

Pharmacy workforce analysis

Key points

The pharmacy workforce grew by 11.4% in the five years between 2017/18 and 2021/22, with the growth unevenly distributed across jurisdictions and different remote areas.

Challenges facing the profession include the undersupply of pharmacists to outer regional and remote areas, the changing role of the pharmacist, and the increasing prevalence of chronic disease, including mental health and behaviours of concern.

Introduction

The information in this report is provided as a resource to help and inform the Pharmacy Board of Australia in its regulatory work and planning. The demographic analysis, which is based on National Registration and Accreditation Scheme (the National Scheme) data and published data from other sources, complements the [published demographic snapshot](#) with a more detailed description and discussion of trends in the pharmacy workforce.

Current state – general demographic characteristics

Profession overview

At 30 June 2022, there were 34,726 pharmacists registered in Australia, of which 96.1% held some form of practising registration.

The pharmacy profession constitutes 4.2% of the regulated health practitioner workforce, with 129.6 practising pharmacists per 100,000 head of population. Across the profession, 90.5% of registrants held general registration, 5.6% held provisional registration and 3.9% held non-practising registration. A further eight held limited registration.

The gender division for pharmacists was 63.8% female and 36.2% male. The average age of pharmacy registrants was 40.2 years with 39% aged under 35 years and 14.7% aged 55 years or older. Most pharmacists (84.8%) obtained their initial qualification in Australia. Pharmacists worked predominantly in private practice, in major cities or inner regional areas, and worked an average of 34.9 hours per week.

Pharmacists with general registration

At 30 June 2022, there were 31,437 pharmacists with general registration in Australia (90.5% of registrants). The average age of pharmacists with general registration was 40.6 years of which 63.7% were female and 36.3% male.

Australian Health Practitioner Regulation Agency
National Boards

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Ahpra and the National Boards regulate these registered health professions: Aboriginal and Torres Strait Islander health practice, Chinese medicine, chiropractic, dental, medical, medical radiation practice, midwifery, nursing, occupational therapy, optometry, osteopathy, paramedicine, pharmacy, physiotherapy, podiatry and psychology.

While nationally there were 129.6 pharmacists per 100,000 head of population, the distribution across jurisdictions varied. There were 154 pharmacists per 100,000 head of population in the Australian Capital Territory and 150.4 in Tasmania. Western Australia, Victoria and South Australia had 132.8, 132.7 and 132.4 respectively. There were 127.2 pharmacists per 100,000 in Queensland, 122.1 per 100,000 in New South Wales and 109.5 per 100,000 in the Northern Territory.

The 2020 National Health Workforce Survey (the 2020 NHWS) conducted by the Commonwealth Department of Health, found that around 89% of pharmacists with general registration were employed in the pharmacy profession in Australia, working an average of 34.9 hours per week (1). Some 77.9% of pharmacists with general registration (87.5% of employed pharmacists) defined their principal role as a clinician. The remainder identified themselves as administrators (including managers not providing clinical services), teachers, educators, researchers or working in other roles.

Of those pharmacists who provided information about their work setting, 62.4% reported that the setting of their primary work role was in a community pharmacy and 23.2% worked in a hospital. A further 4.9% worked in a community healthcare service, medical centre, or other private practice, 2.2% in an educational facility, and 1.9% in pharmaceutical manufacturing. The remainder (6.1%) worked in other settings including residential healthcare facilities, the defence forces and Aboriginal health services. When adjusted for full-time equivalence (FTE) (38 hours per week), 66.7% of clinicians worked in the private sector in their principal role. Based on the 2020 NHWS, about 11.9% of pharmacists had a second job, the majority of whom (80.7%) worked in the private sector.

The 2020 NHWS showed that nationally there were 99.9 FTE pharmacists per 100,000 head of population with a geographic distribution of 102.1 FTE per 100,000 in major cities, 81.8 FTE in inner regional areas, 77.4 FTE outer regional areas, 77.6 FTE in remote areas and 49 in very remote areas.¹

Pharmacists on the sub-register

At 30 June 2022, there were 642 pharmacists on the pandemic response sub-register, of which 57.2% were female and 42.8% male. Of these, 23.2% were aged less than 35 years and 46.6% were aged greater than 55 years.

Pharmacists on the sub-register were distributed as 35.8% in New South Wales, 23.1% in Victoria, 20.1% in Queensland, 9.5% in Western Australia, 8.1% in South Australia and 1.7% in Tasmania. There were five in the Australian Capital Territory and two in the Northern Territory. A further four pharmacists on the sub-register were located overseas. In terms of remoteness, 81% of those on the sub-register were in a major city of Australia, 13.1% in an inner regional area and 4.7% in an outer regional area with a further two registrants each in a remote area and very remote area respectively, as well as a further four located overseas.

Trends over the last five years

The pharmacist workforce increased by 11.4% over the last five years, from 29,973 practising pharmacists in 2017/18 to 33,388 in 2021/22.² Over this period, the proportion of male registrants decreased slightly from 37.5% to 36.2%, with a corresponding increase in female registrants from 62.5% to 63.8% of registrants. The proportion of pharmacists in the different categories of registration was essentially stable over the period, with a 0.3% increase in the proportion of non-practising pharmacists.

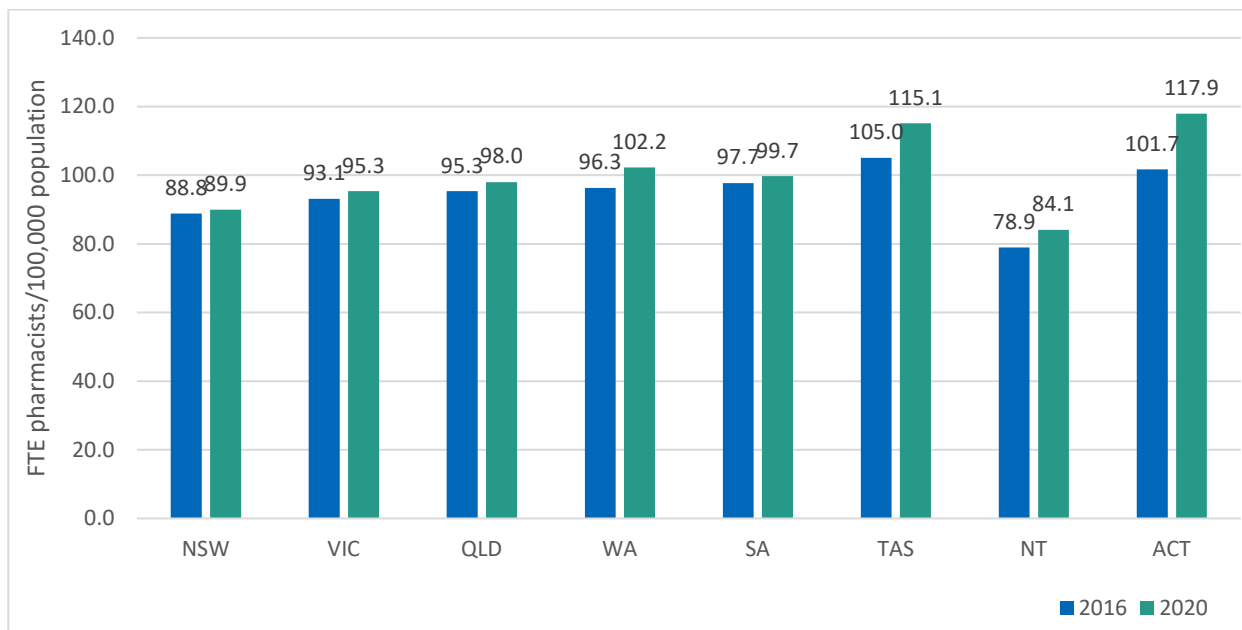
Based on the 2016 and 2020 NHWSs, there was a decrease in the average number of hours worked per week, from 35.9 hours in 2016 to 34.9 hours in 2020. Of the pharmacists who provided information on their number of hours worked, there was a slight decrease in the proportion working more than 35 hours per week (from 67% to 65%) over the five years and those working 50 or more hours per week (from 10.9% to 7.8%).

¹ The FTE number of pharmacists per 100,000 is lower than the number calculated using Ahpra data because the NHWS data was adjusted to take into account part-time work. Ahpra does not collect information about number of hours as part of its regulatory processes.

² Comprising pharmacists with general, limited and provisional registration, and excluding pharmacists with non-practising registration.

The change in the number of FTE pharmacists per 100,000 head of population for each jurisdiction between 2016 and 2020 is shown in Figure 1 below.

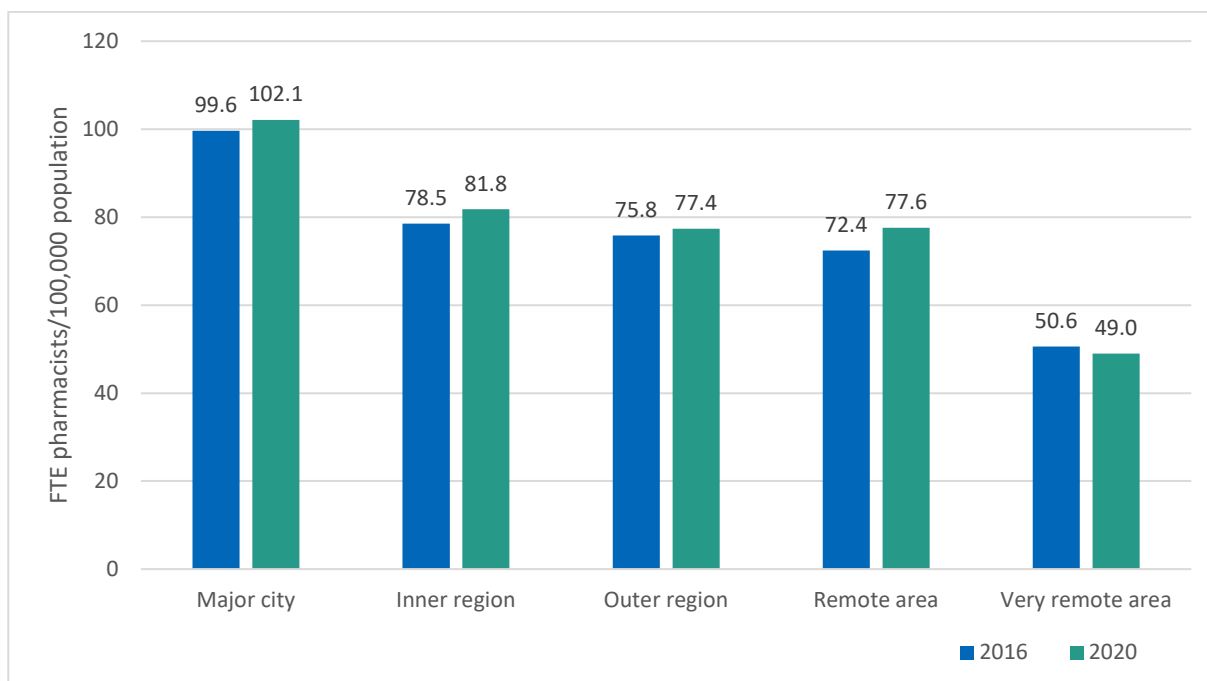
Figure 1: The number of FTE pharmacists per 100,000 head of population for each jurisdiction (2016 and 2020)



Based on the 2016 and 2020 NHWSs, the number of FTE pharmacists increased by 16.2 per 100,000 population in the Australian Capital Territory, 10.1 in Tasmania, 5.9 in Western Australia and 5.2 in the Northern Territory. It increased by 2.7 FTE pharmacists per 100,000 in Queensland, 2.2 in Victoria, 2 in South Australia and 1.1 in New South Wales over the five-year period.

The change in the number of FTE pharmacists per 100,000 head of population across each regional area between 2016 and 2020 is shown in Figure 2.

Figure 2: The number of FTE pharmacists per 100,000 head of population by regional area (2016 and 2020)



Based on the 2016 and 2020 NHWSs, the number of FTE pharmacists per 100,000 increased for all geographic regions except very remote areas. The number of FTE pharmacists increased from 99.6 to 102.1 per 100,000 in major cities, 78.5 to 81.8 in inner regional areas, 75.8 to 77.4 in outer regional areas and 72.4 to 77.6 in remote areas over the five years. The number of FTE pharmacists per 100,000 in very remote areas fell from 50.6 to 49 over the same period.

Principal work setting

Based on the 2020 NHWS, the proportion of pharmacists whose principal work setting was in a community pharmacy decreased from 64.5% to 62.4% between 2016 and 2020 and the proportion whose primary job was in a hospital increased from 20.8% to 23.2%. Over the same period, the proportion working for a community healthcare service, medical centre or another private practice decreased from 5.6% to 4.9%, the proportion working in pharmaceutical manufacturing decreased slightly from 2.4% to 2.2% and the proportion working in an educational setting from 1.3% to 1.2%.

The NHWS found that the proportion of pharmacists who worked a second job fell slightly from 14% to 11.9% between 2016 and 2020. The majority of these worked in the private sector, the proportion remaining stable over the five-year period (from 80.7% in 2016 to 80.3% in 2020).

Extended scope of practice

The 2020 NHWS included a question on extended scope of practice which was defined as including work that is currently within the scope of practice for pharmacists, but that through custom and practice has been performed by other health professions (for example, vaccination, prescribing under protocol, diabetes education and wound care). The extended role requires additional training, competency development as well as significant clinical experience. The NHWS found that the proportion of pharmacists working with an extended scope of practice in their principal job increased from 7.5% to 15.5% between 2016 and 2020.

Supply and demand – observations and insights

The domestic ‘pipeline’

At 30 June 2021, there were 7,289 students enrolled in an approved program of study to become a pharmacist. Student numbers dropped from 7,540 in 2016/17 to 6,487 in 2017/18 (14%). Since 2017/18, there has been a steady annual increase in student numbers such that they are currently 3.2% less than five years ago. It is not known why there was a drop in student numbers between 2016/17 and 2017/18.

Based on data from the student register, the proportion of female pharmacy students was 65.8% in 2021, 34.2% were male and for one student gender either was not stated/was inadequately described/intersex/indeterminate.³ Around 75.5% of students were under the age of 25 years, 94.4% under the age of 35 and 1.4% were aged 45 years or older.

At 30 June 2022, there were 18 education providers offering 42 approved programs of study for pharmacy (five in New South Wales, four in Queensland, three in Victoria, two in Western Australia and one each in the Australian Capital Territory, Northern Territory, South Australia and Tasmania). Of these, 13 programs of study led to a bachelor level qualification, 20 to a bachelor (honours) qualification, seven were at Masters level and two led to a combined bachelor/Masters degree. This is an increase of nine new programs of study across four universities compared to 1 July 2017.

Practice in rural and remote areas

Attracting pharmacists to work in rural and remote Australia is an important supply challenge given the skewed distribution of pharmacists toward urban locations as outlined above. It has been surmised that, as well as being more isolated than urban dwellers, the rural and remote population are often more socioeconomically disadvantaged and may have more limited health literacy (2, 3). Students intending to practise pharmacy must complete an approved degree program followed by a one-year internship of supervised practice in an approved setting. Globally, the inclusion of rural practice in curriculum and

³ Due to ongoing improvements in validation and reporting of the student registers, these figures are indicative only and changes over time need to be interpreted with caution.

clinical placement in a non-metropolitan area are two widely used strategies to increase the pharmacy workforce in rural and remote areas(4).

At 30 June 2022, four education providers offered courses leading to the qualification as a pharmacist across six rural locations (Armidale and Orange, in New South Wales; Cairns, Mackay and Townsville in Queensland; and Bendigo, in Victoria). A recent qualitative study of rural and remote area pharmacists (n=197) found that graduates from regional universities were exposed to 80% more content that focused on rural requirements for pharmacy (5). Positive clinical placement experiences in a rural area significantly influenced choice for rural or remote area practice for two-thirds of respondents. This finding is further supported by a recent systematic review that found that positive rural clinical practice experiences influence intention to practise in a rural location among undecided graduates and serve as a reinforcing experience for those already interested in rural practice (6).

A further systematic review reported the main factors contributing to the recruitment and retention of a rural pharmacist workforce are: rural origin, broader scope of practice, rural career exposure (for example, through clinical placements or previous rural employment), a perception that rural pharmacy was a better fit or provides a better pace of work than elsewhere, and a sense of fulfilment of helping rural people (7). Challenges included a lack of staff, logistic issues, difficulties finding a locum to support or cover leave, social and cultural isolation.

Overseas-trained practitioners

Indicators of the extent of Australia's reliance on overseas-trained practitioners (OTPs) include: the number of registered practitioners whose initial qualification was obtained overseas; the number of OTPs added to the register each year; and the number of practitioners entering Australia each year via skilled work visas. These are outlined below as they relate to pharmacists.

Overseas qualifications

Based on the 2016 and 2020 NHWSs, the number of pharmacists who obtained their initial qualification outside of Australia remained relatively stable (between 3,415 and 3,765 pharmacists, accounting for 11.4% of pharmacists for 2016 and 2020). A review of country of qualification data held by Ahpra shows that it is unknown for 47.6% of pharmacy registrants, therefore reliable conclusions cannot be drawn from them. The data from the NHWS is the most reliable indicator of the proportion of pharmacists with overseas qualifications available.

Pharmacists with overseas qualifications from countries other than New Zealand are required to sit a Competency Assessment of Overseas Practitioners (CAOP) (if registered in Canada, Republic of Ireland, the United Kingdom or the United States of America) or Knowledge Assessment of Pharmaceutical Sciences (KAPS) (other international qualifications) exam before applying for registration. New Zealand qualified pharmacists wishing to practise in Australia are recognised under the *Trans-Tasmanian Mutual Recognition Act 1997*.

Ahpra data shows that, between 2017/18 and 2021/22, the proportion of successful applications for general registration as a pharmacist that recorded a KAPS qualification rose from 6.5% to 16.1%. Over the same period, the proportion that recorded a CAOP qualification dropped from 1.3% to 0.9%. This corresponds to an overall increase in CAOP and KAPS qualified new registrants from 7.8% to 17% over the five-year period.

Additions to the register

A total of 216 internationally qualified pharmacists were added to the register in 2020/21, bringing the five-year total to 1,080 (8). Internationally qualified pharmacists added to the register made up 0.6% of all pharmacy registrants, an increase of 0.4% in 2016/17.

Visa statistics

In September 2020, the Australian government released a Priority Migration Skilled Occupation List (PMSOL) that identified 17 occupations needed to meet the skills shortage in critical sectors as a result of COVID-19 (9). Pharmacists were added to the PMSOL on 27 July 2021 with the aim of supporting Australia's COVID-19 vaccine rollout through skilled migration.

Visa applications for occupations on the PMSOL are prioritised for the: Temporary Skill Shortage Visa (subclass 482), Skilled Employer-Sponsored Regional (Provisional) Visa (subclass 494), Employer Nomination Scheme Visa (subclass 186); and the Regional Sponsored Migration Scheme Visa (Subclass 187).

The Department of Home Affairs data shows that in the period 2017/18 there were 24 temporary resident skilled visas granted to pharmacists which remained stable until 2020/21 when it rose to 55 following the addition of pharmacy to the PMSOL (10). For the period January 2021 to 31 March 2022, 28 temporary resident skilled visas were granted.

When interpreting the data, it should be noted that the data only relates to primary applicants in specific visa classes (that is, occupation is not collected for partners and/or children of visa applicants). Furthermore, the assessment for a visa to immigrate is a separate process from the assessment of an application to be registered as a pharmacist in Australia.

Trends and intentions

A review of the 2020 NHWS concerning 'years intended to work', by age breakdown, provides some indication of likely attrition over the next few years. As a practitioner intending to work for a particular number of years is not intending to work beyond that number, the question can also be interpreted as a measure of intention to cease practising.

The combination of historical growth rates, the age profile of the existing workforce and expressed intentions to work enable an assessment of likely exit points from the profession and an indication of whether the replacement rate of new entrants is likely to meet the exit rate over coming years. An assessment of low replacement rate does not equate to workforce shortage, as shortage is relative to demand.

Based on the NHWS, the Department of Health estimated that the replacement rate for pharmacists in 2016 and 2020 remained stable at 1.5. That is, for every pharmacist who left the public register, another 1.5 were added. This figure is based on the number of pharmacists with general registration who were employed at the time of the survey.

The analysis in this section is intended to be indicative only. It is based on current age profiles, expressed intentions and historical growth rates. It takes no account of people currently in the training pipeline or demand factors.

The NHWS revealed that in 2020, pharmacists worked an average of 15.5 years and intended to work for an average of 18 more years. For the youngest cohort (under 35 years), about 88.9% intend to work for at least another 10 years. The proportion of pharmacists intending to work until (or close to) the usual retirement age of 65 years increased as pharmacists aged with exception of the oldest age group. It ranged from 57% for those aged under 35 years to 70.9% for those aged 35–44 years, to 79.4% for those aged 45–54. The intention to work to retirement age dropped to 69.3% for those aged 55–64 years, with the remainder intending to work past retirement age.

The NHWS showed that the number of registered pharmacists increased by 9.7% over the five years from 2016 to 2020, with an average annual growth of 2.3%. Over the same period, new entrants replaced exits at a rate of 1.5 (that is, for each pharmacist leaving the register, another 1.5 were added).

In 2020/21, 14.7% of registered pharmacists were aged 55 or older. NHWS data from 2020 shows that pharmacists in this age group intended to work an average of seven years. Over half (56.2%) of this cohort did not intend to be working in five years' time, and 69.3% did not intend to be working in 10 years' time.

Unpublished data held by Ahpra on lapsed registrations showed that in 2020/21 the rate of attrition was 0.5% per year which was equivalent to around 178 pharmacists leaving the profession.

Overall, these figures translate into a likely attrition rate that is consistent with that observed in recent years. If historical growth and attrition rates continue to apply, the trend would be for new entrants to exceed exits, resulting in overall growth in the pharmacy workforce over coming years.

Demand – employment projections, workforce shortages and demand drivers

Employment projections

The Department of Employment and Workplace Relations (DEWR) published employment figures and projections (derived from the Australian Bureau of Statistics (ABS) Labour Force Survey) for occupations categorised using the Australian and New Zealand Standard Classification of Occupations (ANZSCO) structure (11). The ANZSCO includes hospital, retail and industrial pharmacists as separate categories.

The DEWR estimated that the number of employed pharmacists in November 2021 was 34,600 which is around 98.1% of pharmacists who held practising registration at 30 June 2021 (the closest quarter to the DEWR estimates) (12). The DEWR projected that there will be 37,700 pharmacists employed in 2026, representing 9% growth over a five-year period (note, these figures are for total employment that is, both full-time and part-time employment).

Workforce shortage

In October 2022, the National Skills Commission (NSC) released a Skills Priority List that provides a detailed view of shortages and expected future demand for around 800 occupations across Australia (13). The NSC identified hospital and retail pharmacists as being in short supply in all jurisdictions. No current shortages were identified for industrial pharmacists in any jurisdiction. Nationally, the NSC expects that there will be a moderate future demand for hospital, retail and industrial pharmacists.

Historical workforce shortage ratings from 1986 to 2018 show that hospital and retail pharmacists were in shortage from 1998 to 2008 inclusive and not in shortage between 2009 and 2018 (14). Data on industrial pharmacists is not available for this period.

Drivers of demand

In 2015, horizon scanning and scenario generation for pharmacy conducted by the New South Wales Ministry of Health identified ageing, chronic disease and the complexity of therapies, clinical information technology systems, clinical governance, the impact of other models of care, and corporate management responsibilities as the main drivers of demand for pharmacists (15).

Ageing, chronic disease and the complexity of therapies

Ageing, chronic disease and the complexity of therapies was identified as the strongest driver of demand for pharmacists in the 2015 New South Wales Health horizon scan. The expected growth and ageing of the Australian population, as well as the increased focus on mental health and disability, will put significant pressure on the health workforce, including pharmacy.

Based on conservative assumptions, the ABS estimates that the Australian population will reach around 36.1 million people by 2050, with more than 1.3 million people aged over 85 years (16).⁴ The most recent National Health Survey (NHS) found that the prevalence of Australians living with one or more chronic conditions rose from 42.2% in 2017/18 to 46.6% in 2020/21, with an increase in prevalence with age (17, 18).

Mental health and behaviours of concern were the most prevalent chronic condition identified in the NHS survey, affecting 20.1% of participants.¹⁸ Pharmaceutical Benefits Schedule data shows that in 2019/2020, 17.2% of the Australian population filled at least one prescription for a mental health-related medication, with an average of 9.2 prescriptions per patient (19). Of these, 72.1% were filled for anti-depressant medicines. A recent study showed that the prevalence of patients aged more than 65 years who use a potentially inappropriate medication was highest in patients with co-morbid mental disorders (40%), followed by neurological system disorders (28.9%) (20). The most frequently prescribed potentially inappropriate medicines were central nervous system drugs (53.1%) and benzodiazepines (35.2%).

Other than mental health and behaviours of concern, the most prevalent age-associated chronic conditions identified through the NHS were back problems (15.7% of respondents), arthritis (12.5%), diabetes (5.3%), cardiovascular disease (4%), and osteoporosis (3.6%) (17). Two or more chronic conditions were reported by 18.6% of respondents, potentially adding to the complexity of pharmaceutical treatment. The increase in the prevalence of obesity in Australia from 27.9% to 31.3% between 2014/15

⁴ Assumptions applied to data set – low fertility, medium life expectancy, medium net overseas migration.

and 2017/18 could signal a future increase in chronic diseases that require treatment with pharmaceuticals as obesity is known to be linked with an increased risk of diabetes and other disorders (21, 22).

The 2019 NHWS found that the proportion of pharmacists who work in community pharmacy dropped from 66% to 63.2% between 2015 and 2019 while the proportion working in hospitals increased from 20% to 22.5%.

In a simple analysis, if the current average annual growth rate for the pharmacy workforce continues, it may not be sufficient to maintain current levels of access to services as the population grows and ages, although this assessment does not consider other factors that may influence supply and demand over time.

Clinical information technology systems

The last 20 years has seen a steady increase in the uptake of clinical information systems for pharmacy, including robotics that automate the preparation and distribution of medicines, electronic health information, clinical decision support systems, machine readable coding on medicine packaging, and real-time dispensing (23). While the benefits of using these systems are acknowledged, it has been argued that they can lead to increased workload due to the need to manage, test and maintain the information systems, as well as optimise the links with prescribers to ensure the medication is in stock. Computer literacy and training varies widely across the profession, with a 2017 survey showing that only 36% of pharmacy curriculum in the United States included an informatics course (24). Implementation of policies through the Australian Digital Health Agency's Medicines Safety Program discussed below is likely to increase the need for training and uptake of clinical information technology systems.

Clinical governance

Clinical governance is the framework through which health organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish (25). Stakeholders argued that areas in which clinical governance is impacting on the pharmacy workforce include hospital accreditation requirements for medication management, managing budgets associated with the provision of high-cost medicines, complying with regulations for drugs supplied under the Special Access Scheme, and the provision of advice to prescribers. The trend toward the continuous operation of hospital pharmacies will require higher levels of staffing.

Impact of other models of care

The introduction of new models of care could increase the demand for pharmacists. For example, pharmacists are increasingly being included in interprofessional healthcare teams to improve patient outcomes by providing drug information to prescribers and patients (26). A perceived power imbalance between pharmacists and medical practitioners, together with a lack of understanding of each other's professional skills, can create challenges in collaboration between professions (27). Co-location, co-education and the use of compatible technologies have been found to improve collaboration.

The implementation of the recommendations of the Royal Commission into Aged Care Quality and Safety aimed at improving access to allied health practitioners, including pharmacists, for patients in residential aged care and those receiving care in the home is likely to increase the demand for pharmacy services.

Corporate management responsibilities

The New South Wales horizon scan identified corporate management responsibilities as a driver of demand. Increasing health management responsibilities potentially impact on workloads that stakeholders considered to not always be appropriately resourced. Corporate management responsibilities include reporting on key performance indicators, increased financial management and associated administration, and the development of strategies to improve healthcare efficiencies.

Policy developments and considerations

Policy developments and considerations include the recommendations of the Royal Commission into Aged Care Quality and Safety, the COVID-19 response package, Australian Digital Health Agency's

medication safety package, Queensland Health initiatives to increase scope of practice, the Workforce Incentives Program, advanced practice credentialling and changes to the higher education system.

Royal Commission into Aged Care Quality and Safety

The Royal Commission heard evidence related to difficulties in accessing allied health services, including pharmacy, through the aged care system for both home and residential care. Issues identified included lack of overall funding, limitations with the Aged Care Funding Instrument and inconsistencies in the availability of multidisciplinary allied care teams. These issues were exacerbated in groups who are already at disadvantage, such as Aboriginal and Torres Strait Islander Peoples, those living in rural and remote regions and those from a culturally and linguistically diverse background.

The Royal Commission made three recommendations relevant to the provision of services to Australians in the aged care system by pharmacists (28). These were:

- **Recommendation 38:** Residential aged care should, no later than 1 July 2024, include provision for allied healthcare, including a requirement that providers employ, or otherwise retain, a minimum of at least one pharmacist.
- **Recommendation 58:** Access to specialists and other health practitioners, including pharmacists, for residential care or personal care at home according to clinical need through Multidisciplinary Outreach Services to be funded through the National Health Care Reform Agreement.
- **Recommendation 64:** Increased access to medication management reviews on entry to residential aged care and annually thereafter, including those in residential respite care and transition care, with monitoring of the quality and consistency of these reviews.

In its formal response to the recommendations of the Royal Commission, released at the time of the 2021/22 federal Budget in May 2021, the government (29):

- *Accepted-in-principle:* Recommendation 38 that allied health care, including pharmacy, be included in residential aged care. There are no specific measures planned to address this recommendation, which is covered by other initiatives announced in response to the recommendations of the Royal Commission.
- *Accepted-in-principle:* Recommendation 58 and is responding through the measure Residential Aged Care Quality and Safety – Improving access to primary care and other health services.
- *Accepted:* Recommendation 64 and responded by including additional funding of \$25.5m to expand medication review programs in the 2021/22 Budget. Funding for follow-up services were introduced in April 2020 to ensure that recommendations for medication reviews are read by the referring medical practitioner and adopted where relevant.

In March 2021, the Australian Government announced a review of the Aged Care Quality Standards to be completed by the end of 2022 that includes a review of the quality standards for medication management. The March 2022 Budget included the provision of \$345.7 million over four years to ensure that every government funded residential aged care facility can employ or engage an on-site pharmacist or community pharmacy services from 1 January 2023. The initiative follows a successful pilot study by an aged care provider in the Australian Capital Territory. The Department of Health and Aged Care recently released a [consultation paper](#) on implementation of the initiative.

COVID-19 Response Package

The 2021/22 Budget included provisions for a vaccination program including a pharmacist surge workforce to help general practitioners and community pharmacies to administer vaccines. The 2022/23 Budget built on this initiative to ensure the supply of personal protective equipment to keep immunising pharmacists safe and enable them to continue to provide care in the community. The inclusion of pharmacists in the PMSOL was another initiative in response to the COVID-19 pandemic.

Workforce Incentives Program

The Workforce Incentive Program (WIP) includes a Practice Stream designed to improve multi-disciplinary and team-based primary care by providing financial incentives for general practices to employ nurses, allied health practitioners, including non-dispensing pharmacists, and Aboriginal Health Workers (30).

Non-dispensing pharmacists working in a general practice setting help with medication management and provide patient education to reduce medicine related problems and reduce adverse drug effects (including those leading to hospitalisation). The WIP was initially introduced in 2018/19 as part of the Stronger Rural Health Strategy which is designed to help rural and remote communities build a sustainable, high quality health workforce and was expanded from 1 February 2020.

Australian Digital Health Agency's Medicines Safety Program

The National Digital Health Strategy includes the Medicines Safety Program that is designed to ensure better availability and access to prescriptions and medicines information (31). Other initiatives include My Health Record, secure messaging, interoperability between systems, enhanced models of care, education and training and innovation (including m-health and digital reform driven by COVID-19).

The medication safety stream focusses on improving access to information about medicines, allergies and adverse reactions, to support safe and efficient medication use and reduce adverse reactions to medicines. Activities include a national rollout of electronic prescribing, improved information at transfer of care, and work in partnership with clinical information system providers to enable the uploading capability by Remote Area Aboriginal Health Services and the associated viewing of s100 PBS categorised medicines, in My Health Record.

Initiatives to broaden the scope of practice

Pharmacy Board of Australia's (PharmBA) position statement on pharmacist prescribing

In October 2019, the PharmBA issued a position statement on pharmacist prescribing as follows (32):

'Under the National Law, the Board has no regulatory barriers in place for pharmacists to prescribe via a structured prescribing arrangement or under supervision within a collaborative healthcare environment. However, prescribing under these models requires changes in state and territory medicines and poisons legislation to authorise pharmacists to prescribe and these are matters to be determined by state and territory governments.

'The Board's view is that autonomous prescribing by pharmacists requires additional regulation via an endorsement for scheduled medicines. This would require the Board to make an application to the Ministerial Council for approval of endorsement for scheduled medicines under section 14 of the National Law and to develop a registration standard for endorsement of registration. An application could only occur after completion of preparatory work to develop a case proposing the need for an endorsement as outlined in the [Ahpra guide](#). The Board is not making an application for approval of endorsement for scheduled medicines at this time.'

Pharmacist UTI prescribing trial

The 2018 Queensland Parliamentary Inquiry into the Establishment of a Pharmacy Council and Transfer of Pharmacy Ownership recommended that Queensland Health develop options to provide low-risk emergency and repeat prescriptions as well as low-risk vaccinations through pharmacies, subject to a risk minimisation framework that can include consultation with a general practitioner through a designated 1300 number (33).

In 2020, Queensland Health implemented a two-year pilot to allow suitably trained community pharmacists to treat uncomplicated urinary tract infections (UTIs) (34). The Queensland University of Technology was engaged to manage implementation and evaluation of the pilot which was open to any Queensland pharmacy that was accredited through the Pharmacy Guild's Quality Care Pharmacy Program. Pharmacists participating in the pilot were required to complete mandatory on-line training to ensure safe and accurate screening, diagnosis and prescribing. In February 2022, Queensland Health announced a permanent extension of the pilot following consideration of an evaluation report.

North Queensland pharmacy scope of practice pilot

In February 2022, Queensland Health proposed to implement a pilot in North Queensland to include prescribing by pharmacists for 23 health conditions including asthma, type 2 diabetes and pain management from June 2022. The services to be offered in the pilot are grouped into medicine management (for example, therapeutic adaptation, substitution and continued dispensing), autonomous prescribing for a range of common conditions and structured prescribing as part of a chronic disease

management program. Pharmacists who wish to participate in the trial will need to complete 12–16 months supervised postgraduate study before they participate in the trial.

The trial will run from late 2023 until May 2025.

Initiatives in other jurisdictions

On 13 November 2022, the New South Wales Government announced it would start a 12-month pilot to evaluate allowing appropriately trained pharmacists to prescribe medication for UTIs, beginning in the first quarter of 2023 to be followed by a pilot where appropriately trained pharmacists can prescribe medication for the oral contraceptive pill, which is modelled on the North Queensland scope of practice pilot (35). From October 2023, the Victorian Department of Health will begin a 12-month pilot to test an expanded role for community pharmacists (36). In the trial, appropriately trained pharmacists will be able to prescribe medicines for UTIs and common skin conditions, and reissue prescriptions for hormonal contraception. Following additional training, pharmacist immuniser will also be authorised to administer selected travel and other vaccinations.

At the same time, the Tasmanian Government announced a Pharmacy Scope of Practice Review to consider the role that pharmacies can play in providing primary care. In the short term, the government is looking into broadening the range of medicines subject to continued dispensing rules (typically allowing pharmacists to dispense an additional month's supply where the patient's prescription has run out and they are unable to access a general practitioner) (37).

In South Australia, a parliamentary committee was established on 1 December 2022 to explore barriers to timely access to treatment of UTIs by pharmacists, as well as the applicability of implementing Queensland's UTI Community Pharmacy Service in South Australia (38).

The Northern Territory Parliament passed the *Medicines, Poisons and Therapeutic Goods Legislation Amendment Act 2022* to address legislative barriers to the supply and regulation of therapeutic substances to reflect modern practice and be more agile in meeting community needs. The Act provides for other suitably trained and qualified people working in health services, such as pharmacists, to supply medicines where 'they are the ones best placed to do so', by modernising the administration of the Scheduled Substance Treatment Protocols.

Advanced practice credentialling

The Advanced Pharmacy Practice Framework (the framework) was released in 2012 following its development by major pharmacy bodies in Australia (39). The framework describes advanced practice as 'practice that is so significantly different from that achieved at initial registration that it warrants recognition by professional peers and the public of the expertise of the practitioner and the education, training and experience from which that capability was derived'. It comprises 30 competencies across five domains: professionalism and ethics; communication and collaboration; medicines management and patient care; leadership and management; education and research. Each competency is mapped across one of three stages of advanced practice development.

In 2015, a Credentialling of Advanced Practice Pharmacists pilot program began for which professional practice portfolios presenting evidence of advanced practice, including information about the context and impact statements, were mapped against 30 advanced practice competencies and assessed by trained evaluators resulting in 28 pharmacists being credentialled as advanced practice pharmacists. From March 2018, advanced practice credentialling became available through '[Advancing Practice](#)'. At the same time, the framework was integrated into the National Competency Standards Framework for Pharmacists which describes a pharmacist's performance and development goals at any stage of their career.

Accreditation to provide medication reviews

Pharmacists can be accredited to carry out medicine management reviews including home medicine reviews for people in the community and residential medicines management reviews for people in a residential care setting (for example, aged care). Credentialling was initially offered by the Australian Association of Consultant Pharmacists which closed in 2022 and the Society of Hospital Pharmacists of Australia. From early 2023 onward, credentialling is offered by the Pharmaceutical Society of Australia, The Society of Hospital Pharmacists of Australia and the Australasian College of Pharmacy. Accreditation

must be renewed each year. Funding caps on conducting medication reviews, both in the home and in residential care, remain an on-going issue of concern.

Changes to higher education support

In October 2021, the *Higher Education Support Amendment (Job-Ready Graduates and Supporting Regional and Remote Students) Act 2020* was passed which legislated a decrease in funding for domestic Commonwealth supported students, as well as other changes to higher education programs. These changes were made following a 5.1% decline in enrolments, and a 23% decline in overseas students starting programs to December 2019 compared to December 2020 due to COVID-19 travel restrictions resulting in an estimated loss of \$1.8 billion to the higher education sector (40).

Introduced on 1 January 2021, the stated intention of the reforms was to 'deliver more job-ready graduates in the disciplines and regions where they are needed most and help drive the nation's economic recovery from the COVID-19 pandemic' (41). Allied and other health disciplines, including pharmacy, were identified as a priority area. The reforms reduce the Australian Government contribution for domestic students in pharmacy courses by \$297/equivalent full-time study load (EFTSL), and decrease the student contribution by \$1,748/EFTSL, representing a net decrease in course income of \$2,045/EFTSL for universities (42).

The changes to higher education also include a National Priorities and Industry Linkage Fund (NPILF) that allocates block grants to universities to support better collaboration between universities and industry. This is to design courses that equip students with job ready skills and experience through, for example, internships, practicums and other work-based learning opportunities. A pilot of the NPILF will be conducted from 2022 to 2024. Another change is that more university places have been made available for students from metropolitan areas to study priority area courses, including pharmacy, in regional areas. This funding relates to the campus location, not the location of the student. At 30 June 2022, four education providers offered courses leading to the qualification as a pharmacist across six rural locations (Armidale and Orange, in New South Wales; Cairns, Mackay and Townsville in Queensland; and, Bendigo, Victoria). A further campus is in a major city with a high-population growth rate (Gold Coast, Queensland).

Concluding comments

The pharmacy workforce grew by 11.4% over the last five years, with the growth unevenly distributed across jurisdictions and across different remote areas. According to the National Skills Commission, there is a shortage of pharmacists across all jurisdictions with a moderate future demand predicted.

The undersupply of pharmacists to outer regional and remote areas continues to be a challenge facing the pharmacy profession. It remains to be seen how effective opening pharmacy schools in the Northern Territory and regional areas of Queensland, New South Wales and Victoria, and the changes to higher education funding to better support students from metropolitan areas to study in regional locations will be in addressing the maldistribution of pharmacists across Australia.

Another challenge facing the profession is the changing role of the pharmacist. Queensland Health's initiatives to broaden the scope of practice by allowing diagnosis and prescribing for UTIs, with an extension to a broader range of conditions in northern Queensland, have been taken up by the New South Wales Government, and are currently under consideration for introduction in Victoria, South Australia and Tasmania.

At the same time, legislative barriers have been removed in the Northern Territory allowing pharmacists to supply medicines where they are the 'ones best placed to do so'. These changes signal a move toward a broader role for pharmacists, particularly those in outer regional, remote and very remote areas which are often underserved by the medical profession.

Although there has been consistent growth in the pharmacist workforce over the last five years coupled with a moderate replacement rate, Australia's ageing population, the increasing prevalence of chronic disease, including mental health and behaviours of concern, are likely to increase demand and challenge the sustainability of the pharmacy workforce.

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