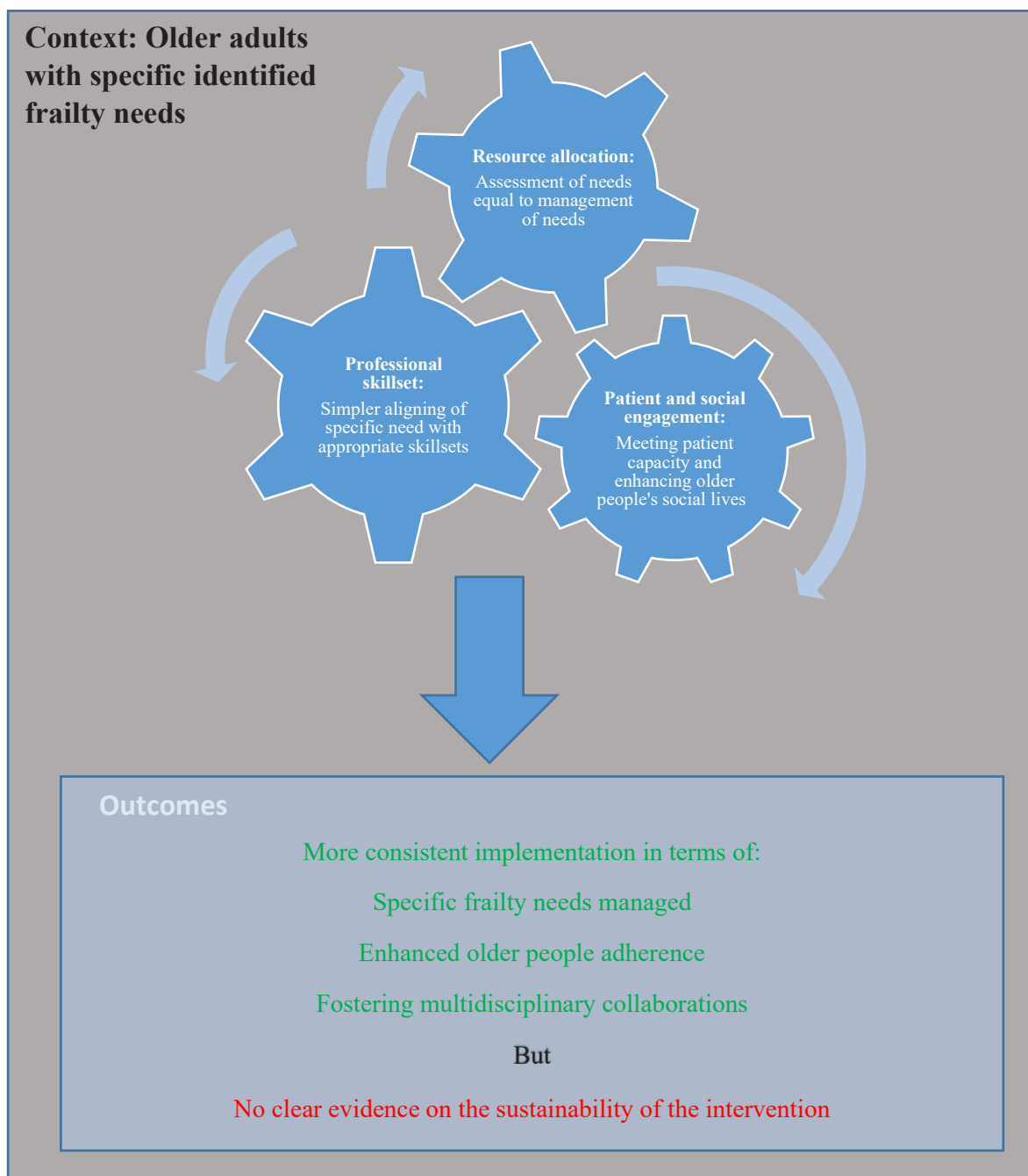
psychosocial status, hospitalisation and level of pain.<sup>58–63</sup> These mostly entailed multifactorial interventions including physical activity, memory workshops, medication review,<sup>58</sup> a combined exercise programme,<sup>59</sup> nutritional supplementation, referral to a psychiatrist, encouraging social engagement and home exercise programmes,<sup>60</sup> nutritional and physical programmes alongside social support,<sup>61</sup> acupuncture treatment,<sup>63</sup> and resistance exercise, nutritional and psychosocial programmes.<sup>62</sup>

### Key factors influencing implementation

#### Distribution of resources and professional skill sets

Our analysis of this family of interventions suggested that compared with the more comprehensive (family 1) interventions, there was clearer and more adaptable allocation of resources across both the assessment and management of specific needs. Likewise, the care plan appeared more straightforward to align professional skill sets to address specific needs. One example of a multifactorial

interdisciplinary intervention conducted in Australia, older participants were recruited if they met three or more of phenotype criteria (ie, weight loss, exhaustion, low physical activity, slowness, weakness), and then according to the needs participants were assigned either nutritional intervention, referral to psychiatrist or home physical activity sessions. The intervention also entailed ongoing reassessment throughout the intervention phase.<sup>60</sup> The physiotherapist was able to coordinate the intervention in the community with ‘well-prepared health and care services for older people’, resulting in a high level of adherence to the intervention.<sup>60 64</sup> In another multifactorial intervention conducted in Barcelona, participants were screened for frailty using phenotype criteria and then they were aligned to the interventions according to their needs, that is, physical activity, nutritional intake, memory workshop and medication review. The monitoring was a priority: every 2 weeks there was



**Figure 4** Summary of identified context, mechanisms and outcomes for family 2—targeting specific frailty needs.

an evaluation of progression, measuring intensity and number of repetitions of physical activity, which resulted in a sustained 'improvement in mobility and strength performance'.<sup>58 65</sup> GP skills were successfully used to perform medication reviews, where patients were re-educated about unnecessary drugs and successfully reduced their use (figure 4).<sup>58</sup>

#### Patient and 'social' engagement

Analysis suggested that patients appreciated the intervention when it met their needs and capacity. Promoting the social life of participants was considered a key feature of some interventions that facilitated implementation.<sup>61–63</sup>

For example, acupuncture treatment was designed as a caregiver-administered treatment, which could be carried out at home or community settings.<sup>63</sup> After training, 'caregivers were requested to spend two 20 minutes sessions per week with the elderly doing homework assigned by the activity group'.<sup>63</sup> Participants revealed that they were in a better mood after the intervention,<sup>63</sup> and they experienced a significantly higher satisfaction in their ability to perform daily living activities.<sup>63</sup> In another multifactorial intervention in Japan, a psychosocial programme was conducted alongside the exercise and nutritional programmes.<sup>62</sup> The psychosocial programme consisted



of practical and group activities to discuss hobbies and interests. Participants also discussed how to continue the exercise after the intervention. Consequently, sessions were completed as planned with evidence that the participants continued the exercise programme even after the intervention.<sup>62</sup> In another home-based intervention performed in Austria, trained non-professional volunteers visited malnourished frail older persons twice a week for approximately 1 hour. The first group of older people performed a nutritional and physical activity intervention, with the control group receiving social support only.<sup>61</sup> Adherence to the visit was higher in the physical exercise group but both groups demonstrated improvement in nutritional and frailty scores. The study suggested that social support alone can have a significant impact on nutrition and frailty status in older persons (figure 4).<sup>61</sup>

### Sustainability of frailty interventions

Overall, there was no clear evidence to capture the long-term sustainability of the interventions. In the interventions aimed at comprehensive assessment and developing care plan, an imbalance between time investment and the available resources in proportion to the problems detected might be a factor that constrained long-term implementation.<sup>28 35 42 55 57 66</sup> Further, our analysis suggested that older people's interests and perceptions needed to be considered earlier to understand how much they are willing to be part of the intervention.<sup>29 36</sup> It was evident from interventions targeting specific frailty needs that the enhancement of community networks and social interaction influenced the interventions being sustained for at least 3 months.<sup>58 62</sup>

## DISCUSSION

### Statement of the principal findings

In this review, we identified two families of interventions and highlighted factors that enabled and constrained their implementation. These related to the distribution of resources, patients' engagement and the professional skill set to target identified need. For interventions entailing a comprehensive approach to frailty, our analysis suggested that time to form trusting relationships was important but that a disproportionate amount of resource may be consumed by assessment compared with the implementation of management plans. Furthermore, the development and resourcing of a professional skill set to address a range of needs was not necessarily explicit from the outset. In contrast, interventions targeting specific frailty needs demonstrated greater clarity regarding the distribution of resources, with alignment of a professional skill set to a specific need (and thus seem easier to implement). Our analysis further suggested that incorporating social factors into intervention design might support implementation and sustainability.

### Strengths and limitations

A key strength of this study is that it provides an evidence-based map of interventions in primary care for managing the 'needs' of frail older people. Our focus was to evaluate factors underpinning successful implementation of interventions targeting frailty, rather than drawing strong conclusions on effectiveness. In addition, we acknowledge that our review of intervention studies takes the concept of frailty at face value and does not take into account literature that critiques the 'power relations' surrounding the introduction of frailty into routine practice.<sup>67–69</sup>

However, we acknowledge the heterogeneity of the frailty groups, with interventions highlighting a range of frailty approaches to identifying frail populations, such as eFi and phenotype. We did not explore how each approach has been used, but we have included a summary of the screening criteria in online supplemental table S6. We included only studies that focused mainly on a frail population, but acknowledge that targeting older people with prefrailty might be more effective in implementing strategies and interventions for vulnerable older adults than for those who are actually frail as there may be less 'residual capacity' for improving the care of older people.

Several limitations to examining implementation exist from available evidence. First, there were no data on time taken to execute care plans, nor for whether identified needs were fully addressed. Furthermore, few studies provided evidence around the sustainability of interventions. Lack of contextual details (eg, what happened after introducing the intervention) in the published studies also limited our analysis. However, to enhance trustworthiness, our findings were constructed through constant comparative methods, iterative testing and retesting of ICMO configurations, which were regularly updated.<sup>21</sup> Additionally, our secondary search identified accompanying articles revealing further contextual data and evaluation for certain interventions. Rigour was maintained through three reviewers attending regular data meetings.

### Comparison of our findings with other studies

Our review of frailty interventions in primary care resonates with previous qualitative research exploring CGA.<sup>13</sup> Gardner *et al*<sup>10</sup> found that patients and carers 'wanted their knowledge and priorities to be included in the assessment and care plan and that, at times, the integration of social and personal care needs was unclear'. One method may be to involve older people in codesigning interventions, with a randomised controlled trial aiming to reverse frailty and build resilience awaiting definitive evaluation.<sup>70</sup> Findings from the wider literature, including our previous analysis of dialogue surrounding self-management support for people with long-term conditions, highlight the potential for assessment tools to reinforce a checklist approach to consultations, potentially disrupting (and delaying) patient and caregiver involvement in care planning discussions.<sup>71–73</sup> Furthermore, Macdonald *et al*<sup>7</sup> suggest that a CGA approach potentially works if the resources and professional skill

set (ie, geriatrician) allocated to address the identified needs.<sup>7</sup> However, there are still limitations to outcome measurement of the interventions,<sup>7</sup> two studies demonstrated no significant differences between intervention and control groups in terms of frailty measures.<sup>74 75</sup> Our review also highlights clear potential challenges in implementing comprehensive assessment to develop a care plan in primary care.

### Implications for policy and practice

Some older people want to maintain their privacy, and may be reluctant to reveal certain types of possibly stigmatising needs, known as ‘hidden needs’, such as cognitive problems.<sup>76</sup> This RRR further suggests that incorporating social dimensions of care into intervention design may reduce the potential for loneliness and isolation and so enhance their implementation.<sup>28 47 62 63 77–79</sup> Our analysis suggested that comprehensive assessment and visiting older people at home enabled trusting relationships between patients and professionals to form as well as fostering multidisciplinary collaborations. Though important, this was insufficient to ensure effective implementation of care plans without adequate extra resourcing (eg, time, workforce expansion). There is also evidence to support the introduction of interventions targeting exercise training for people with different stages of frailty.<sup>7</sup> Our recent qualitative study highlighted widespread concern surrounding current capacity to address identified unmet needs of frail patients in primary care.<sup>80</sup> There appears to be a role for both families of ‘comprehensive’ and ‘specific’ approaches to frailty in primary care, matching the approach to identified need by involving older people early or through codesign.

### CONCLUSION

There remain challenges to achieving successful implementation of frailty management interventions in primary care to improve health outcomes for older people with frailty. Developing a specific care plan helps professionals to manage the identified needs, allowing a greater alignment of skill sets and avoiding overassessment of people living with frailty. Earlier involvement of patients is another key factor that may facilitate implementation and increase adherence to the intervention.

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