

University of Wollongong

Research Online

Faculty of Science, Medicine and Health -
Papers: part A

Faculty of Science, Medicine and Health

1-1-2015

Trends in uptake of the 75+ health assessment in Australia: a decade of evaluation

Aliza Haslinda Hamirudin
University of Wollongong, ahh308@uowmail.edu.au

Abhijeet Ghosh
Illawarra and Shoalhaven Local Hospital, ag477@uowmail.edu.au

Karen E. Charlton
University of Wollongong, karenc@uow.edu.au

Andrew D. Bonney
Univeristy of Wollongong, abonney@uow.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/smhpapers>



Part of the [Medicine and Health Sciences Commons](#), and the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Hamirudin, Aliza Haslinda; Ghosh, Abhijeet; Charlton, Karen E.; and Bonney, Andrew D., "Trends in uptake of the 75+ health assessment in Australia: a decade of evaluation" (2015). *Faculty of Science, Medicine and Health - Papers: part A*. 2131.
<https://ro.uow.edu.au/smhpapers/2131>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

Trends in uptake of the 75+ health assessment in Australia: a decade of evaluation

Abstract

In Australia, older adults aged 75+ years are encouraged to avail themselves of the comprehensive 75+ health assessment (75+ HA) to identify medical conditions and highlight potential risk factors for poor health. However, uptake of this item has been reported to be low. This study aimed to identify the uptake of the 75+ HA within regional areas of New South Wales and compare this against state and national trends over an 11-year period. Data on uptake of the 75+ HA for item numbers 700 and 702, from 1999 until 2010, were obtained from the Medicare Australia portal and Department of Health and Ageing databases. Trends over time were collated and compared at the regional, state and national level. The study found that an increasing number of the 75+ HAs were performed from 1999 to 2009. Overall, the uptake of the 75+ HA is generally low across Australia, at ~20% of the eligible population, but varied across states and even regions within states. The study also revealed that despite low uptake encouraging trends were evident over a decade of 75+ HA implementation. It is argued that strategies in improving the uptake should be targeted for early identification of health risk and overall improved quality of health in older adults.

Keywords

General practice, older adults, primary health care, primary prevention

Disciplines

Medicine and Health Sciences | Social and Behavioral Sciences

Publication Details

Hamirudin, A., Ghosh, A., Charlton, K. & Bonney, A. (2015). Trends in uptake of the 75+ health assessment in Australia: a decade of evaluation. *Australian Journal of Primary Health*, 21 (4), 423-428.

Title: Trends in uptake of the 75+ Health Assessment in Australia: A decade of evaluation

Aliza Haslinda Hamirudin¹, Abhijeet Ghosh^{2,3}, Karen Charlton¹, Andrew Bonney¹

and Karen Walton¹

1 School of Medicine, University of Wollongong, Wollongong, NSW 2522, Australia.

2 Grand Pacific Health Ltd trading as Illawarra-Shoalhaven Medicare Local, Wollongong, NSW 2500, Australia.

3 Corresponding author. Email: aghosh@gph.org.au

Abstract

In Australia, older adults aged 75+ years are encouraged to avail themselves of the comprehensive 75+ health assessment (75+ HA) to identify medical conditions and highlight potential risk factors for poor health. However, uptake of this item has been reported to be low. This study aimed to identify the uptake of the 75+ HA within regional areas of New South Wales and compare this against state and national trends over an 11-year period. Data on uptake of the 75+ HA for item numbers 700 and 702, from 1999 until 2010, were obtained from the Medicare Australia portal and Department of Health and Ageing databases. Trends over time were collated and compared at the regional, state and national level. The study found that an increasing number of 75+ HAs were performed from 1999 to 2009. Overall, the uptake of the 75+ HA was generally low across Australia, at ~20% of the eligible population, but varied across states and even regions within states. The study also revealed that despite low uptake encouraging trends were evident over a decade of 75+ HA implementation. It is argued that strategies in improving the uptake should be targeted for early identification of health risk and overall improved quality of health in older adults.

Keywords: health assessment, older adults, primary prevention, primary health care, general practice

Summary statement

- **What is known about the topic?**

The 75+ health assessment is a Medicare Benefits Schedule-funded health screening offered to older people to monitor their health and well-being; however, its uptake by the target group is unknown.

- **What does this paper add?**

In the 10-year period from 1999, national uptake of the 75+ HA increased sixfold; however, overall uptake remained low at ~20% in the age-eligible population

Title: Trends in uptake of the 75+ Health Assessment in Australia: A decade of evaluation

Introduction

In Australia, as in all developed nations, the high prevalence of chronic disease in the ageing population is a major contributor to the burden of disease nationally (Mathers et al. 2000), with much of this burden potentially amenable to preventive interventions (Mathers et al. 2000; AIHW 2008). The Australian National Preventive Health Agency (ANPHA) (2013) highlighted a major role for primary care with regard to the implementation of preventative health strategies. For older adults, General Practitioners (GPs) are an integral provider of health promotion activities (Sims et al. 2000), including health assessment screens.

In 1999, the 'Enhanced Primary Care' (EPC) package was introduced by the Commonwealth Department of Health and Aged Care which included 'Health assessments for adults aged 75 years and over' (75+ HA) (Department of Health and Ageing 2010). The EPC package was formulated to support collaborative clinical work among GPs, nurses and allied health professionals while providing preventive care, and to improve older persons' access to health services (Gray and Newbury 2004). The 75+HA involves evaluation of various medical and non-medical conditions including cognition, social status, activities of daily living (ADL), depression, mobility and nutritional status. The Medicare Benefit Schedule (MBS) item number 700 can be performed within the consulting room while item number 702 is reserved for assessment in the patient's home.

Gray and Newbury (2004) define health assessment as 'a structured approach to assessment of older people using standardized protocols.' Two important functions include identification of psychosocial issues, clinical problems and disability; and to evaluate preventable disorders and the risk of adverse events. The main purpose of health screening in this vulnerable age group is to facilitate timely and appropriate interventions to prevent further decline in function or complications associated with chronic conditions (Gray and Newbury 2004). This aligns with aged care reforms in Australia that aim to support older adults to live longer at home in the community while still maintaining their independence (Department of Health and Ageing 2012).

In 2005, the EPC package was replaced by the Chronic Disease Management (CDM) items (Department of Health 2014). From May 1st 2010, Medicare Benefit Schedule (MBS) items became available for GPs to undertake a 75+ HA (Department of Health 2013), depending on the complexity of a patients' underlying health conditions (i.e. 701 (brief), 703 (standard), 705 (long) or 707 (prolonged)) , while, item numbers 700 and 702 were phased out (Table 1) (Department of Health and Ageing 2010).

Uptake of the 75+HA by age-eligible Australians has not been comprehensively evaluated in the peer reviewed literature. The aim of this study was to identify trends in uptake of the 75+HA over the past decade and to determine whether these trends differ across states, as well as by metropolitan and non-metropolitan area of residence. The audit will provide insights into the role of general practice in providing preventative health care activities within the overall care of their older patients.

Methods

Data on uptakes of MBS items number 700 and 702 have been sourced from various public domain sources such as MBS item uptake reports from MBS online and MBS Primary Care Items data from the Public Health Information Development Unit's Social Health Atlas series (PHIDU 2013).. The data were collated using MS Excel (V2013: Microsoft Corporation, Redmond, Washington, USA), and multiple data tables created for the two item numbers (700 & 702) which were exclusive for 75+HA until 30th April 2010. Tables included demographic variables (age and sex) specific uptake and uptake by year. The change in MBS item numbers since 1st May 2010 necessitated substitution of item numbers 700 and 702 with the four time-based items (701; 703; 705 or 707). Our analysis excluded these new item numbers and hence for year to year comparisons covers the period 1999/2000 through to the end of the financial year 2008/9.

The total number of women and men aged 75 years and older who had accessed these services (as measured by claims for item numbers 700 and 702) between 2006/7 and 2008/9 was categorised into two age groups; 75 to 84 years and 85+ years. Age standardised rates of these services per 100,000 persons were assessed for state-level data and for national data. To assess whether there were state

and regional differences in uptake of the 75+HA (as assessed by item numbers 700 and 702), rates were compared for the financial year 2009-10.

Results

The gross number of services per financial year steadily increased across NSW and Australia for MBS items 700 and 702 combined, from the year 1999/2000 until a peak uptake of more than 100,000 (NSW) and 300,000 (Australia), respectively, in 2008/2009 (Figure 1).

The number of women and men aged between 75 and 84 years who had undergone a 75+HA in NSW increased from 2006–07 and peaked for the 2008–09 year (Figure 2). Equality of uptake by gender in the younger age group was evident in 2008/2009. Uptake of the 75+HA of older adults aged 85+ years were less than the younger age group with uptake of not more than 20 per 100 persons. A greater number of women than men aged 85+ years had accessed this service during the period 2006/2007 until 2008/2009.

The most recent time period for which data for items 700 and 702 are available is the financial year 2009/10. The states of NSW, Queensland (QLD) and Tasmania (TAS) had slightly higher age-standardised prevalence for uptake of 75+ HA than the national average, but Victoria (VIC), South Australia (SA) and Western Australia (WA) had lower than average figures and the Northern Territory (NT) had the lowest prevalence at approximately 6,000 per 100,000 persons for this period (Table 2). National and NSW uptake of 75+ HA (items 700 and 702) in non-metropolitan areas were higher than Sydney and other capital cities of Australia. Overall rates of services in NSW also appeared to be higher compared to other areas (Figure 3).

Discussion

This study provides evidence of trends over time in uptake of the 75+HA by age eligible sectors of the population. No studies have been published on this topic since 2005. Uptake of the 75+ health assessment in New South Wales has increased at a similar rate to that for Australia overall since its introduction in 1999. Stable increasing trends were identified until 2008/2009. Previous research

reported that uptake of these MBS item numbers dramatically increased in the first two introductory years, from approximately 4,000 a month up to 13,000 per month by the end of 2001 (Wilkinson et al. 2002a). During this period, a total of 130,000 assessments were conducted in consulting rooms while close to 95,000 were performed elsewhere, such as in patients' homes (Wilkinson et al. 2002a).

Comparison with previous research

Our data supports observations that older women are more proactive in preventative health-seeking behaviour than men of the same age, as evidenced by the sex differential in the number of Medicare-funded health assessments (O'Halloran et al. 2006; Byles et al. 2007; Chan et al. 2008), that remains even after 85 years of age (Gill et al. 2008). In 2009-2010, our data shows that six states provided more than 15,000 services per 100,000 population (age standardised rate), except for NT and ACT. It is unclear why the risk ratio for age-standardised rates of the 75+HA screen is higher than the national figure in the three states of NSW, Queensland, and Tasmania. During the early years of the introduction of the 75+HA version that is conducted in consulting rooms (item number 700), older adults in NSW, Victoria and Queensland had higher access to this service than older adults in other states (Kelaher et al. 2005). Overall less than 10% of age-eligible older adults had accessed the 75+HA between the years 2000 and 2004 across Australia (Kelaher et al. 2005). In the 11-year period from 1999, national uptake of the 75+HA had increased sixfold, however, overall uptakes remain low as only 20% of the eligible population had accessed this service. This may reflect a lack of awareness and refusal by older adults themselves or may reflect a low priority assigned to this item by general practice staff. A previous study has reported that 75% of 506 general practices sampled did not routinely invite eligible patients to undertake the 75+HA (Chew et al. 1994a). Over half (55%) of GPs surveyed perceived that patients did not welcome the 75+HA due to fear of negative outcomes, privacy invasion and consideration of themselves as being healthy and not in need of such health screens (Chew et al. 1994b). Failure of general practice staff to follow up patients who did not respond to mailed invitations for health assessments may contribute to low uptake. For example, in one UK study, more than half of the older adults who were mailed an invitation for a health assessment did not respond (Brown et al. 1992). Lack of awareness of the 75+ HA process itself may

also contribute to low response rates or refusal to participate. A study revealed that close to 20% of older adults who had never undergone a 75+HA refused to participate (Chew et al. 1994b), In contrast, patients who had undertaken the 75+HA perceived that it was beneficial to their wellbeing (Gill et al. 2008; Spillman et al. 2012) and that they were likely to repeat the assessment at a later date (Chew et al. 1994b).

Disparities in uptake

Disparities in uptake of the 75+HA exist among older adults who live in rural and urban areas (Wilkinson et al. 2002b; Byles et al. 2007). Age-standardised data on 75+HA for 2009-10 clearly illustrate the higher uptake of the health check in non-metropolitan regions of both NSW and Australia than in the more urban metropolitan regions of the state and the nation overall. A recently undertaken pilot study in a large Medicare Local Super Clinic in regional NSW reported that only 14% of eligible older people had undergone a 75+ health assessment in the previous 15 month period; which indicates many missed opportunities for conducting preventive health and well-being examinations of elderly patients (Ghosh et al. 2013). This regional assessment suggested that older residents in rural areas may have closer connections with health services compared with metropolitan centres, which has been reported by others (Wilkinson et al. 2002b), and therefore these older residents may be more likely to have a health assessment performed (Byles et al. 2007).

Limitations

Due to changes in coding for practice reimbursements, the specific item numbers 700 and 702 that were exclusive to the 75+HA were no longer available after May 2010 (mid quarter 2). This limited our analysis of uptake of the 75+ HA until that time. Such change to MBS item numbers presents a challenge to population health care planners, as granular data for the 75+ component of the battery of health assessments available will need to be exclusively requested for future research and analysis

purposes from Medicare Australia. A possible solution may be a data-sharing agreement between Medicare Australia and Medicare Locals to enable regular reporting of the uptake of preventive health-related Medicare items.

The analysis did not assess the role of practice nurses, rather than General Practitioners, in carrying out 75+ assessments.

Implications

The question of whether undertaking the 75+ HA improves health outcomes in older people has been investigated in a randomised clinical trial conducted over 12 months (Newbury et al. 2001). Although no changes in mortality rate associated with having had a 75+HA were found, improvements in self-rated health status were evident (Newbury et al. 2001). It may be that 12 months was insufficient to detect changes in mortality arising from preventive activities in this age group. However, associations between higher self-rated health and improved clinical outcomes have been noted over longer time frames. For example, in previous research, older Australian women who self-rated their health as 'poor' had a 5.3 (95% CI = 2.4, 11.7) greater relative risk of mortality over seven years compared to those who rated their health as 'excellent' (McCallum et al. 1994). In men, the relative risk was 3.1 (95% CI = 1.7, 5.8) for poor vs excellent self-rated health status. Another 9-year follow up study also demonstrated that poor-self rated health was associated with an increased mortality rate (Tainen et al. 2013).

Undiagnosed medical and non-medical problems could be identified during the annual 75+ HA (Blakeman et al. 2001; O'Halloran et al. 2006; Cheffins et al. 2010), a further benefit identified by patients (Piccoliori et al. 2008). For example, nutrition-related problems in older adults is one of the commonly identified non-medical problems that may be identified within the screen (Cheffins et al. 2010). Malnutrition often remains undetected in older adults despite being a strong predictor of unfavourable health outcomes (Visvanathan et al. 2004; Charlton et al. 2012; Charlton et al. 2013)

and the GP is in a unique position to identify problems related to nutritional risk, for referral to a dietitian for further evaluation, if necessary (Sampson 2009). Various authors have advocated for inclusion of a validated nutrition screening instrument within the 75+ HA (Flanagan et al. 2012). General Practitioners and practice nurses, themselves, have also identified that the 75+HA is an opportunistic way to implement routine nutritional screening in community-dwelling older adults (Hamirudin et al. 2013).

There is evidence that health screening activities in older adults improves patient outcomes. Older adults who were monitored by healthcare professionals following health assessments reported having a better quality of life, compared to those that had not undergone a health screen (Byles et al. 2004). A meta-analysis reported that preventive care provided through home visits by general practice staff was effective in reducing mortality and nursing home admission in older adults (Elkan et al. 2001). Another meta-analysis demonstrated that completion of the comprehensive geriatric assessment, together with appropriate monitoring, resulted in reduced mortality rates and improved functional status (Stuck et al. 1993). A recent Finnish study indicated that an annual comprehensive geriatric assessment helped frail older adults to improve their mobility (Tikkanen et al. 2014). In Australia, the 75+HA is well received in patients who opt to have it performed, with 77% of this group perceiving the 75+HA to be beneficial to their health whilst 83% felt that conducting the 75+HA annually would be appropriate (Spillman et al. 2012). Further qualitative analyses of older adults' experiences within the primary health care setting are required to elucidate behaviours and perceptions in this age group regarding their access to preventive health services, barriers to uptake of health assessments, and outcomes that occur as a result of the 75+HA. This method of research has proved useful in identifying reasons why general practice nurses and doctors do not currently place a high emphasis on delivering preventive health services such as the 75+ HA (Hamirudin et al. 2013).

Thus, the low uptake of the 75+ HA indicates a need for General Practitioners to increase awareness of its potential value in older patients, and implement strategies to encourage older people to avail themselves of this activity. Monitoring of patients and appropriate referral following completion of

the 75+HA would improve its applicability for early intervention in this high risk group, in order to assist older adults to live independently at home. Given the potential benefits of the 75+HA, further Australian research is needed to identify barriers to promotion of this health screen by General Practice staff and to investigate long-term outcomes of value to patients, including quality of life and maintenance of independence, as well as morbidity and mortality.

List of figures

Figure 1:

Trends of the number of gross services in New South Wales (NSW) and Australia for the 75+ health assessment (MBS items 700 and 702). MBS, Medicare Benefits Schedule.

Rate per 100 calculated using annual estimated resident population figures from the Australian Bureau of Statistics (2013)

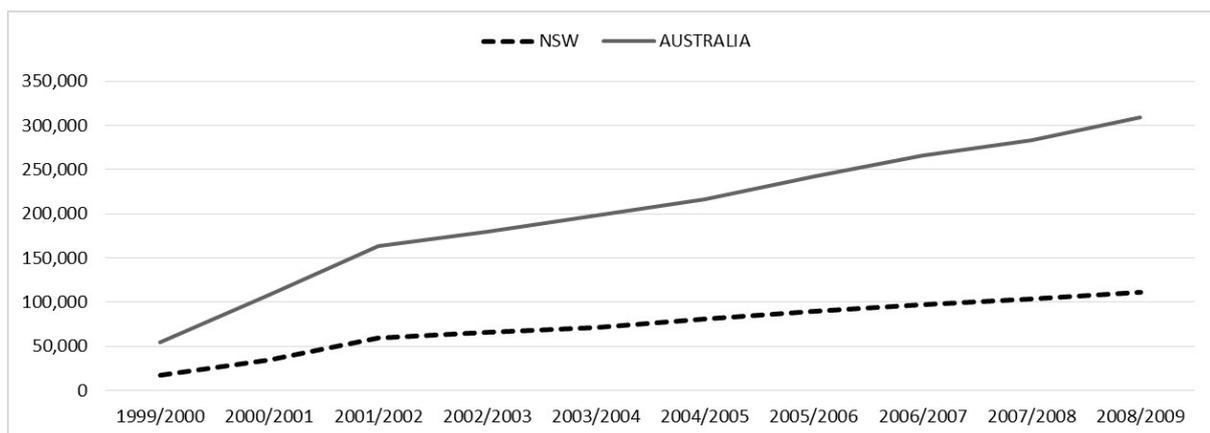


Figure 2: Number (rate per 100) of 75+ Health Assessments conducted in New South Wales, by age and gender, 2006-09

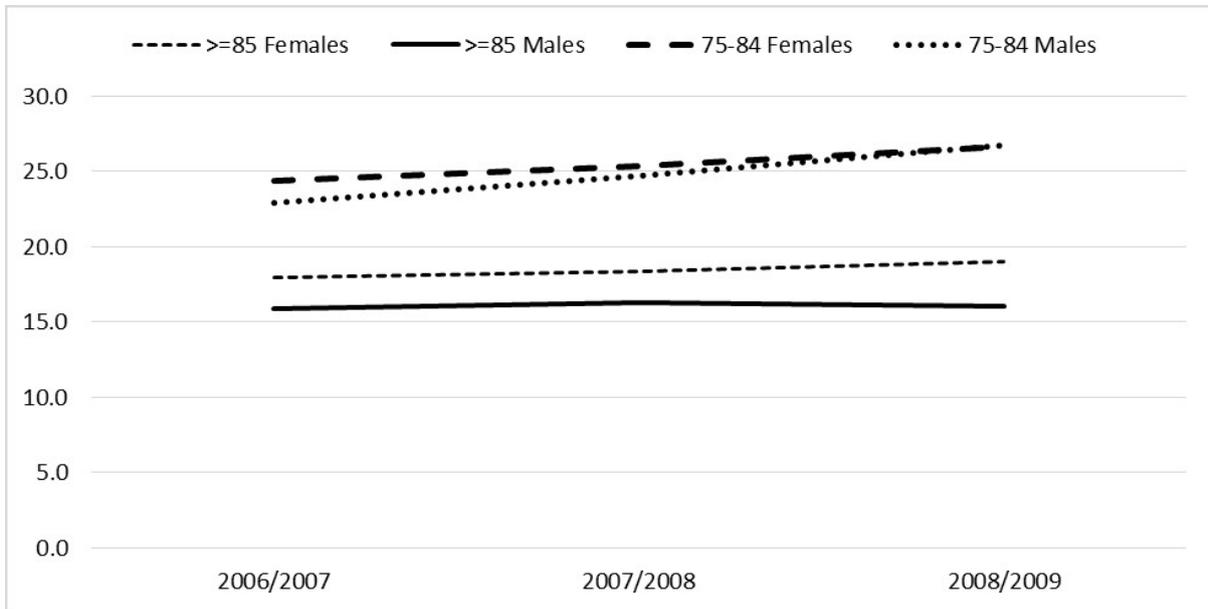
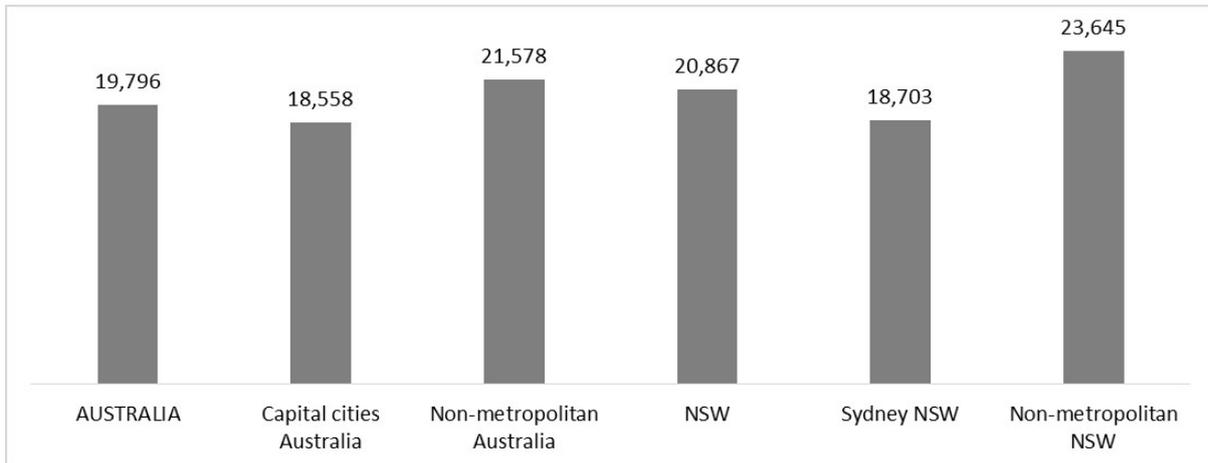


Figure 3: Regional comparisons (age-standardised rate per 100,000) in 75+ Health Assessments performed in 2009-10 in non-metropolitan regions of New South Wales (NSW) and Australia compared with those performed in metropolitan regions



List of tables

Table 1: Item numbers for Health Assessments pre and post May 2010.

Pre May 2010		Post May 2010	
Item No.s	Description	Item No.s	Description
700	Annual 75+ years health assessment at consulting rooms	701	Brief Health Assessment lasting not more than 30 minutes for any of the 7 included items
702	Annual 75+ years health assessment not being an attendance at consulting rooms, a hospital or a residential aged care facility	703	Standard Health Assessment lasting more than 30 minutes but less than 45 minutes for any of the 7 included items
709	One-off health assessment of a child during the 4 year immunization	705	Long Health Assessment lasting at least 45 minutes but less than 60 minutes for any of the 7 included items
712	Annual comprehensive medical assessment (cma) of a permanent resident of a residential aged care facility	707	Prolonged Health Assessment lasting at least 60 minutes for any of the 7 included items
713	Once in 3 years health assessment for type 2 diabetes risk evaluation for a patient who is 40 to 49 years of age (inclusive) with a high risk of developing type 2 diabetes	<p>The 7 included items are: -</p> <ol style="list-style-type: none"> 1. a Healthy Kids Check 2. a chronic disease health assessment for at risk 45-49 year old persons 3. a type 2 diabetes risk evaluation for at risk 40-49 year old persons 4. an older persons health assessment 5. a comprehensive medical assessment for a permanent resident of an aged care facility 6. a health assessment for a person with an intellectual disability <p>a health assessment for a refugee or humanitarian entrant</p>	
714	Annual health assessment for refugees and other humanitarian entrants not being in attendance at consulting rooms, a hospital or a residential aged care facility		
716	Annual health assessment for refugees and other humanitarian entrants at consulting rooms		
717	One-off 45 year old health assessment for a patient who is at risk of developing a chronic disease		
718	Annual health assessment of a patient with an intellectual disability at consulting rooms		
719	Annual health assessment of a patient with an intellectual disability not being an attendance at consulting rooms, a hospital or a residential aged care facility		

Table 2: State-level comparisons of 75+ Health Assessments performed in 2009-10.

Region/State	Age-standardised rate of services per 100,000 population	Rate Ratio *
New South Wales	20,867	1.054
Victoria	18,123	0.915
Queensland	22,255	1.124
South Australia	18,900	0.955

Western Australia	16,733	0.845
Tasmania	21,127	1.067
Northern Territory	6,308	0.319
Australian Capital Territory	14,127	0.714
AUSTRALIA	19,796	

* National age-standardised rate of services is reference category

References

- AIHW. (2008). "Incidence and Prevalence of Chronic Diseases." Retrieved 26th May 2010, from http://www.aihw.gov.au/cdarf/data_pages/incidence_prevalence/index.cfm.
- Australian Bureau of Statistics, 2013, Australian Demographic Statistics, June 2013, cat. no. 3101.0, Available at:
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3101.0Main+Features1Jun%202013?OpenDocument> (Verified 20 January 2013).
- Australian National Preventive Health Agency (ANPHA) (2013). *State of Preventive Health 2013. Report to the Australian Government Minister for Health*. Canberra, ANPHA.
- Blakeman, TM, Comino, EJ, Zwar, NA and Harris, MF (2001). "Evaluating the Introduction of the Enhanced Primary Care 75+ Annual Health Assessments." *Australian Family Physician* 30(10): 1004-1009.
- Brown, K, Williams, EI and Groom, L (1992). "Health Checks on Patients 75 Years and over in Nottinghamshire after the New Gp Contract." *British Medical Journal* 305(6854): 619-621.
- Byles, JE, Tavener, M, O'Connell, RL, Nair, BR, Higginbotham, NH, Jackson, CL, McKernon, ME, Francis, L, Heller, RF, Newbury, JW, Marley, JE and Goodger, BG (2004). "Randomised Controlled Trial of Health Assessments for Older Australian Veterans and War Widows." *Medical Journal of Australia* 181(4): 186-190.
- Byles, JE, Young, AF and Wheway, VL (2007). "Annual Health Assessments for Older Australian Women: Uptake and Equity." *Australian and New Zealand Journal of Public Health* 31(2): 170-173.
- Chan, A, Amoroso, C and Harris, M (2008). "New 45-49 Year Health Checks - Gp Uptake of Mbs Item 717." *Australian Family Physician* 37(9): 765, 767-768.
- Charlton, K, Nichols, C, Bowden, S, Milosavljevic, M, Lambert, K, Barone, L, Mason, M and Batterham, M (2012). "Poor Nutritional Status of Older Subacute Patients Predicts Clinical Outcomes and Mortality at 18 Months of Follow-Up." *European Journal of Clinical Nutrition* 66: 1224-1228.
- Charlton, KE, Batterham, MJ, Bowden, S, Ghosh, A, Caldwell, K, Barone, L, Mason, M, Potter, J, Meyer, B and Milosavljevic, M (2013). "A High Prevalence of Malnutrition in Acute Geriatric Patients Predicts Adverse Clinical Outcomes and Mortality within 12 Months." *e-SPEN Journal* 8(3): e120-e125.
- Cheffins, T, Spillman, M, Heal, C, Kimber, D, Brittain, M and Lees, M (2010). "Evaluating the Use of Enhanced Primary Care Health Assessments by General Practices in North Queensland." *Australian Journal of Primary Health* 16(3): 221-223.
- Chew, CA, Wilkin, D and Glendenning, A (1994a). "Annual Assessment of Patients Aged 75 Years and Over: General Practitioners' and Practice Nurses' Views and Experiences." *British Journal of General Practice* 44(383): 263-267.
- Chew, CA, Wilkin, D and Glendenning, C (1994b). "Annual Assessments of Patients Aged 75 Years and Over: Views and Experiences of Elderly People." *British Journal of General Practice* 44(389): 567-570.
- Department of Health. (2013). "Mbs Health Assessments Items 701, 703, 705, 707, 715 and 10986." Retrieved 13 January 2014, from http://www.health.gov.au/internet/main/publishing.nsf/Content/mbsprimarycare_mbsitem_general_factsheet.
- Department of Health. (2014). "Removal of Enhanced Primary Care (Epc) Terminology " Retrieved 13 January 2014, from <http://www.health.gov.au/internet/main/publishing.nsf/Content/mbsprimarycare-removalofepc>.
- Department of Health and Ageing. (2010). "Mbs Primary Care Items. Health Assessment for People Aged 75 Years and Older." Retrieved 17 July 2011, from http://www.health.gov.au/internet/main/publishing.nsf/Content/mbsprimarycare_mbsitem_75andolder.

- Department of Health and Ageing. (2012). "Living Longer. Living Better." Retrieved 12 December 2012, from <http://www.health.gov.au/internet/publications/publishing.nsf/Content/ageing-aged-care-reform-measures-toc>.
- Elkan, R, Kendrick, D, Dewey, M, Hewitt, M, Robinson, J, Blair, M, Williams, D and Brummell, K (2001). "Effectiveness of Home Based Support for Older People: Systematic Review and Meta-Analysis." *British Medical Journal* 323(7315): 719-724.
- Flanagan, D, Fisher, T, Murray, M, Visvanathan, R, Charlton, K, Thesing, C, Quigley, G and Walther, K (2012). "Managing Undernutrition in the Elderly: Prevention Is Better Than Cure." *Australian Family Physician* 41(9): 695-699.
- Ghosh, A, Charlton, KE, Girdo, L, Batterham, MJ and McDonald, K (2013). "Addressing the Deficiencies in the Evidence-Base for Primary Practice in Regional Australia - Sentinel Practices Data Sourcing (Spds) Project: A Pilot Study." *BMC Family Practice* 14.
- Gill, GF, Geraghty, DP and FitzGerald, DG (2008). "Did General Practice Health Assessments of Older Australians Improve Equity?" *Australian Health Review* 32(3): 488-493.
- Gray, LC and Newbury, JW (2004). "Health Assessment of Elderly Patients." *Australian Family Physician* 33(10): 795-797.
- Hamirudin, AH, Charlton, K, Walton, K, Bonney, A, Albert, G, Hodgkins, A, Potter, J, Milosavljevic, M and Dalley, A (2013). "'We Are All Time Poor' Is Routine Nutrition Screening of Older Patients Feasible?" *Australian Family Physician* 42: 321-326.
- Kelagher, M, Dunt, D, Thomas, D and Anderson, I (2005). "Comparison of the Uptake of Health Assessment Items for Aboriginal and Torres Strait Islander People and Other Australians: Implications for Policy." *Australia and New Zealand Health Policy* 2(1): Article number 21.
- Mathers, CD, Vos, ET, Stevenson, CE and Begg, SJ (2000). "The Australian Burden of Disease Study: Measuring the Loss of Health from Diseases, Injuries and Risk Factors." *Med J Aust* 172(12): 592-596.
- McCallum, J, Shadbolt, B and Wang, D (1994). "Self-Rated Health and Survival: A 7-Year Follow-up Study of Australian Elderly." *American Journal of Public Health* 84(7): 1100-1105.
- Newbury, JW, Marley, JE and Beilby, JJ (2001). "A Randomised Controlled Trial of the Outcome of Health Assessment of People Aged 75 Years and Over." *Medical Journal of Australia* 175(2): 104-107.
- O'Halloran, J, Ng, A, Britt, H and Charles, J (2006). "Epc Encounters in Australian General Practice." *Australian family physician*. 35(1-2): 8-10.
- Public Health Information Development Unit (PHIDU). Social Health Atlas of Australia: Medicare Local (online). Available at: <http://www.adelaide.edu.au/phidu/maps-data/data/> (Verified 12 June 2014).
- Piccoliori, G, Gerolimoni, E and Abholz, H-H (2008). "Geriatric Assessment in General Practice Using a Screening Instrument: Is It Worth the Effort? Results of a South Tyrol Study." *Age and Ageing* 37(6): 647-652.
- Sampson, G (2009). "Weight Loss and Malnutrition in the Elderly: The Shared Role of Gps and Apds." *Australian Family Physician* 38(7): 507.
- Sims, J, Kerse, NM, Naccarella, L and Long, H (2000). "Health Promotion and Older People: The Role of the General Practitioner in Australia in Promoting Healthy Ageing." *Australian and New Zealand Journal of Public Health* 24(4): 356-359.
- Spillman, M, Kimber, D and Cheffins, T (2012). "Patient Views of over 75 Years Health Assessments in General Practice." *Australian Journal of Advanced Nursing, The* 29(4): 5-10.
- Stuck, AE, Siu, AL, Wieland, GD, Adams, J and Rubenstein, LZ (1993). "Comprehensive Geriatric Assessment: A Meta-Analysis of Controlled Trials." *Lancet* 342(8878): 1032-1036.
- Tiainen, K, Luukkaala, T, Hervonen, A and Jylhä, M (2013). "Predictors of Mortality in Men and Women Aged 90 and Older: A Nine-Year Follow-up Study in the Vitality 90+ Study." *Age and Ageing* 42(4): 468-475.
- Tikkanen, P, Lönnroos, E, Sipilä, S, Nykänen, I, Sulkava, R and Hartikainen, S (2014). "Effects of Comprehensive Geriatric Assessment-Based Individually Targeted Interventions on Mobility of Pre-Frail and Frail Community-Dwelling Older People." *Geriatrics and Gerontology International*.

- Visvanathan, R, Newbury, JW and Chapman, I (2004). "Malnutrition in Older People--Screening and Management Strategies." *Australian Family Physician* 33(10): 799-805.
- Wilkinson, D, McElroy, H, Beilby, J, Mott, K, Price, K, Morey, S and Best, J (2002a). "Uptake of Health Assessments, Care Plans and Case Conferences by General Practitioners through the Enhanced Primary Care Program between November 1999 and October 2001." *Australian Health Review* 25(4): 1-11.
- Wilkinson, D, McElroy, H, Beilby, J, Mott, K, Price, K, Morey, S and Best, J (2002b). "Variation in Levels of Uptake of Enhanced Primary Care Item Numbers between Rural and Urban Settings, November 1999 to October 2001." *Australian Health Review* 25(6): 123-130.