Identifying unmet needs in older patients

Nurse-GP collaboration in general practice

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BACKGROUND
Australia's rapidly aging population has a high prevalence of chronic disease and disability, leading to an increased social and economic burden. The Enhanced Primary Care program seeks to reduce this burden by promoting preventive and coordinated care. This study aimed to identify unmet needs in community dwelling general practice patients aged 75 years and over through annual health assessments performed by a general practitioner-nurse team.

METHODS
Community dwelling patients of a large suburban general practice aged 75 years and over were invited to participate. Five hundred and forty-six consecutive, eligible patients were recruited. Data were collected by GP-nurse teams on physical and psychosocial variables using a combination of physical examination, self reporting, and rating scales.

RESULTS
Fifty percent of the women and 25% of the men lived alone. Over 90% of participants reported one or more health problems, with musculoskeletal issues being most common. Men rated their health more poorly than women. Incontinence affected one-third of patients, mainly women. Women reported more psychological distress. There were age and gender differences in activities of daily living (ADL). Mobility, ADL, visual impairment, bowel problems, use of sleep medications and psychological wellbeing were strongly associated to self reported health.

DISCUSSION
Health assessments were effective in identifying significant physical and psychosocial problems in older adults. The importance of such assessments is underscored by strong associations between various domains and perceived general health. Collaboration between a GP and a practice based community nurse represents a potential solution to identifying (and responding to) unmet physical and psychosocial needs to improve quality of life in community dwelling older adults.

It is widely recognised that the aging Australian population has a high prevalence of chronic disease and disability, leading to an increased social and economic burden.[1] The Enhanced Primary Care program promotes preventive care and coordination of care for older adults through the 75+ health assessment (HA). This structured approach to assessment serves two functions:[2] to identify clinical problems that may be overlooked using traditional approaches[3,4] and to assess preventable disorders and potential adverse events. These measures can be expected to promote independent living in the community.

Over 20% of Australia's older adults received a 75+HA in 2004–2005.[5] International evidence is mixed regarding the effectiveness of preventive assessments in older adults, and there is a need for more research on their effectiveness in the Australian context. The two most recent Australian trials of home based, nurse delivered HA did not report differences in primary outcomes between the intervention and control groups.[6,7] Byles et al[6] found a significant increase in aged care placement in the intervention group.

Conversely, a number of international reviews have supported home based HAs as demonstrating positive effects on health service utilisation, health status, costs, independence and mortality rates.[8–12] The principal recommendations emerging from this research include adopting comprehensive, multidimensional home based assessment, individualising assessments and targeting particular subpopulations, involving nurses who can effectively engage community services, developing and executing of multidisciplinary care plans, utilising a team approach, and conducting routine follow up.

These recommendations were integrated into the

design of the current study. The authors aimed to identify unmet needs in patients aged 75 years and over through a comprehensive, home based HA, focusing on patients who present with complex care needs. Ongoing collaboration between the general practitioner and community nurse was a central feature of the intervention. Furthermore, a physical examination – which has not typically been an element of the HA – was performed. This particular assessment model has not previously been reported.

Methods

The setting was a large private billing suburban practice of 17 GPs serving 35 000 patients. Approximately 1200 patients aged ≥75 years were registered at the practice. All GPs participated in the study.

Participants were community dwelling, aged ≥75 years, cognitively competent to provide informed consent, and with complex needs (defined as unable to be adequately addressed during a single, long GP consultation). Patients were recruited consecutively during the delivery of usual care by their GPs between February 2003 and June 2006.

Ethics approval was granted by the University of Queensland.

The HA was initiated by the GP and completed by one of two community nurses at the patient's home. A General Practice Management Plan and Team Care Arrangement was subsequently developed by the community nurses and the patient's usual GP based on the HA. The content and effectiveness of these care plans will be reported elsewhere.

Patients were asked to identify their own primary health issues. Physical health was assessed in terms of blood pressure, immunisation status, continence, mobility, pain and sensory impairment. Psychological wellbeing was assessed based on self reported anxiety and depression using the Geriatric Depression Scale-15 (GDS-15).[13] This measure was introduced after data had already been collected from 143 patients. Social related areas were also explored. Data were analysed in SPSS version 14.0 using Mann-Whitney U and Kruskal Wallis tests. Statistical significance was set at $p \leq 0.01$.

Results

Five hundred and forty-six patients met inclusion criteria and agreed to participate in the study within the sampling period (*Figure 1*). *Table 1* shows the sociodemographic profile of the sample. Over two-thirds of the sample were women, however the mean age did not differ between men and women. A third of the sample were aged 85 years or over; the sample distribution of women to men remained the same in this subset. A quarter of the men lived alone compared to over 50% of the women.
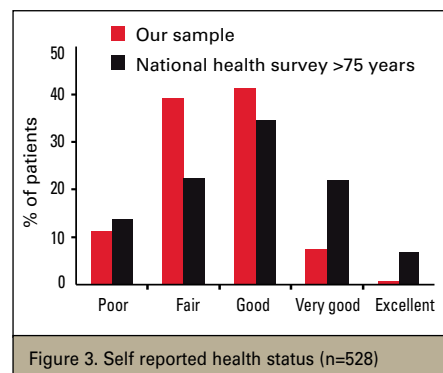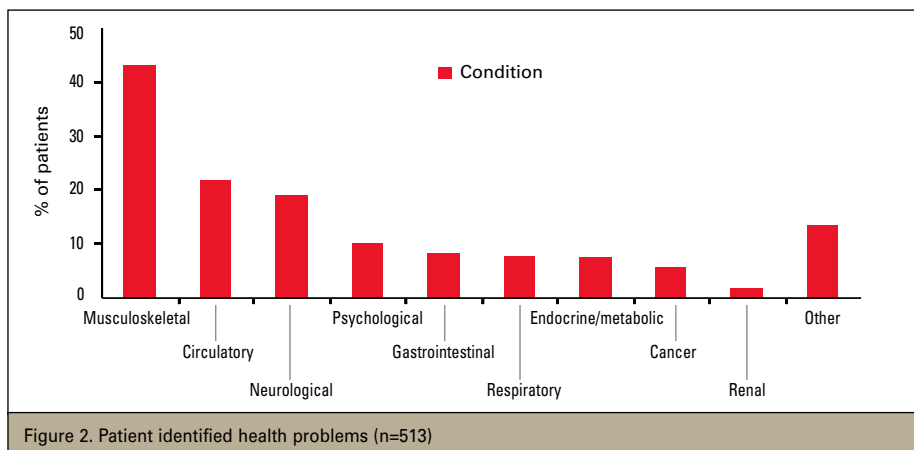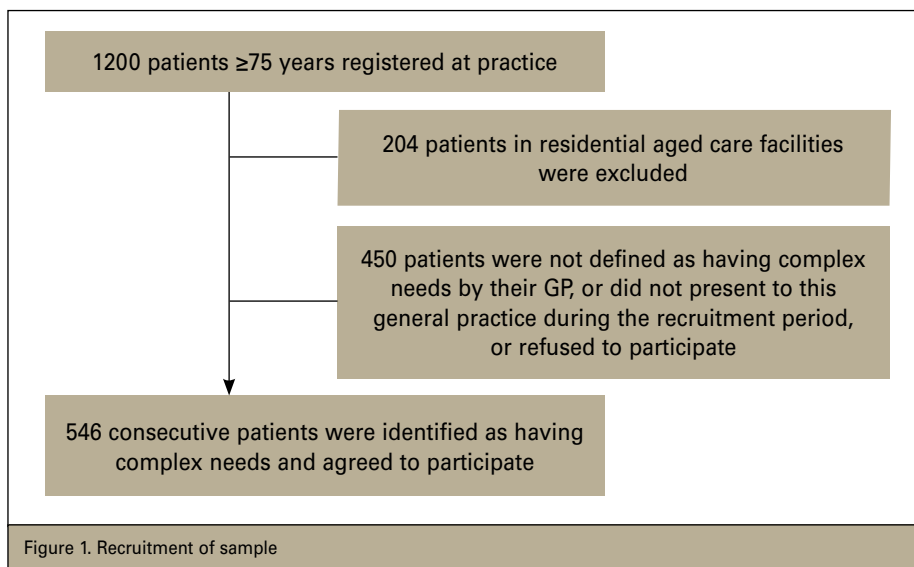
Table 1. Patient characteristics (n=546)

Characteristics	%
Gender, female	68
European descent	100
Age, mean years (SD) [range]	83 (4.6) [75–96]
Living arrangements:	
• alone	43
• with partner	44
• other	13
Housing:	
• own home	86.7
• private rental	3.3
• government rental	5.1
• other	4.9
Carer present	12

Figure 1. Recruitment of sample

- 1200 patients ≥75 years registered at practice
- 204 patients in residential aged care facilities were excluded
- 450 patients were not defined as having complex needs by their GP, or did not present to this general practice during the recruitment period, or refused to participate
- 546 consecutive patients were identified as having complex needs and agreed to participate

Figure 2. Patient identified health problems (n=513)

Figure 3. Self reported health status (n=528)

Patients were asked to describe their own primary health issues. Sixty percent reported one health problem, while 27.6% and 5.8% had two and three health problems respectively. Over 40% reported problems related to musculoskeletal health (*Figure 2*). Six percent reported no health issues (n=33) but were included in the sample because of nonhealth needs (eg. poor social support). Furthermore, some patients denied any particular health issues despite actually having chronic health problems identified by the assessment.

Patients were requested to indicate how they perceived their health on a five point Likert scale (*Figure 3*); 80% rated their health as good or fair and scores were not affected by age. Men rated their health significantly lower than females (Z=–2.7, *p*=.007). Also, there was a trend toward lower perceived health status than national figures would suggest.[14]

Table 2 presents the findings on patients' health status. Mean systolic blood pressure was 140.7 (SD=21.2) and diastolic BP was 73.4 (SD=11.7). Mean pulse rate was 68 bpm (SD=11). Women had higher systolic BP (Z=–2.8, *p*=.005) and pulse rate (Z=–3.6, *p*=.0001) than men. Women reported more problems with urine loss (Z=–5.4, *p*=.0001), stress incontinence

(Z=–5.2, *p*=.0001) and bladder infections (Z=–2.8, *p*=.005). Men reported significantly greater difficulties with hearing (Z=–4.0, *p*=.0001). Tetanus immunisation was not current in 53% of patients. Pneumococcus immunisation was current in a greater proportion of the young old group compared to the oldest old (≥85 years) (Z=–3.2, *p*=.002).

Table 3 reports patients' activities of daily living (ADL). While over 50% reported no mobility deficits, mobility deteriorated with age, with greater use of aids in the oldest old (Z=–4.1, *p*=.0001). Housework and shopping were the most problematic ADL domains and presented greater difficulty for men and the oldest old. Women reported having more falls (Z=–2.8, *p*=.005), as did a greater proportion of the oldest old.

Table 4 presents information relating to the sample's psychological wellbeing. All but 2% of patients indicated that they were coping adequately with life. Approximately 50% experienced anxiety and/or depression sometimes or often. The mean baseline GDS-15 score was 2.6; 20% reported clinically significant levels of depression (score ≥515). Women reported more anxiety (Z=–2.6, *p*=.01), loneliness (Z=–2.6, *p*=.008) and desire for more social contact (Z=–2.5, *p*=.01) than men. Psychological wellbeing was not related to age.

Table 5 presents data relating to social issues. Current driving licences were more common among men (Z=–7.2, *p*=.0001) and the younger group (Z=–4.0, *p*=.0001). Overall, 3.5% of patients smoked. Women used more sleeping medication (Z=–2.6, *p*=.01) while men consumed more alcohol (Z=–6.6, *p*=.0001). Men were more likely to have an enduring power of attorney (Z=–2.8, *p*=.005), as were older patients (Z=–2.7, *p*=.008). Older patients were more likely to have a taxi subsidy (Z=–5.5, *p*=.0001) and have their medications managed by a carer (Z=–4.2, *p*=.0001), although carers were not more common in this group.

Those with poor mobility had poor self assessed health (χ^2=39.9, *p*<.0001) and lacked independence in relation to bathing, dressing, shopping, meal preparation and housework. Poor self reported health was associated with falls (χ^2=20.1, *p*<.0001), dependence on aids (χ^2=17.6, *p*=.001), raised systolic BP (χ^2=14.5, *p*=.006), visual impairment (χ^2=15.2, *p*=.004), use of

Table 2. Physical health status		
Category	**N**	**%**
Blood pressure (mmHg)		
– systolic BP ≥130	386	74
Current immunisation		
– tetanus	259	47
– influenza	439	80
– pneumonococcus	378	69
Ulcer	85	16.8
Pain		
– present	47	8.6
– mild	226	41.4
– absent	273	50.0
Pain management		
– medication	99	76.7
– physiotherapy	6	4.7
– other	24	18.7
Urine loss		
– none	362	67.8
– slight	131	24.5
– moderate	39	7.3
Stress incontinence	102	23.4
Nocturia	62	11.7
Faecal incontinence		
– none	508	93.2
– slight	21	3.9
– moderate	10	1.8
– severe	4	.7
Proneness to constipation	178	32.7
Visual impairment		
– none	3	0.6
– mild	387	71.8
– significant	149	27.6
Auditory impairment		
– none	19	3.5
– mild	344	64.1
– significant	174	32.4

sleeping medications (χ^2=21.3, p<.0001), poor appetite (χ^2=35.3, p<.0001), faecal incontinence (χ^2=14.6, p=.006) and constipation (χ^2=32.5, p<.0001). Depression, anxiety and the GDS-15 (χ^2=100.6, p<.0001) were also negatively associated with self assessed health.

Table 3. Activities of daily living

Category	N	%
Self reported level of mobility		
– no deficit	305	57.3
– deficit	216	40.6
– significant deficit	11	2.1
Confident about mobility	419	79.1
History of falls	338	62.7
Falls in the previous month		
– none	282	57.9
– one	115	23.6
– two	43	8.8
– three or more	47	9.7
Aids in use		
– none	290	54.3
– single prong stick	161	30.1
– four prong stick	4	0.7
– wheeled walker	71	13.3
– wheelchair	5	0.9
– Canadian crutches	3	0.6
Frequency of aid use		
– rarely	16	6.9
– outside only	81	35.1
– all the time	134	58.0
Dressing		
– independent	488	91.6
– somewhat dependent	36	6.8
– dependent	9	1.7
Bathing		
– independent	468	87.6
– somewhat dependent	56	10.5
– dependent	10	1.9
Housework		
– independent	146	27.7
– somewhat dependent	312	59.1
– dependent	70	13.3
Shopping		
– independent	279	52.8
– somewhat dependent	158	29.9
– dependent	91	17.2
Meal preparation		
– independent	326	61.2
– somewhat dependent	144	27.0
– dependent	63	11.8

Discussion

Overall, data on physical and psychological outcomes were in line with the National Health Survey.[14] Previous research has suggested targeting certain subgroups (eg. those at lower risk of death).[2,10,16] While we did not target low risk patients, the study consolidates the notion that needs may be differentiated according to group characteristics. For example, men and the oldest old reported greater problems with ADL and hearing impairment than women and the young old. Experiences of pain differed between young old and old old. Women experienced considerably more continence problems. Women reported greater psychological (including loneliness and cognitive) problems than men, possibly owing to the larger proportion of women living alone. Alternatively, men may be less likely to express these issues, or the data simply captured a gender difference in experience of distress. Women used more sleep medications; men reported higher alcohol consumption. Men also had poorer perceived health relative to women, consistent with national data.

Perceived general health was significantly related to specific aspects of physical and psychosocial wellbeing. It was lower than national data[14] possibly reflecting the complex needs of this subset of the ≥75 years population. Mobility and independence were positively aligned with good general health. Bowel problems were negatively related to health. Importantly, psychological wellbeing also related strongly to perceived health: 20% reported clinically significant levels of depression. Targeting areas that negatively impact perceived health could be important given that self reported health has been linked with mortality.[17]

Other findings concerned the influenza immunisation rate, which compared favourably with that achieved by Byrnes et al[18] using a targeted immunisation strategy. However, rates for tetanus and pneumococcus prevention were suboptimal. A greater proportion of young old patients had current immunisations, possibly due to better mobility enabling them to see their GP on a more frequent basis. Just 10% of all patients had an advance health directive. Men and older patients were more likely to have an enduring power of attorney. Ten percent of those <85 years of age had a carer; this increased to 13% for the oldest old. These matters reiterate the need for a multidimensional approach to assessment and represent areas that could benefit from individually targeted assessment and subsequent care planning.

Table 4. Psychological health		
Category	**N**	**%**
Depression		
– not at all	280	53.8
– sometimes	206	39.6
– often	34	6.5
– GDS-15 ≥5	79	19.6
Anxiety		
– not at all	248	47.7
– sometimes	233	44.8
– often	39	7.5
Loneliness		
– not at all	361	69.6
– sometimes	139	26.8
– often	19	3.7
Desires more social contact	28	5.7
Copes adequately with life	493	97.6
Experiences memory loss	365	72.1

Table 5. Social issues		
Category	**N**	**%**
Carer		
– present	60	12.1
– receives carer's pension	4	6.7
Driver's licence	202	39.4
Taxi subsidy	132	24.2
Medications management		
– self managed	408	74.7
– carer managed	49	9.0
– dosette box	54	9.9
– Webster packs	32	5.9
Advanced health directive	49	10.7
Completed will	509	95.1
Enduring power of attorney	391	74.3

This study had several limitations. The demographics of the practice population may limit generalisability: the proportion of people living in their own homes was higher than the national average (86.6 vs. 79%), and more lived alone (43 vs. 32%).[1]

Another problem concerns the late introduction of the GDS-15. Future research will focus more on the application of standardised tools across the sample and report on mortality, aged care placement and hospitalisation rates. We are currently investigating the impact of the HA plus follow up care planning on health and psychosocial wellbeing 1 year postassessment to determine if patients' needs have been adequately met through the assessment process.

This study has demonstrated the capacity for this model of assessment to detect a range of potential health and psychosocial problems in this population. Many such problems go unaddressed in routine general practice. The issues of greatest relevance can vary substantially across subpopulations. This underscores the importance of attending to characteristics of groups and individuals, and taking a holistic approach to assessment.

The authors argue that collaboration between a community nurse and GP, encouraging alternative perspectives, skills and experience to be combined, achieves superior care solutions for older adults in the community.

Conflict of interest: none declared.

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