

Ageing medical workforce – where will our leadership come from?

Deborah J Schofield^{1§}, Susan L Fletcher¹, Emily J Callander¹

¹Northern Rivers University Department of Rural Health, School of Public Health,
Faculty of Medicine, University of Sydney

[§]Corresponding author

Email addresses:

DJS: deborah.schofield@ncahs.health.nsw.gov.au

SLF: susanlf@unimelb.edu.au

EJC: emily.callander@ncahs.health.nsw.gov.au

Abstract

Background

As the general practitioner and specialist medical workforce ages there is likely to be a large number of retirees in the near future. However, few Australian studies have specifically examined medical practitioner retirement and projected retirement patterns, and the subsequent impact this may have on training future health care professionals.

Methods

Extracts from the Australian Medicare database and Medical Labour Force Surveys are used to examine trends in attrition of general and specialist physicians over the age of 45 years from the workforce and to predict their rate of retirement to 2025.

Results

The general physician workforce has aged significantly ($p < 0.05$). Between the years 2000 and 2025, it was projected that 43 per cent of the general practitioner workforce and 56 per cent of the specialist workforce would have retired.

Conclusions

The ageing of the baby boomer and older cohorts of the general practitioner and specialist workforce will lead to a significant number of retirements over the next 20 years. Increasing numbers of students and new medical schools has been heralded as a means of alleviating service shortages from about 2015 onwards; however, the retirement of a large proportion of experienced health care professionals may lead to shortages of educators for these students.

Background

Two major government reports have examined the impact of ageing in Australia – the Intergenerational Reports (IGR) released by the Treasurer in 2002 and 2007 [1] and the report on the Economic Implications of an Ageing Australia by the Productivity Commission.[2] These two reports highlighted future pressures which threaten the sustainability of the Australian Government budget balance due to the growing needs of an ageing population and labour shortages which will limit economic growth and taxation revenue. In addition, ageing of the “baby boomer” generation was found to increase demand for health care, and consequently the ageing population will require more health professionals to deliver the services required in an environment where the existing workforce is moving rapidly towards retirement.

Numerous studies have noted ageing of the Australian medical workforce.[3] [4] [5] [6] However, there has been very little research specifically on physician retirement or retirement intentions in Australia. One recent study which examined ageing and rates of retirement amongst the general practitioner and registered nursing workforce [7] concluded that there will be a period of rapid retirement from the medical workforce over the next 15 years. A recent paper projecting Australian medical workforce supply from 2001–2012 [8] included the impact of ageing and concluded that there will not be enough doctors in 2012. This has contributed to calls for more medical training places [9] to both meet the increasing demand for health care caused by the ageing Australian population, and to overcome the loss of medical practitioners as the medical workforce ages. The government has responded by significantly expanding the number of medical places available.

This paper will examine ageing of the general medical practitioner and specialist workforce in Australia and will project the numbers and timing of their retirement to 2025. The impact that the retirement of experienced health care professionals has on the training requirements of the future health care workforce will be discussed.

Methods

The methods used in this paper are similar to those used recently in Australia to examine past general practitioner and nursing retirement [7] but using different data sources and projecting the patterns of retirement into the future.

Grouped data on demographic characteristics (age and sex) were obtained for general practitioners from the Australian Government Department of Health and Ageing's Medicare data and for specialists (age, sex and hours worked), from the Australian Institute of Health and Welfare's (AIHW) annual Medical Labour Force Surveys. The Medicare data was provided from 1984-85 to 2004-05 and the Medical Labour Force Survey data from 1995 to 2003. The census was conducted before 1995, but the definitions for specialists have changed substantially so that comparisons with earlier years are not reliable.

Using Medicare and Medical labour force survey data, 5-yearly cohorts of general and specialist medical practitioners aged 45 years and over were followed from one 5 year period to the next to calculate attrition rates as general practitioners and medical specialists left the workforce. Although leaving the workforce may be due to any of a number of factors including retirement, ill health, change of profession, and death, attrition in this paper was broadly grouped as retirement.

Net attrition rates were calculated for general practitioners and specialists every 5 years as the percentage reduction in total physicians over the previous 5 years.

Cumulative net attrition was the sum of the attrition for all previous years. The calculation of cumulative attrition rates was as follows:

$$CAR=1-N_{ti}/N_{t1}$$

where CAR=Cumulative attrition rate,

N=number of people,

t_i =time period and

t₁=first year of data in series

Because there were only 9 years of data for specialists, meaning that attrition could be calculated for the first 5 years and then the next 3 years, the final 2 years of attrition for the second 5 year period was estimated on a pro rata basis from the attrition of the previous 3 years.

The general and specialist medical practitioner data was then “aged” from a base year of 2000, so that it represented the general and specialist medical practitioner workforce aged 45 and over in 5, 10, 15, 20 and 25 years time. These attrition rates were then applied to younger general practitioners and specialists to project future attrition from the workforce.

Results

Characteristics of medical educators

The average age of medical educators in 2005 was 50.9 years. This is slightly older than the average age of general medical practitioners and specialists, which in 2005 was 48.6 years and 49.9 years respectively (see Table 1). In twenty years time (from 2005), assuming that there is no workforce exit, there will be fewer general medical practitioners and specialists in the higher age groups from which medical educators generally belong.

In 2025 there will be only 170 general medical practitioner males in the 45-49 age group, and 732 in the 50-54 year age group (there were 2246 and 2329 male general medical practitioners in each of these respective age groups in 2005). It is anticipated that there will be 257 female general medical practitioners in the 45-49 year age group, and 953 in the 50-54 year age group in 2005 (compared to 1611 and 1220 females currently in these age groups). The specialist workforce in twenty years time (from 2003), again assuming no workforce exit, will have 923 45-49 year old male workers, and 2362 50-54 year old male workers (compared with respective figure of 2650 and 2317 in 2003). There will be 755 female specialists aged 45-49 years, and 1571 female specialists aged 50-54 (compared with 3443 and 2841 female specialists in these age groups in 2003).

The medical workforce in Australia

General medical practitioners

Between 1985 and 2005 the general medical practitioner workforce in Australia grew from 13,831 to 22,262 general medical practitioners. General medical practitioners were predominantly male in all years included in the study, although their majority decreased steadily from 80 percent in 1985 to 63 percent in 2005. Women were more highly represented in the younger age groups, accounting for 26 percent of general

medical practitioners aged less than 45 in 1985 compared to 12 percent of general practitioners aged over 45. By 2005, the proportion of women had grown to 49 and 26 percent in the younger and older age groups respectively.

Specialists

There were about 20,200 specialist physicians in Australia in 1995 increasing to 26,500 by 2003. The majority of specialists were men in 1995 and this was still the case in 2005. However, the proportion of female specialists had increased from 18 percent to 25 percent. In the older cohorts, aged 45 years or more, women represented 11 percent of the specialist workforce in 1995, but increased to 15 percent in 2003. However, they represented a considerably larger proportion of the younger cohorts, aged less than 45 years, where women represented 26 percent of the specialist workforce in 1995 and increased to 34 percent in 2003.

Ageing of the medical workforce

General medical practitioners

The Australian general practitioner workforce has aged significantly since 1985 ($p < 0.01$), with the proportion of general practitioners aged 45 years and over increasing from 39 per cent to 64 percent. Male general practitioners were older than their female counterparts, with 70 percent of men and 52 percent of women aged over 45 in 2005 (43 percent and 23 percent in 1985).

Specialists

There has not been marked ageing of the specialist workforce in Australia between 1995 and 2003. However, with only nine years of data, gradual ageing over a longer

time period may not be identified. About half of specialists were aged 45 and over in both 1995 and 2003.

Projected retirement of older physicians

General medical practitioners

The attrition rates calculated for general practitioners aged 45 and over were used to project future general medical practitioner retirements from 2005 to 2025.

In the year 2000, there were 21,355 general medical practitioners in Australia. Of these, 1289 or 6 per cent were projected to retire by 2005 (Figure 1). A further 5 per cent were expected to retire in the five years to 2010. A greater number of general medical practitioners were expected to leave the workforce in each subsequent five year period so that by 2025, a total of 9280 or 43 per cent of the 2000 workforce would no longer be practicing (Figure 2). The acceleration of retiree numbers is caused by the large group of younger general practitioners in their forties, with the largest group who would reach the age of 65 years in about 20 years time totalling almost 4000 in the 45 to 49 age group.

Specialists

Of the specialists who were aged 45 to 49 years in 2005, 39 per cent were projected to cease practice by 2020 when they were aged 65 to 69 years, with this figure increasing to 64 per cent when they would be 70 to 74 years of age. As with general practitioners, there were some specialists practicing at 80 years of age or more, however as the numbers were too small for reliable projections it was assumed that all specialists retired after 80 years of age.

Of the approximately 23,300 specialist medical practitioners in the year 2000, about 1655 were projected to retire over the five years to 2005 (Figure 1). A further 3410 were projected to retire in the following five years to 2010 and between 1700 and 2600 every five years after that to 2025. This amounted to a total of 11,722 retirees or 50 percent of the specialist workforce in the year 2000 (Figure 2).

Discussion

The results of this paper show that 43 percent of general medical practitioners and 50 percent of specialists that were practicing in 2000 will likely have retired by 2025. The upcoming retirement of a large proportion of the current general practitioner and specialist workforce may lead to difficulties in meeting the need for an increasing number of future educators.

Training more health care professionals has been seen as one way of overcoming future health workforce shortages potentially caused by an ageing workforce. In 2006, \$250 million was pledged to be spent on doctor and nurse training to 2010 [9]. There has also been an associated recent increase in the number of training places available, and these new students should begin to fill the 800 to 1300 general practitioner shortages identified by the Australian government in 2002 and at least some of the cohort of retiring practitioners [14]. However, there may be a shortage of experienced general and specialist medical practitioners to provide the post graduate training.

The National Health Workforce Taskforce identified that there is a “lack of capacity to provide training” for future health care professionals [15]. It also predicted that there would be increasing pressure to place students in training positions in the future as current experienced health care teachers retired. The current average age of health care professionals doing the training is 51 years [16]. The results of this paper indicate

that by 2020, 78% of general practitioners aged 45-49 in 2005, and 93% of specialists aged 45-49 in 2005 will have retired from the workforce. Furthermore, in twenty years time the number of both general medical practitioners and specialists in the 45-49 year age group, and in the 50-54 year age group will be less than current numbers. This will likely leave a significant shortfall in the experienced health care professionals available to train the larger future health workforce.

Conclusions

Ageing and retirement of the baby boomer and older cohorts of the general medical practitioner and specialist workforce combined with an ageing population demanding more services are likely to add to shortages over the next 20 years. Increasing numbers of students and new medical schools has been heralded as a means of alleviating shortages from about 2015 onwards; however, the retirement of a large proportion of experienced health care professionals may lead to shortages of educators of these students.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

DS conceived of the study and participated in the drafting and editing of the manuscript, data analysis and interpretation of the findings. SF participated in the drafting and editing of the manuscript, data analysis and interpretation of the findings. EC participated in the drafting and editing of the manuscript, and interpretation of the findings. All authors read and approved the final manuscript.

Acknowledgements

None.

References

- [1] Commonwealth of Australia. Intergenerational Report 2002-03. Canberra: Department of The Treasury; 2002. Report No.: Budget paper no. 5.
- [2] Productivity Commission. Economic implications of an ageing Australia. Canberra: Productivity Commission; 2005.
- [3] Australian Institute of Health and Welfare. Medical labour force 2002. Canberra: AIHW; 2004.
- [4] Australian Institute of Health and Welfare. Nursing labour force 2001. Canberra: AIHW; 2003.
- [5] Australian Medical Workforce Advisory Committee. Australian Medical Workforce Advisory Committee Annual Report 2003-04. Sydney: AMWAC; 2004.
- [6] Australian Health Workforce Advisory Committee. Australian Health Workforce Advisory Committee 2004 Annual Report. Sydney: AHWAC; 2004.
- [7] Schofield DJ, Beard JR. Baby boomer doctors and nurses: demographic change and transitions to retirement. *Med J Aust.* 2005;184:80-3.
- [8] Joyce CM, McNeil JJ, Stoelwinder JU. More doctors, but not enough: Australian medical workforce supply 2001-2012. *Med J Aust.* 2006;184:441-6.
- [9] ABC News. States say more medical training places needed. ABC Online. 2006.
- [10] Australian Medical Workforce Advisory Committee. Career decision making by postgraduate doctors. Sydney: AMWAC; 2005.
- [11] Schofield DJ, Earnest A. Demographic change and the future demand for public hospital care in Australia, 2005 to 2050. *Australian Health Review.* 2006 Nov;30(4):507-15.
- [12] Schofield D, Fletcher S. Baby boomer retirement and the future of dentistry. *Australian Dental Journal.* 2007;52:138-43.
- [13] Schofield D, Fletcher S, Johnston N. Baby boomer pharmacists: ageing and projections of retirement. *International Journal of Pharmacy Practice.* 2007;15:161-6.
- [14] Australian Medical Workforce Advisory Committee. The general practice workforce in Australia: supply and requirements to 2013. Sydney: AMWAC; 2005.
- [15] National Health Workforce Taskforce. Data, capacity and clinical placements across Australia: a discussion paper. Melbourne: National Health Workforce Taskforce; 2008.
- [16] Australian Institute of Health and Welfare. Medical labour force 2004. Canberra: AIHW; 2006.

Figures

Figure 1. Projected retirement every five years, general and specialist physicians aged 45 years or more, 2000-2025

Figure 2. Projected cumulative retirement every five years, general and specialist physicians aged 45 years or more, 2000-2025

Tables

Table 1: Average age of medical practitioners, 2005

Main Field	Average Age (years)
General Practitioners	48.6
Specialists	49.9
Educators	50.9

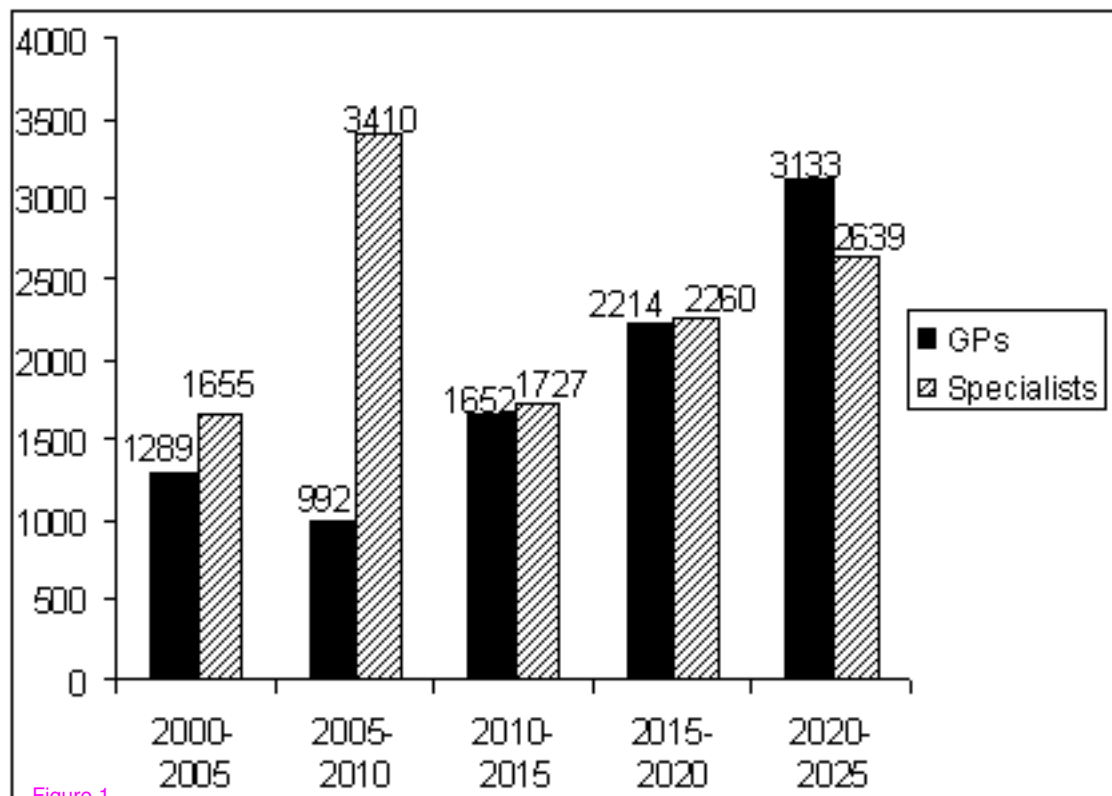


Figure 1

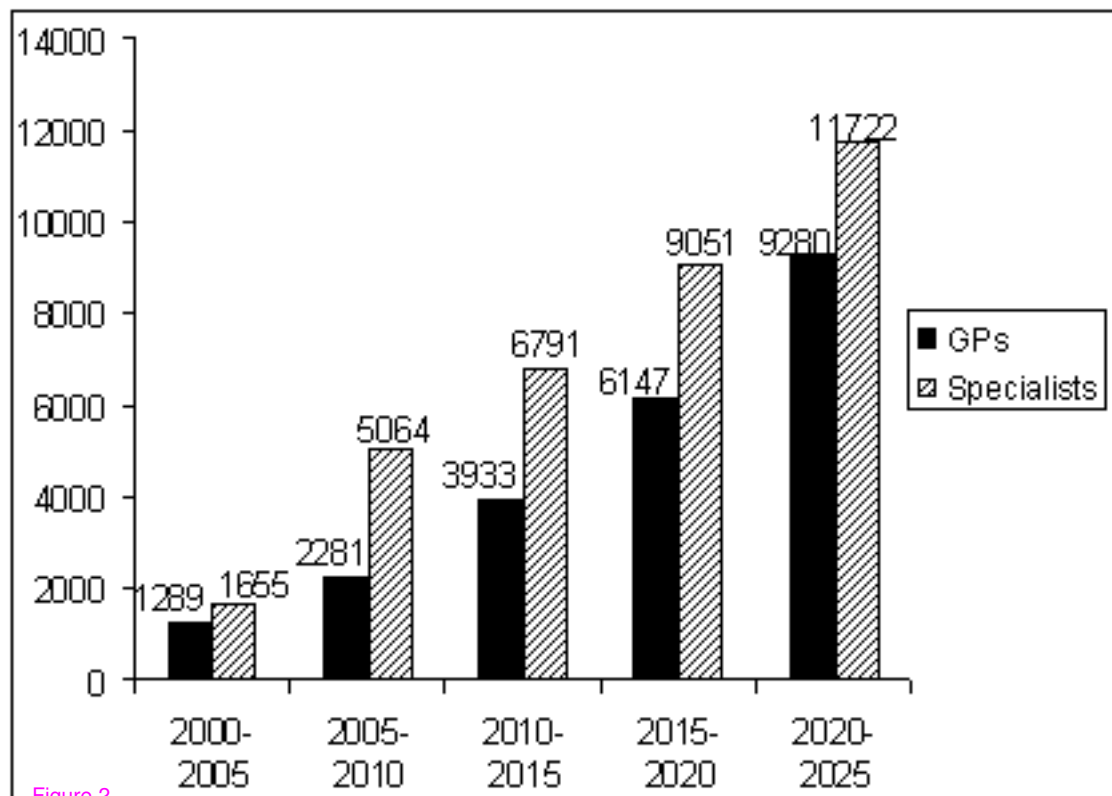


Figure 2