

# Essential components of health assessment for older people in primary care: a cross-sectional survey of Australian general practitioners

Mariko Carey,<sup>1,2</sup> Alison Zucca,<sup>1,2</sup> Joel Rhee,<sup>3,4</sup> Rob Sanson-Fisher,<sup>1,2</sup> Grace Norton,<sup>1,2</sup> Christopher Oldmeadow,<sup>2</sup> Tiffany Evans,<sup>2</sup> Kichu Nair<sup>1</sup>

**G**lobally, many countries are projected to experience ageing populations.<sup>1</sup> In Australia, approximately 15% of the population was aged 65 or older in 2017, with this figure expected to rise to 22% by 2057.<sup>2</sup> Older people tend to experience higher rates of chronic disease, including many age-related conditions such as dementia, stroke and chronic obstructive pulmonary disease.<sup>3</sup> These are associated with high disease burden,<sup>3</sup> and require governments and health systems to carefully plan for the growing service needs of the ageing population.

Older populations are diverse with respect to their healthcare and social service needs.<sup>4</sup> Therefore, to address the needs of multiple subpopulations, it has been suggested that multifaceted approaches for improving health outcomes for older people are needed,<sup>4</sup> including a focus on primary, secondary and tertiary prevention.<sup>3</sup> Given this, primary care has an important role to play in optimising the health of older people.<sup>5,6</sup> Preventive care and screening for chronic disease, as well as a whole-person focus, which takes into account the patient's social and emotional wellbeing, are considered part of the core role of primary care. In this context, the Australian Government introduced a Medicare-rebated health assessment for older people in 1999. The 75+ Health Assessment is designed to be a proactive method of assessing the health needs of older Australians, with a

## Abstract

**Objective:** To examine general practitioners' views about how health assessments for older people should be conducted.

**Methods:** General practitioners were randomly sampled from a national database of medical practitioners and invited to complete a survey. Survey items explored general practitioners' views about essential components of a 75+ Health Assessment and who should assess each component, consultation time, use of standardised templates and tools, and home visits.

**Results:** Overall, 185 (19.2%) general practitioners participated. Of 61 items presented, 24 were rated 'essential' by  $\geq 70\%$  of practitioners, with an average estimated consultation time of 65 minutes. Of the 24 essential items, it was perceived that 21 could be assessed by either a general practitioner or clinic nurse. Most practitioners indicated a standardised template (86%) and standardised tools for complex issues (79%) should be used, and home visits conducted (75%).

**Conclusions:** General practitioners agreed on 24 items as essential for every health assessment, with assessments estimated to take more than one hour.

**Implications for public health:** Increases to remuneration for prolonged assessments or mechanisms for improving efficiency and quality of assessments are needed. Acceptable mechanisms may include standardised patient-reported tools, standardised templates and the use of non-medical staff to assist with assessments.

**Key words:** health assessment, ageing, primary care, preventive screening, implementation

view to preventing future health problems and/or early intervention to prevent existing problems from progressing.<sup>6,7</sup>

Previous Australian studies have reported modest uptakes of health assessments among older people.<sup>8-10</sup> However, despite being implemented in 1999, there are little data to date on how the assessment is implemented in day-to-day practice, or on the views of general practitioners (GPs) about

how these should ideally be implemented. While a broad range of health concerns may be assessed as part of an older person health assessment, there is no core set of indicators that is required to be assessed. Further, the use of standardised tools or methods to assess complex health concerns such as cognition and mood are not required. Variability in these factors may affect the overall quality of health assessments and

1. Faculty of Health and Medicine, The University of Newcastle, New South Wales

2. Hunter Medical Research Institute, New South Wales

3. General Practice Academic Unit, School of Medicine, University of Wollongong, New South Wales

4. Illawarra Health and Medical Research Institute, New South Wales

**Correspondence to:** Dr Alison Zucca, Health Behaviour Research Collaborative, HMRI Building, University of Newcastle, Callaghan NSW 2308;

e-mail: Alison.Zucca@newcastle.edu.au

Submitted: November 2020; Revision requested: February 2021; Accepted: March 2021

The authors have stated they have no conflict of interest.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

*Aust NZ J Public Health.* 2021; 45:506-11; doi: 10.1111/1753-6405.13108

their capacity to meaningfully contribute to improved health outcomes for patients.<sup>11</sup> Therefore, this study aims to investigate GPs' views about how health assessments for older people should ideally be conducted.

## Aims

To examine GPs' views regarding: 1) which issues are essential to assess within a 75+ Health Assessment; 2) how long it would take to conduct a health assessment that included all elements that they considered essential; 3) how the 75+ Health Assessment should be conducted; 4) attitudes toward the use of standardised tools within the 75+ Health Assessment; and 5) to examine whether GP and practice-related characteristics are associated with GP views about how the 75+ Health Assessment should ideally be conducted.

## Design

A cross-sectional survey of GPs.

## Methods

### Eligibility

GPs currently practising in Australian community general practices were eligible to participate. GPs who were no longer practising (e.g. retired) or on extended leave (e.g. maternity leave) were excluded. GPs for whom a current mailing address could not be obtained were also excluded.

### Sampling and randomisation

The Australian Medical Publishing Company (AMPCo) database is the most comprehensive database of medical practitioners in Australia. The AMPCo database held the details of 24,574 GPs at the time of this study, representing approximately 83% of all practising Australian GPs.<sup>12</sup> AMPCO provided a random sample of 1,000 GPs. Fifteen of these had no contact details listed in the database and were excluded, leaving a sample of 985 potentially eligible GPs, of which 75% (n=738) were from metropolitan areas and 25% (n=247) were from non-metropolitan areas. This reflected the distribution of Australian GPs.<sup>12</sup>

### Recruitment

GPs were mailed an invitation to participate, containing an information sheet, a pen-and-paper survey, and a reply-paid envelope to return the completed survey. A 'do not

contact form' was provided for GPs to return if they wanted to actively decline participation and not receive any reminders about the survey. Non-responders were sent one or two written reminders up to a maximum of three weeks of non-response. All GPs who returned a survey were mailed a \$20 gift card as a token of appreciation.

## Measures

### Development of the survey

Available templates for health assessments were identified, via a Google search, as well as a search of the websites of key organisations such as the Royal Australian College of General Practitioners. Eight templates were identified. Health issues recommended for assessment in each template were extracted and compiled into an initial list containing 43 health issues. A draft survey was developed to elicit respondents' views on whether each item should be assessed for all, most, some or no patients as part of a 75+ Health Assessment. An expert advisory group consisting of geriatricians, GPs, nurses and researchers was convened to provide feedback on the draft survey. Specifically, they were asked to provide feedback on the content of the survey and refinement of the wording of the questions. Additional assessment items were also added as a result of this process. (See Supplementary File 1 for a copy of the survey).

### Components of the 75+ Health Assessment

Participants were presented with a list of 61 items that could be explored as part of an older person's health assessment. The items related to: past history (3 items), medical care (5 items), social, demographic and financial (12 items), managing at home (8 items), physical functioning (10 items), modifiable risk factors (5 items), cancer screening (3 items), respiratory health (2 items), bone health (2 items), cardiovascular health (3 items), mental health and cognition (2 items), the patient perspective (2 items), and four other items exploring blood sugar testing, urinalysis, renal function and risk of preventable hospitalisation. Participants were asked to rate how important it was that each of the 61 health concerns was assessed as part of a 75+ Health Assessment. Four response options were provided: 1) essential – should be done in every health assessment; 2) important but not essential – should be done in most health assessments; 3) optional – should be done if it's required

for a particular patient; and 4) not important – should not be done as part of a health assessment. For each item, participants were then asked to indicate who should conduct the assessment: 'Nurse or GP' or 'GP only'.

### Time required to conduct a health assessment

Participants were asked to consider the health issues they indicated as essential to conduct during every health assessment and estimate how long it would take to assess all of these issues. Participants could provide their responses in hours and/or minutes.

### Views about how health assessments should be implemented

Participants were asked whether a standardised template should be used to record the results of a health assessment (yes/no); whether home visits should be conducted as part of the older person health assessment (yes/no); and who, ideally, should conduct the visit (nurse; doctor; or other health professional – please specify).

### Attitudes to use of standardised tools

A standardised assessment tool was defined as a set of questions that have been proven to accurately and acceptably identify the issue of interest. Participants were asked whether a standardised assessment tool should be used to assess complex health concerns such as mood and cognition (yes/no/unsure). Five items were also used to explore attitudes toward the use of standardised tools within a health assessment. Responses were provided using a Likert scale (strongly agree/ agree/ disagree/ strongly disagree).

### GP and workplace characteristics

Eight items explored the participants' age, sex, how many older person health assessments conducted in the past month; number of years practising as a GP, number of GPs working in their practice and number of practice nurses, as well as whether the practice bulk billed. GPs were also asked to indicate whether they were a fellow of the Royal Australian College of General Practitioners (RACGP) or Australian College of Rural and Remote Medicine (ACRRM).

### Statistical analysis

SAS 9.4 software was used for the analyses. Consent bias (gender, geographical location) was assessed using chi-square analyses. To examine GP views regarding which issues to

assess as part of a 75+ Health Assessment, a frequency table ( $n$  = number of GPs) was generated for each of the 61 health assessment items with four response options: essential, important, optional and not important. Next, looking across all 61 items collectively for each GP, the total number of items ( $k$  = number of items) was counted for each response category: essential, important, optional and not important. Individual items were judged 'essential' if rated as such by 70% or more of GPs. A cut point of 70% or greater reflects one of the standard approaches for measuring consensus.<sup>13</sup> The mean number of essential, important, optional and not important items ( $k$ ) selected was calculated across all GPs. Next, descriptive statistics (mean, median, range, and interquartile range) were generated to examine the total time required to assess the items deemed essential. To examine GPs' views about how the 75+ Health Assessment should be conducted, and their attitudes towards the use of standardised tools, frequency tables were generated ( $n$  = number of GPs). Finally, chi-square analyses were conducted to examine whether GP and practice-related characteristics were associated with GP views across five key outcome variables. For each outcome variable, GPs were classified as those who: 1) agreed on at least the 24 essential items *versus* those who did not; 2) indicated a nurse or GP could assess most items (50 items or more) *versus* those who did not; 3) indicated a standardised template should be used *versus* should not be used; 4) indicated a home visit should ideally be conducted *versus* should not be conducted; 5) indicated standardised tools ideally should be used to assess complex health concerns *versus* did not agree or not sure they should be used. The GP and practice characteristics examined were: gender (male, female); age group in years ( $\leq 45$ , 46–55, 56–65,  $\geq 66$ ); number of years practising as a GP ( $\leq 10$ , 11–20, more than  $>20$ ), practice location (metropolitan; non-metropolitan) and practice size (small:  $<4$  full time equivalent GPs, medium: 4–9 GPs, large:  $>10$  GPs).

## Results

Recruitment and data collection occurred from March to September 2019. Of the 985 GPs who were invited to participate, 21 were subsequently judged ineligible (10 did not have a valid practice address; three were retired; three were no longer practising in Australia; three were no longer practising

as GPs; and two were on parental leave). This left a total of 964 eligible GPs. Of these, 185 (19.2%) returned a survey. There was no difference between consenters and non-consenters with respect to gender ( $\chi^2[1]=0.420, p=0.517$ ), or geographic location ( $\chi^2[1]=0.673, p=0.412$ ). The characteristics of consenting participants and non-consenters are presented in Table 1.

### What should be assessed and how long is the consultation?

Of the 61 items presented, on average, GPs endorsed 38 items as essential, 14 as important, 7 as optional, and 1 as not important. Missing data for these questions ranged between 0 and 3. GPs were asked to estimate how long it would take to assess all the items that they had rated as essential. Estimates ranged from 10 to 180 minutes

with an average of 64.75 minutes (median = 60 minutes).

Of the 61 items, 24 were rated as essential (should be done in all health assessments) by 70% or more of GPs. Of these 24 essential items, there was consensus that 21 could be conducted by a GP or a clinic nurse. These 24 items are presented in Table 2 along with GPs' views about who should conduct the assessment. See Supplementary File 2 for the remaining 37 items and open-ended suggestions not summarised in Table 2.

There were no significant GP or practice-related characteristics associated with GPs who agreed on the 24 essential items versus those who did not, by gender ( $\chi^2[1]=2.49, p=0.115$ ); age group ( $\chi^2[3]=1.93, p=0.586$ ); years practising as a GP ( $\chi^2[2]=5.24, p=0.073$ ); practice location ( $\chi^2[5]=7.17, p=0.21$ ); or practice size ( $\chi^2[1]=3.48, p=0.062$ ).

Table 1: Participant characteristics

	Participants (n=185)		Non-consenters (n=779)	
	n	(%)	n	(%)
	mean (range; IQR)			
<b>Gender (N=185)</b>				
Male	97	(52)	429	(55)
Female	88	(48)	350	(45)
<b>Practice location (N=185)</b>				
Metropolitan	135	(73)	591	(76)
Regional/remote	50	(27)	188	(24)
<b>Age (years) (N=179)</b>				
35 or younger	15	(8)		
36-45	27	(15)		
46-55	49	(27)		
56-65	56	(31)		
66 or older	32	(18)		
<b>Years practising as GP (N=181)</b>				
5 or less	19	(10)		
6-10	18	(10)		
11-20	42	(23)		
More than 20	102	(56)		
<b>Number GP Fellowships (N=181)<sup>#</sup></b>				
Royal Australian College of GPs (RACGP)	134	(74)		
Australian College of Rural and Remote Medicine (ACRRM)	15	(8)		
No	38	(21)		
<b>GPs, number at participants' practice (full time equivalent) (N=181)</b>	5.5 (1-20; 3-8)			
<b>Practice nurses, number at participants' practice (full time equivalent) (N=178)</b>	2.2 (0-8; 1-3)			
<b>Percentage of patients bulk billed (N=181)</b>				
Less than 10%	7	(4)		
10-50%	51	(28)		
51-90%	65	(36)		
More than 90%	58	(32)		
<b>Number of 75+ health assessments undertaken in the last month (N=172)</b>	4.3 (0-20; 2-6)			

Notes:  
 Sample size  $n$  varies due to missing responses/ data  
<sup>#</sup> adds to more than 100% as multiple options allowed

### Perceptions of how health assessments should be conducted

For 85% (51/61) of the items presented on the components of an older person's health assessment, 70% or more of the sample perceived that either a GP or nurse could conduct the assessment. A substantial number of GPs perceived that only GPs should assess the following: fitness to drive (n=101, 56%); medication management and review (n=82, 46%); renal function (n=78, 44%); risk of preventable hospitalisation (n=75, 43%); medical history (65, 36%); other cancer screening (n=63, 36%); electrocardiogram (n=61, 35%); regular specialist contact or other medical care over

the last 6 months (n=57, 32%); shortness of breath (n=56, 31%); mammography (n=54, 31%); and bowel cancer screening (n=53, 30%). Missing data for these items ranged between 4 and 25. There were no significant GP or practice-related characteristics associated with GPs who agreed that either a nurse or GP could assess most items (50 items or more) *versus* those who did not, by gender ( $\chi^2[1]=0.24, p=0.622$ ); age group ( $\chi^2[3]=0.84, p=0.840$ ); years practising as a GP ( $\chi^2[2]=2.01, p=0.365$ ); practice location ( $\chi^2[1]=2.80, p=0.095$ ); or practice size ( $\chi^2[2]=0.49, p=0.78$ ).

Most respondents (n=152, 85%) indicated that a standardised template should be used to record the results of the health assessment. Further, a majority of respondents (n=133,

75%) indicated that a home visit should ideally be conducted as part of an older person's health assessment. When asked who ideally should conduct a home visit, just over half indicated a nurse (n=104, 60%) and around one-fifth indicated a doctor (n=36, 21%). Fewer noted a nurse and/or doctor (n=11, 6%) or an allied health professional (n=23, 13%). Allied health professionals nominated by GPs included: occupational therapist (n=17), pharmacist (n=4), physiotherapist (n=1), social worker (n=1), medical assistant trainee (n=1) and care worker (n=1). Thirty-two respondents specified more than one other health professional. There were 13 missing responses for this item. There were no significant GP or

**Table 2: Item most GPs ( $\geq 70\%$ ) rated as essential to examine during an older person's health assessment.**

Domain Item	Rating of importance by GPs				Who should assess?	
	Essential <i>Should be done at every health assessment</i> n (%)	Important <i>Should be done for most health assessment</i> n (%)	Optional <i>Should be done if its required for particular patient</i> n (%)	Not important <i>Should not be done as part of a health assessment</i> n (%)	Nurse or GP n (%)	GP only n (%)
<b>Patient History</b>						
Medical history	177 (96%)	5 (3%)	3 (2%)	0	115 (64%)	65 (36%)
Disability history (e.g. intellectual, physical, sensory, mental)	150 (82%)	23 (13%)	11 (6%)	0	142 (80%)	36 (20%)
<b>Medical Care</b>						
Medication management and review (e.g. use of sleeping tablets, compliance issues, use of Webster packs)	168 (91%)	14 (8%)	2 (1%)	0	98 (54%)	82 (46%)
Immunisation status	154 (83%)	27 (15%)	4 (2%)	0	170 (94%)	11 (6%)
Regular specialists/other medical care over the last 6 months/hospitalisation/ surgery skin cancer	132 (72%)	37 (20%)	15 (8%)	0	123 (68%)	57 (32%)
<b>Social, demographic and financial</b>						
Living arrangements (who they live with)	133 (73%)	37 (20%)	12 (7%)	1 (1%)	173 (98%)	4 (2%)
<b>Managing at home</b>						
Home safety and risk of falls	169 (92%)	16 (9%)	0	0	169 (95%)	8 (5%)
Mobility and physical functioning	169 (92%)	15 (8%)	1 (1%)	0	154 (87%)	22 (13%)
Gait and balance	166 (91%)	16 (9%)	2 (1%)	0	150 (85%)	26 (15%)
Activities of daily living (e.g. cooking, bathing, shopping, housekeeping)	159 (86%)	23 (12%)	3 (2%)	0	172 (97%)	5 (3%)
Frailty/early functional decline	142 (77%)	32 (17%)	10 (5%)	0	144 (80%)	35 (20%)
<b>Physical functioning/ symptoms</b>						
Continence	142 (77%)	38 (21%)	4 (2%)	0	158 (90%)	17 (10%)
Vision	136 (74%)	42 (23%)	6 (3%)	0	154 (87%)	23 (13%)
<b>Modifiable risk factors</b>						
Physical activity	153 (83%)	29 (16%)	2 (1%)	0	169 (95%)	8 (5%)
Diet and nutrition	153 (83%)	28 (15%)	3 (2%)	0	166 (94%)	10 (6%)
Height, weight, body mass index	153 (83%)	24 (13%)	7 (4%)	0	173 (98%)	3 (2%)
Alcohol consumption	151 (82%)	28 (15%)	5 (3%)	0	167 (94%)	10 (6%)
Smoking status	151 (82%)	27 (15%)	5 (3%)	1 (1%)	167 (95%)	9 (5%)
<b>Cardiovascular health</b>						
Blood pressure (including sitting and standing)	165 (90%)	18 (10%)	1 (1%)	0	164 (91%)	17 (9%)
Pulse rate and rhythm	172 (93%)	12 (7%)	0	0	150 (83%)	30 (17%)
<b>Mental health and cognition</b>						
Mood	152 (84%)	23 (13%)	7 (4%)	0	147 (83%)	31 (17%)
Cognitive functioning	161 (88%)	16 (9%)	5 (3%)	0	143 (80%)	36 (20%)
<b>Patient perspective</b>						
Patient self-reported health and concerns	149 (81%)	29 (16%)	4 (2%)	2 (1%)	143 (81%)	33 (19%)
Patient goals for health	130 (71%)	43 (23%)	7 (4%)	4 (2%)	143 (83%)	29 (17%)

practice-related characteristics associated with GP views of whether a standardised template (ST) should be used or not; or home visit (HV) should be conducted or not, by gender (ST:  $\chi^2[1]=0.45, p=0.501$ ; HV:  $\chi^2[1]=1.82, p=0.178$ ); age group (ST:  $\chi^2[3]=1.05, p=0.788$ ; HV:  $\chi^2[3]=0.13, p=0.989$ ); years practising as a GP (ST:  $\chi^2[2]=2.31, p=0.315$ ; HV:  $\chi^2[2]=0.825, p=0.662$ ), practice location (ST:  $\chi^2[1]=0.17, p=0.677$ ; HV:  $\chi^2[1]=0.01, p=0.944$ ) or practice size (ST:  $\chi^2[2]=1.40, p=0.50$ ; HV:  $\chi^2[2]=1.86, p=0.393$ ).

### Attitudes toward the use of standardised tools

Most respondents ( $n=146, 79\%$ ) agreed that standardised tools should be used to assess complex health issues. Most ( $n=146, 80\%$ ) also agreed that standardised tools are no substitute for clinical judgement, with fewer ( $n=70, 38\%$ ) agreeing that they are generally more accurate than clinical judgement. Most GPs ( $n=154, 83\%$ ), perceived that it was important standardised assessments were brief, easy to administer and score ( $n=169, 92\%$ ), and accurate and reliable ( $n=171, 93\%$ ). Between one and three responses were missing for these items. There were no significant GP or practice-related characteristics associated with those GPs who indicated standardised tools should be used to assess complex health concerns compared to those who did not, by gender ( $\chi^2[1]=0.31, p=0.576$ ); age group ( $\chi^2[3]=0.68, p=0.877$ ); years practising as a GP ( $\chi^2[2]=1.40, p=0.496$ ), practice location ( $\chi^2[1]=1.06, p=0.303$ ) or practice size ( $\chi^2[2]=1.25, p=0.535$ ).

### Discussion

While GPs endorsed an average of 38 items as essential, there was only consensus (70% or more of participants) on the rating of 24 items as essential. These items broadly align with the Geriatric 5Ms framework (Mind, Mobility, Medication, Multi-complexity, Matters Most), which is recommended to guide geriatric care.<sup>14</sup> An exception to this is multi-complexity, which was not specifically assessed by one individual item, but which GPs may make a judgement on based upon responses across multiple items. Unsurprisingly, there was a substantial degree of overlap in items endorsed as essential by 70% of more respondents and the existing templates for 75+ Health Assessments developed by Medicare and the Royal Australian College of General Practitioners.

Items considered essential by a majority of our respondents, but not included in major existing templates, include assessment of frailty, disability history, and gait and balance. Gait and balance are considered important elements of frailty, and also have a strong association with disability and comorbidity.<sup>15</sup> Frailty in community-dwelling older people is an independent factor consistently associated with adverse health outcomes including poor physical and cognitive functioning, falls and fractures, institutionalisation, and all-cause mortality.<sup>16-18</sup> Assessment for frailty is important as there is growing evidence for interventions to prevent, delay and reverse frailty including physical activity and nutritional interventions, tailored care and cognitive training.<sup>19</sup>

The items endorsed as essential by GPs in our sample also overlapped substantially with priority assessment areas in the World Health Organization's Integrated Care for Older People (ICOPE) guidelines.<sup>20</sup> ICOPE recommends assessment of cognitive decline, mobility, malnutrition, visual impairment, hearing loss, depressive symptoms and carer support. GPs in our sample endorsed all these as essential except for hearing loss and carer support. This may reflect that ICOPE has a specific focus on assessing and managing indicators of loss of intrinsic capacity, while the older person's health assessment has a broader remit. It may be that GPs consider hearing loss and carer support to be second-tier assessment items that would be triggered by positive responses in other areas. For example, cognitive decline and hearing loss have been linked,<sup>21</sup> therefore, given limited time, GPs prioritise cognitive decline for assessment.

On average, GPs in our study estimated it would take 65 minutes to assess all the items they considered essential. Medicare rebates are available for four time-based items for health assessments, with the prolonged assessment covering assessments of 60 minutes or greater.<sup>22</sup> This suggests that prolonged assessments are necessary to cover all items perceived as essential. In line with this, Medicare data indicate that the most frequently billed health assessments are prolonged assessments.<sup>23</sup> The current AU\$277.20 rebate provided for the prolonged assessment, however, may be insufficient to cover more complex assessments and potentially act as a barrier to performing 75+ Health Assessments.

Items included in major existing templates but not considered essential for every assessment by our participants include assessment of feet, hearing/ ears, fitness to drive, caring responsibilities and need for community services. While these issues may not be essential to do as part of every health assessment; they will clearly need to be considered for some patients and will add to the time taken to conduct the assessment. Therefore, it is important to consider how health assessments can be conducted in a comprehensive and effective manner while still being feasible within available time and resources. Our data show that while GPs indicated that items with medico-legal implications such as fitness to drive and medications should only be assessed by GPs, they perceived that either a GP or nurse could assess the majority of items. This suggests that hybrid assessment models that involve nurse assessment of some items may enable practices to use GP time more efficiently. There may also be scope for patients to complete pre-assessment questionnaires that identify key problems ahead of the consultation to enable a more focussed use of time within the consultation. To our knowledge, pre-assessment questionnaires are rarely undertaken by Australian primary care practices.

Most GPs in this study agreed that a standardised template should be used to record the outcome of a health assessment and that standardised tools should be used to assess complex issues. However, it is notable that there is substantial variability in the items recommended across existing templates and the level of guidance provided in their assessment. For example, the Medicare template does not include recommendations for specific tools. The RACGP template, on the other hand, recommends tools (e.g. the Geriatric Depression Scale for assessment of depression) but does not include the scale items within the assessment. Therefore, there is substantial scope to make such templates more efficient and user friendly. Electronic templates that include drop-down boxes and trigger additional questions based on answers to screening questions may assist GPs in conducting standardised and comprehensive assessments.

Finally, previous research has identified modest evidence that clinician characteristics, such as clinician age, may be associated with clinician views and clinical behaviours about aspects of patient care such as physical

activity advice, advanced care planning, and management of sexual functioning.<sup>24-26</sup> However, in this study, we did not identify any GP or practice-related characteristics that were significantly associated with GP views about how health assessments for older people should ideally be conducted. This suggests that revisions to major existing templates may not need to be tailored, such as by practice location or practice size.

### Limitations

The modest response rate is a limitation of the current study that likely limits the degree to which results are representative of the views of Australian GPs. While no response bias was identified for GP gender or practice location, it is possible that GPs who participated in this study may have differed from non-responders on characteristics not routinely collected by the AMPCo database sampling frame. For example, it is possible that, compared to GPs in general, those in our sample were more likely to have a special interest in the care of older people. Similar studies in the future could further explore this by including questions about what percentage of the GPs' clients are aged 75 or older; whether they had undergone any post-graduate training in older people's health; and whether they consider themselves to have a special interest or expertise in older people's health. Nonetheless, the response rate is similar to that achieved in other studies using similar recruitment methods.<sup>27-29</sup>

### Conclusions

GPs who participated in our study identified 24 items that they perceived as essential for every health assessment. They also perceived that essential items would take more than an hour to assess. This suggests that either increases to the Medicare rebate for prolonged assessments, and/or addition of an additional tier for assessments of complex patients lasting more than 90 minutes and/or mechanisms for improving the efficiency of assessments are needed. Our data suggest that acceptable mechanisms for improving efficiency and quality may include the use of standardised patient-reported tools, standardised templates, and the employment of non-medical practitioner staff, such as nurses, to undertake some components of the assessment.

### Acknowledgements

This research was supported by the National Health and Medical Research Council via a Dementia Research Team grant (APP1095078). Mariko Carey is supported by an NHMRC Boosting Dementia Research Leadership Fellowship (APP1136168). This research was also supported by infrastructure funding from the Hunter Medical Research Institute. The authors would like to acknowledge Sarah Tew for research assistance and Sandra Dowley for data entry.

### Ethics

The University of Newcastle Human Research Ethics Committee (H-2018-0474) reviewed and approved the study.

### References

- United Nations. *World Population Prospects 2017* [Internet]. New York (NY): UN; 2017 [cited 2018 Jun 8]. Available from: <https://population.un.org/ProfilesOfAgeing2017/index.html>
- Australian Institute of Health and Welfare. *Older Australia at a Glance* [Internet]. Canberra (AUST): AIHW; 2017 [cited 2018 Jun 21]. Available from: <https://www.aihw.gov.au/reports/older-people/older-australia-at-a-glance/contents/demographics-of-older-australians/australia-s-changing-age-and-gender-profile>
- Prince M, Wu F, Guo Y, et al. The burden of disease in older people and implication for health policy and practice. *Lancet*. 2015;385:549-62.
- Beard J, Bloom D. Towards a comprehensive public health response to population ageing. *Lancet*. 2016;385:658-61.
- Williams I, O'Doherty L, Mitchell G, et al. Identifying unmet needs in older patients. *Aust Fam Physician*. 2007;36:772-6.
- Gray L, Newbury J. Health assessment of elderly patients. *Aust Fam Physician*. 2004;33:795-7.
- Blakeman T, Comino E, Zwar N, et al. Evaluating the introduction of the enhanced primary care 75+ annual health assessments. *Aust Fam Physician*. 2001;30:1004-9.
- Hamirudin A, Ghosh A, Charlton K, et al. Trends in uptake of the 75+ health assessment in Australia: A decade of evaluation. *Aust J Prim Health*. 2015;21:423-8.
- Byles J, Dolja Gore X, Nair K, et al. Uptake and effectiveness of preventive health assessments: A study of 11,726 older Australian women. *Innov Aging*. 2017;1:1287.
- Byles J, Young A, Whewey V. Annual health assessments for older Australian women: Uptake and equity. *Aust N Z J Public Health*. 2007;31:170-3.
- Durlak JA, DuPre EP. Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *Am J Community Psychol*. 2008;41:327.
- Australian Department of Health. *Summary Statistics: Health Workforce Summaries* [Internet]. Canberra (AUST): Government of Australia; 2017 [cited 2018 Jun 21]. Available from: <https://hwd.health.gov.au/summary.html>
- Murphy M, Sanderson C, Black N, et al. Consensus development methods, and their use in clinical guideline development. *Health Technol Assess*. 1998;2(3):i-iv, 1-88.
- Molnar F, Frank C. Optimizing geriatric care with the GERIATRIC 5Ms. *Can Fam Physician*. 2019;65:39.
- Sternberg SA, Wershof Schwartz A, Karunanathan S, et al. The identification of frailty: A systematic literature review. *J Am Geriatr Soc*. 2011;59:2129-38.

- Vermeulen J, Neyens J, van Rossum E, et al. Predicting ADL disability in community-dwelling elderly people using physical frailty indicators: A systematic review. *BMC Geriatr*. 2011;11:33.
- Kojima G, Taniguchi Y, Illiffe S, et al. Frailty as a predictor of Alzheimer disease, vascular dementia, and all dementia among community-dwelling older people: A systematic review and meta-analysis. *J Am Med Dir Assoc*. 2016;17:881-8.
- Grabovac I, Haider S, Mogg C, et al. Frailty status predicts all-cause and cause-specific mortality in community dwelling older adults. *J Am Med Dir Assoc*. 2019;20:1230-5.
- Marcucci M, Damanti S, Germini F, et al. Interventions to prevent, delay or reverse frailty in older people: A journey towards clinical guidelines. *BMC Med*. 2019;17:193.
- World Health Organization. *Integrated Care for Older People (ICOPE): Guidance for Person-centred Assessment and Pathways in Primary Care*. Geneva (CHE): World Health Organization; 2019.
- Fortunato S, Forli F, Guglielmi V, et al. A review of new insights on the association between hearing loss and cognitive decline in ageing. *Acta Otorhinolaryngol Ital*. 2016;36:155-66.
- Australian Department of Health. *Medicare Benefits Schedule (MBS) Online* [Internet]. Canberra (AUST): Government of Australia, 2020 [cited 2020 Aug 19]. Available from: [www.mbsonline.gov.au](http://www.mbsonline.gov.au)
- Services Australia. *Medicare Item Reports* [Internet]. Canberra (AUST): Government of Australia; 2020 [cited 2020 Aug 19]. Available from: [http://medicarestatistics.humanservices.gov.au/statistics/mbs\\_item.jsp](http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp)
- Spellman C, Craike M and Livingston P. Knowledge, attitudes and practices of clinicians in promoting physical activity to prostate cancer survivors. *Health Educ J*. 2014;73:566-75.
- De Vleminck A, Houtteker D, Pardon K, et al. Barriers and facilitators for general practitioners to engage in advance care planning: A systematic review. *Scand J Prim Health Care*. 2013;31:215-26.
- Andrews CN, Piterman L. Sex and the older man—GP perceptions and management. *Aust Fam Physician*. 2007;36:867-9.
- Halkett GK, Jiwa M, Meng X, et al. Referring advanced cancer patients for palliative treatment: A national structured vignette survey of Australian GPs. *Fam Pract*. 2014;31(1):60-70.
- Parkinson A, Jorm L, Douglas KA, et al. Recruiting general practitioners for surveys: Reflections on the difficulties and some lessons learned. *Aust J Prim Health*. 2015;21:254-8.
- Herrmann A, Carey M, Zucca A, et al. Australian GPs' perceptions of barriers and enablers to best practice palliative care: A qualitative study. *BMC Palliat Care*. 2019;18:90.

### Supporting Information

Additional supporting information may be found in the online version of this article:

**Supplementary File 1:** Relevant survey items assessing GP views on 75+ Health Assessment.

**Supplementary File 2:** Items that fewer than 70% of GPs rated as essential to examine during an older person's health assessment.