

# Chinese medicine workforce analysis

## Key points

The Chinese medicine practice workforce decreased by 1.9% over the last five years with the decrease unevenly distributed across jurisdictions and mainly concentrated in metropolitan areas.

The ability to attract students to the profession is a major challenge at this time, given that the ageing population of Australia and increasing prevalence of chronic disease could potentially increase the demand for Chinese herbal medicines and acupuncture in the future.

## Introduction

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

## Current state – general demographic characteristics

### Profession overview

At 30 June 2022, there were 4,839 Chinese medicine practitioners registered in Australia, of which 93.2% held some form of practising registration. Chinese medicine practitioner is an umbrella term to cover people registered in one or more of three divisions: acupuncture, Chinese herbal medicine practitioners and Chinese herbal dispensers. The majority of general registrants (98.0%) were registered as an acupuncturist, 64.5% as a Chinese herbal medicine practitioner and 24.4% as a Chinese herbal dispenser, with some holding registration in multiple divisions.

The Chinese medicine profession constitutes 0.6% of the regulated health practitioner workforce, with 17.5 Chinese medicine practitioners per 100,000 head of population. Across the profession, 93.2% of registrants held general registration and 6.8% held non-practising registration. One practitioner held limited registration.

The gender distribution of Chinese medicine practitioners was 57.8% female and 42.2% male. In 2022, the average age of Chinese medicine registrants was 51.4 years with 8.6% aged under 35 years and 40.8% aged 55 years or older. Almost three quarters of Chinese medicine practitioners (71.2%) obtained their initial qualification in Australia. Chinese medicine practitioners worked predominantly in private practice, in major cities, and worked an average of 27.7 hours per week.

## Chinese medicine practitioners with general registration

At 30 June 2022, there were 4,508 Chinese medicine practitioners with general registration in Australia<sup>1</sup>. The average age of Chinese medicine practitioners with general registration was 51.4 years of which 50.6% were aged 35 to 54 years and 40.8% were aged 55 years or more. The gender split for general registrants was 57.4% female and 42.3% male.

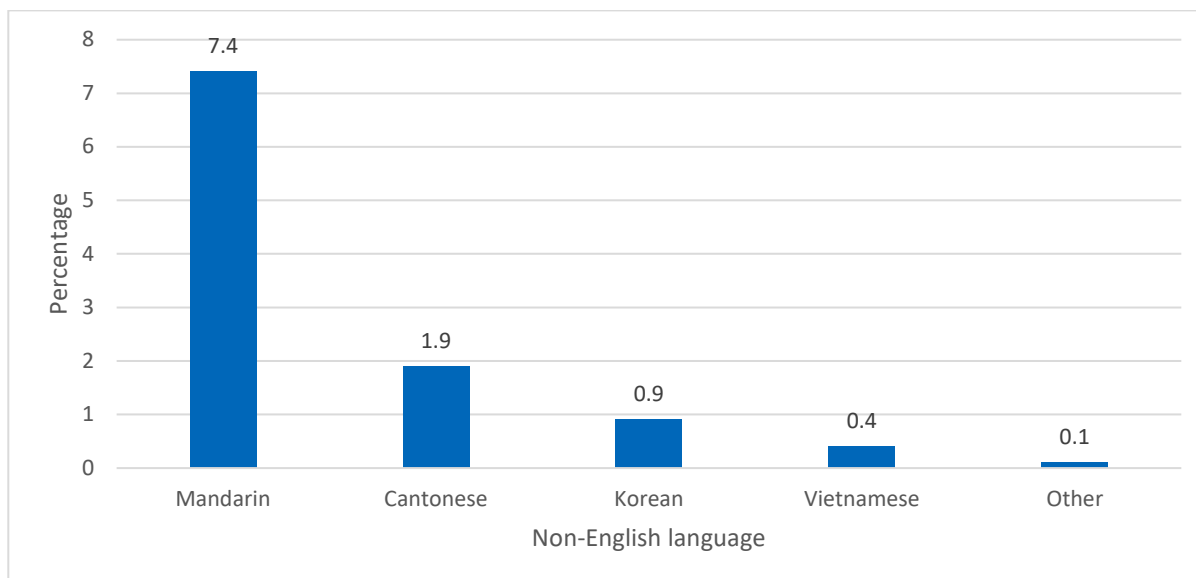
While nationally there were 17.5 Chinese medicine practitioners per 100,000 head of population, the distribution across jurisdictions varied. There were 22.8 Chinese medicine practitioners per 100,000 population in New South Wales, 18.5 practitioners per 100,000 in Victoria, 15.8 practitioners per 100,000 in Queensland, 14.3 practitioners per 100,000 in the Australian Capital Territory, 10.8 practitioners per 100,000 in South Australia, 9.3 practitioners per 100,000 in Western Australia, 7.5 practitioners per 100,000 in Tasmania and 4.4 practitioners per 100,000 in the Northern Territory.

The 2020 National Health Workforce Survey (NHWS) conducted by the Australian Government Department of Health, found that around 89.4% of general registrants were employed in the profession in Australia, working an average of 27.7 hours per week (1). Some 79.4% of Chinese medicine practitioners with general registration (94.6% of employed practitioners) defined their principal role as a clinician. The remainder identified themselves as teacher/educators, administrators (including managers not providing clinical services), researchers or were working in other roles.

Of those Chinese medicine practitioners who provided information about their work setting, 63.8% reported that their primary work setting was in a solo private practice, 23.5% worked in a group private practice and 4.8% in other private practice settings (including locums). The remainder (7.6%) worked in other settings including medical centres, educational facilities, and sports centres/clinics. When adjusted for full-time equivalence (FTE) (38 hours per week), 89.3% of clinicians worked in the private sector in their principal role.

Based on the 2020 NHWS, 10.8% of Chinese medicine practitioners primarily used a non-English language in their practice. The main languages used are shown in Figure 1. Specifically, 7.4% used Mandarin, 1.9% used Cantonese, 0.9% used Korean, 0.4% Vietnamese and 0.1% used another language. This finding should be treated with caution as the main language used was not stated for 18.6% of respondents.

**Figure 1: Non-English languages used by Chinese medicine practitioners (2020 NHWS)**



The 2020 NHWS found that nationally there were 11.4 FTE Chinese medicine practitioners per 100,000 head of population with a geographic distribution of 13.6 FTE per 100,000 in major cities, 6.7 FTE per

<sup>1</sup> Total registrants minus those with limited or non-practising registration

100,000 in inner regional areas, and 3.5 FTE outer regional areas.<sup>2</sup> There were less than 10 FTE Chinese medicine practitioners per 100,000 in remote areas and less than 10 FTE per 100,000 in very remote areas.

The number of Chinese medicine practitioners with general registration by division, gender and age at 30 June 2022 is shown in Table 1. Most Chinese medicine practitioners with general registration (98.0%) held registration in either the acupuncture division only (n=1,561), dual registration in acupuncture and Chinese herbal medicine practitioner divisions (n=1,797) or triple registration (n=1,048). Although small in number (n=32), general registrants with single registration in the Chinese herbal medicine practitioner division were the only group that had more male registrants than female, with a higher average age and proportion aged 50 years or more. Those registered in all three divisions were younger than for other combinations, reflecting the shift toward ensuring that new graduates from universities are eligible to register in all three areas of practice.

**Table 1: Chinese medicine practitioners with general registration by division, gender and age at 30 June 2022**

Division			Number	Gender		Age		
Acupuncture	Chinese herbal dispenser	Chinese herbal medicine practitioner		Male (%)	Female (%)	Av. (years)	≤35 years	≥50 years
X			1,561	41.0	59.0	51.4	6.9%	53.4%
X	X		<5	0	100	50.0	<5	<5
X		X	1,797	45.5	54.5	53.0	4.7%	59.3%
X	X	X	1,048	38.9	61.1	48.0	18.8%	44.8%
	X		32	37.5	62.5	58.4	0	78.1%
	X	X	18	33.3	66.7	55.7	0	66.7%
		X	37	64.9	35.1	65.0	5.4%	89.2%

### Chinese medicine practitioners with general and non-practising registration

Twelve practitioners concurrently held general and non-practising registration. Six of the twelve held general registration for acupuncture and non-practising registration as a Chinese herbal medicine practitioner. The remaining six held practising registration as an acupuncturist and Chinese herbal medicine practitioner as well as non-practising registration as a Chinese herbal dispenser.

### Trends over the last five years

The Chinese medicine practitioner workforce decreased by 1.9% over the last five years, from 4,597 practising Chinese medicine practitioners in 2017/18 to 4,509 in 2021/22.<sup>3</sup> Over this period, the proportion of male practitioners decreased slightly from 44.6% to 42.5%, with a corresponding increase in female practitioners from 55.4% to 57.5% of registrants. The average age of Chinese medicine practitioners increased from 50.0 years to 51.4 years over the last five years. While the proportion of practising Chinese medicine practitioners aged 35 to 54 years (inclusive) remained stable (50.2% in 2017/18 and 50.6% in 2021/22), the proportion aged 55 years and over increased slightly from 38.3% to 40.6% over the five-year period.

Over the same period, the proportion of Chinese medicine practitioners in each of the different categories of registration was essentially stable, with a 1.2% decrease in the proportion of practitioners with general registration and a 1.0% increase in the proportion of non-practising Chinese medicine practitioners.

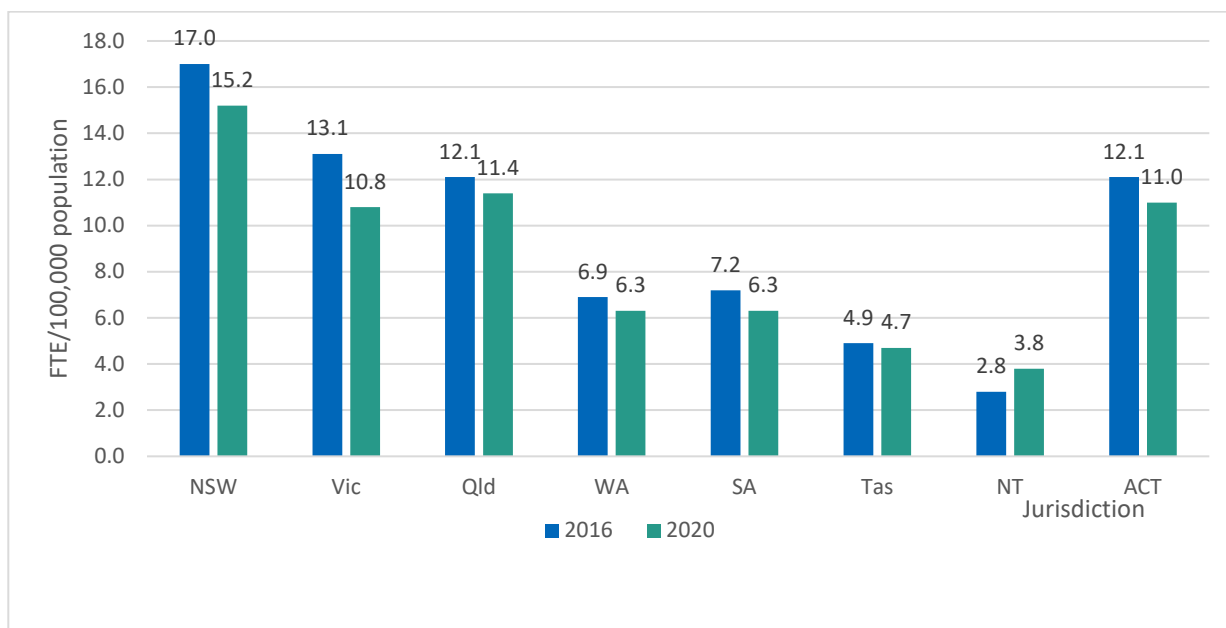
<sup>2</sup> The FTE number of Chinese medicine practitioners per 100,000 is lower than the number calculated using Ahpra data because the NHWS data was adjusted to take into account part-time work. Ahpra does not collect information about number of hours as part of their regulatory processes.

<sup>3</sup> Comprising Chinese medicine practitioners with general registration in at least one division and excluding practitioners with non-practising registration only.

Based on the 2016 and 2020 NHWS, there was a decrease in the average number of hours worked per week, from 29.5 hours in 2016 to 27.7 hours in 2020. Of those Chinese medicine practitioners who provided information on their number of hours worked, there was a decrease in the proportion working more than 35 hours per week (from 41.7% to 33.6%) over the five years and those working 50 or more hours per week (from 8.5% to 6.3%).

The change in the number of FTE Chinese medicine practitioners per 100,000 head of population for each jurisdiction between 2016 and 2020 is shown in Figure 2 below.

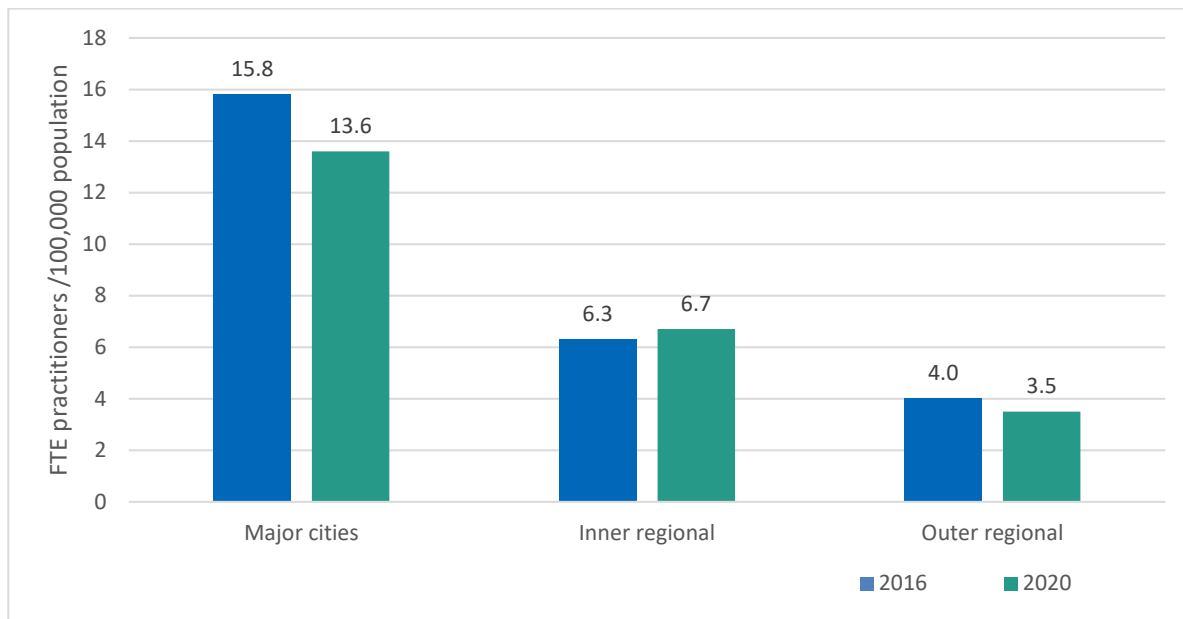
**Figure 2: The number of FTE Chinese medicine practitioners per 100,000 head of population for each jurisdiction (2016 and 2020)**



Based on the 2016 and 2020 NHWS, the number of FTE Chinese medical practitioners per 100,000 population decreased in all jurisdictions except for the Northern Territory where it increased from 2.8 to 3.8 FTE per 100,000 population over the five years. The largest decreases were seen in Victoria (from 13.1 to 10.8 FTE per 100,000 population), New South Wales (from 17.0 to 15.2 FTE per 100,000), and the Australian Capital Territory (from 12.1 to 11.0 FTE per 100,000). Smaller decreases were seen in South Australia (from 7.2 to 6.3 FTE per 100,000), Queensland (from 12.1 to 11.4 FTE per), Western Australia (from 6.9 to 6.3 FTE per 100,000) and Tasmania (from 4.9 to 4.7 FTE per 100,000).

The change in the number of FTE Chinese medicine practitioners per 100,000 head of population across each regional area between 2016 and 2020 is shown in Figure 3.

**Figure 3: The number of FTE Chinese medicine practitioners per 100,000 head of population by regional area (2016 and 2020)**



Based on NHWS, the number of FTE Chinese medicine practitioners per 100,000 decreased overall from 12.8 to 11.4 FTE per 100,000 between 2016 and 2020. The decrease was driven by a drop of 15.8 to 13.6 FTE per 100,000 in major cities and 4.0 to 3.5 FTE per 100,000 in outer regional areas. There was a small increase in the number of FTE Chinese medicine practitioners from 6.3 to 6.7 FTE per 100,000 in inner regional areas and there were less than 10 FTE per 100,000 for remote areas and very remote areas each over the same period.

### Principal work setting

Based on the 2016 and 2020 NHWS, the proportion of Chinese medicine practitioners whose principal work setting was solo private practice, or a group private practice decreased slightly from 64.1% to 63.8%, and 27.9% to 23.5% respectively. Over the same period, the proportion working in other private practice settings (including locums) increased from 3.2% to 4.8%.

### Principal language

The NHWS found that the proportion of Chinese medicine practitioners who use a non-English language as their primary work language decreased from 11.3% to 10.8% between 2016 and 2020. The main change was that the proportion of practitioners using Cantonese as their primary language in a work setting dropped from 2.4% to 1.9%.

### Divisions

Between 2017/18 and 2021/22, the proportion of dual acupuncture and Chinese herbal medicine practitioners decreased from 43.9% to 40.4% and the proportion of single acupuncture registrants decreased from 35.2% to 34.7%, while the proportion of triple registrants increased from 18.5% to 22.8%.

## Supply and demand – observations and insights

### The domestic ‘pipeline’

At 30 June 2021 there were 1,574 students enrolled in an approved program of study to become a Chinese medicine practitioner. Student numbers increased by 22.5% over the five years, from 1,220 in 2017/18 to 1,574 in 2021/22.

Based on data from the student register, the proportion of female Chinese medicine students in 2021/22 was 75.1% and 24.9% were male.<sup>4</sup> Around 12.6% of students were under the age of 25 years, 46.0% under the age of 35 and 25.0% were aged 45 years or older.

At 30 June 2022, there were six education providers offering 10 approved programs of study for Chinese medicine practice (four programs in New South Wales, three in Victoria, and one in Queensland, South Australia and Western Australia respectively).<sup>5</sup> Of these, five programs of study led to a bachelor level qualification, two led to a double bachelor degree, two were at master level and one led to a combined bachelor/master degree. This is an increase of five new programs of study across four education providers compared to 1 July 2017. The other five programs listed as approved are in 'teach out' mode, with no new students able to enrol as they will be discontinued once the current cohort of students have graduated.

## 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 Chinese medicine practitioners.

### Overseas qualifications

Based on the 2016 and 2020 NHWS, the proportion of Chinese medicine practitioners who obtained their initial qualification outside of Australia dropped slightly from 29.9% to 28.0% over the five years. Only 2.5% and 0.8% of registrants did not provide information about the country of their initial qualification through the surveys. In contrast, a review of country of qualification data held by Ahpra shows that it is unknown for 62.5% of Chinese medicine practitioner registrants, therefore reliable conclusions cannot be drawn from them. The data from the NHWS is the most reliable indicator available of the proportion of Chinese medicine practitioners with overseas qualifications.

### Additions to the register

Seven overseas qualified Chinese medicine practitioners were added to the register in 2020/21, bringing the five-year total to 37 (2). Overseas qualified Chinese medicine practitioners added to the register made up 0.1% of all Chinese medicine practitioner registrants in 2016/17 and 2020/21.

### Visa statistics

The Department of Home Affairs data shows that less than five temporary resident skilled visas were granted to Chinese medicine practitioners between 2010/11 and 2018/19, with the exception of 2015/16 when seven visas were granted (3). For acupuncturists, six visas were granted in 2010/11, seven in 2011/12, and less than five in 2012/13. Five visas were granted in 2013/14 and 2014/15 each, and less than five for each year from 2015/16 to 2018/19. Data is not available for 2019/20 onward.

In 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). Further, the application for a visa to immigrate is a separate process from the application to register as a Chinese medicine practitioner in Australia, although registration is evidence of a suitable skills assessment for certain visa categories.

## Trends and intentions

A review of the 2020 workforce survey 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.

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<sup>4</sup> 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.

<sup>5</sup> One education provider offered their degree in New South Wales, Victoria, Queensland, South Australia, and Western Australia

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 NHWS, the Department of Health estimated that the replacement rate for Chinese medicine practitioners averaged 1.1 over the five years from 2016 to 2020. That is, for every Chinese medicine practitioner who left the register, 1.1 were added. This figure is based on the number of Chinese medicine practitioners with general registration who were employed at the time of the survey.

The actual replacement rate varied during the reference period, dropping from 1.8 in 2016 to 0.9 and 0.8 in 2016/17 and 2017/18 respectively. In 2018/19 it rose to 1.1 and dropped to 0.6 in 2019/20.

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, Chinese medicine practitioners worked an average of 15.1 years and intended to work for an average of 18.2 more years. About 85.9% of those aged under 35 years intended to work for at least another 10 years.

The proportion of Chinese medicine practitioners intending to work until (or close to) the usual retirement age of 65 years increased with age before becoming stable from 45 years onward. The range was 46.4% for those aged under 35 years to 62.2% for those aged 35-44 years, to 68.0% for those aged 45-54 to 67.8% for those aged 55 to 64 years.

The NHWS showed that the number of Chinese medicine practitioners increased by less than 1.3% over the five years 2016 to 2020, with an average annual growth of 0.8%. Over the same period, new entrants replaced exits at an average rate of 1.1 (i.e., for each practitioner leaving the public register, another 1.1 were added).

NHWS data from 2020 shows that 39.0% of registered Chinese medicine practitioners were aged 55 years or older. Chinese medicine practitioners in this age group intended to work an average of 10.7 years. Just over a quarter (28.7%) of this cohort did not intend to be working in five years' time, 67.8% did not intend to be working in 10 years' time and 80.7% did not intend to be working in 15 years' time.

Unpublished data held by Ahpra on lapsed registrations showed that in 2021/22 the rate of attrition was 4.0% per year which was equivalent to around 193 Chinese medicine practitioners 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 exits to exceed new entrants, resulting in overall decrease in the Chinese medicine practice workforce over coming years.

## **Demand – employment projections, workforce shortages and demand drivers**

### **Employment projections**

The Department of Employment and Workplace Relations (DEWR) publishes 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 (4). The ANZSCO includes Chinese herbal medicine practitioners and acupuncturists under the category of complementary health therapists (5).

The DEWR estimates that the number of employed Chinese herbal medicine practitioners and acupuncturists was 1,000 and 1,400 respectively in November 2021, which is around 52.5% of Chinese medicine practitioners who held practising registration at 30 June 2021 (the closest quarter to the DEWR estimates (5)). The number of employed complementary health therapists was estimated to be 6,300.

The DEWR projected that there will be strong growth of complementary health therapists (including Chinese medicine practitioners) for the five years from November 2021 to November 2026, from 6,330 jobs in 2021 to 8,000 in 2026, representing 27.9% growth over a five-year period (these figures are for total employment i.e., 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 (6). The NSC identified that there were no current shortages of Chinese herbal medicine practitioners or acupuncturists in any jurisdiction. Nationally, the NSC expects that there will be a moderate future demand for both occupations.

## Drivers of demand

Drivers of demand include attitudes towards Chinese medicine practice held by other health professions, referral patterns, funding models, and the ageing population and increase in chronic disease.

### Attitudes towards Chinese medicine practice by other health care professions

Studies show a high level of support from general practitioners for acupuncture as a therapeutic modality and somewhat less for Chinese herbal medicine (7-9). For example, a national survey showed that 84% of Australian general practitioners rated acupuncture as moderately or highly effective, whereas only 50% viewed Chinese herbal medicine as moderately or highly effective (7, 9). Furthermore, 86% of general practitioners viewed acupuncture as a mostly safe modality, whereas only 34% viewed Chinese herbal medicine as safe.

A later national survey found that 30.6% of Australian general practitioners self-identified as practising integrative medicine (10). Of those general practitioners who stated to incorporate integrative medicine in their practice, 15.8% used acupuncture and 1.4% used Chinese herbal medicine. In contrast, only 4.6% of general practitioners who did not identify as practising integrative medicine used acupuncture and 0.1% Chinese herbal medicine in their practice.

Dry needling has been described as a type of acupuncture that has gained widespread acceptance in the mainstream treatment of musculoskeletal conditions, including sports injuries, by physiotherapists (11-14). (There are many other types of acupuncture that differ in needle design, techniques and theories used for point selection.)

There are no studies that report to what extent acupuncture is used in chiropractic.

## Referral patterns

The national survey of Australian general practitioners outlined above found that 76% of respondents had referred patients to acupuncture at least a few times in the previous 12 months, while only 18% had referred patients to Chinese herbal medicine (7). More than half (57%) said they would actively encourage a patient who suggested using acupuncture, however, only 10% would actively encourage the use of Chinese herbal medicine if it were suggested by a patient. These findings are similar to those of a national survey of New Zealand general practitioners that found that 73.3% refer patients to acupuncture and 10.3% for Chinese herbal medicine (15).

A survey of Australian hospital-based nurses in metropolitan South Australia, found that almost a fifth (18.3%) have recommended acupuncture to their patients (16). Chinese herbal medicine was not included in the study. A survey of New Zealand and Canadian midwives found that 49.7% referred their patients for acupuncture and 4.4% to Chinese herbal medicine (17). There was no significant difference in referral rates for either modality in either jurisdiction.

Note: referral to acupuncture does not imply referral to an acupuncturist as it could also, for example, refer to dry needling by a physiotherapist.

## Rural and remote referrals

A survey of rural and remote general practitioners in New South Wales found that just over two thirds (68.3%) of general practitioners refer patients to an acupuncturist at least a few times per year (18). Factors that were predictive of referral were: being older (OR=6.1), practising in a rural rather than remote area (OR=6.3), self-reported knowledge of acupuncture (OR=5.5), lack of other treatment options (OR=4.3), use of complementary and alternative medicine practitioners as their major source of information (OR=3.1), previous prescription to other patients (OR=3.0) and personal use of complementary and alternative medicines (OR=2.4).



The same survey found that 9.9% of general practitioners in rural and remote New South Wales had referred patients to a Chinese medicine practitioner in the past year (19). The authors surmised that the low level of referral could be related to the lack of access to Chinese medical practitioners in rural and remote areas. They found that 17.4% of respondents were completely unaware of any Chinese medicine practitioners in their local area. However, the findings could also be influenced by attitudes to Chinese medicine as over one third of participants (37.7%) reported that they would not refer a patient to a Chinese medicine practitioner under any circumstances.

### **Funding models**

In Australia, Chinese herbal medicine is not covered by Medicare, however, acupuncture administered by a general practitioner does attract a Medicare rebate. Chinese herbal medicine and acupuncture administered by health practitioners without a medical degree is covered by some private health funds.

Medicare data shows that the number of acupuncture services by general practitioners has steadily declined over the last five years from almost half a million (494,061) in 2017/18 to 304,429 in 2021/22 (20). It is not known whether this indicates a move towards referrals to non-medically trained acupuncturists. An older study conducted in 2000 concluded that general practitioners are more likely to refer patients for whom they have prescribed acupuncture to other general practitioners than non-medical trained practitioners (8). Information about the number of acupuncture and Chinese herbal medicine claims through private health insurance is not publicly available.

In addition, WorkSafe or the equivalent in each jurisdiction will pay for the cost of acupuncture requested by a medical practitioner for a work-related injury or illness by a provider registered by WorkSafe for acupuncture services (21). A New South Wales study found that injured workers from across the state who used acupuncture to assist in the recovery of a work-related injury preferred to obtain acupuncture treatment from non-medical acupuncture practitioners compared to registered medical practitioners (22).

The National Disability Insurance Scheme (NDIS) provides support for people with disability. In some cases, acupuncture and Chinese medicine can be funded through the NDIS, however, data on uptake and expenditure are not available. Similarly, funding for acupuncture and Chinese medicine is available for through some private health funds, however, information on their expenditure is not available. The Department of Veteran's Affairs does not fund acupuncture and Chinese medicine services.

### **Ageing population and chronic disease**

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 (23).<sup>6</sup> 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 2007/08 to 46.6% in 2020/21, with an increase in prevalence with age (24, 25).

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 (4.0%), and osteoporosis (3.6%).<sup>11</sup> Two or more chronic conditions were reported by 18.6% of respondents. The increase in the prevalence of obesity in Australia from 27.9% to 31.3% between 2014/15 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 (26, 27).

In a simple analysis, if the current average annual decline in the Chinese medicine practitioner 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.

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<sup>6</sup> Assumptions applied to data set – low fertility, medium life expectancy, medium net overseas migration

## Policy developments and considerations

### 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 commencements by overseas students 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 (28).

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' (29). Allied and other health disciplines, including Chinese medicine practice, were identified as an area of priority. The reforms reduce the Australian Government contribution for domestic students in Chinese medicine practice 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 (30).

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 which may increase opportunities for Chinese medicine practice students to undergo a clinical placement.

Another recent development is that more university places have been made available for students from metropolitan areas to study priority area courses, including allied health courses, in regional areas. This funding relates to the campus location, not the location of the student. At 30 June 2022, there were no courses leading to qualifications as a Chinese medicine practitioner available in a rural location.

### Concluding comments

The Chinese medicine practice workforce decreased by 1.9% over the last five years with the decrease unevenly distributed across jurisdictions and mainly concentrated in metropolitan areas. According to the National Skills Commission, there is not a shortage of Chinese medicine practitioners in any jurisdiction and a moderate future demand is predicted.

Our review found that the age distribution of Chinese medicine practitioners is older than for other regulated health professions, a trend which is also seen in students of Chinese medicine practice: only an eighth were aged under 25 years. Information from the NHWS suggests that the number of Chinese medicine practitioners entering the profession is only just balancing the number who are leaving the profession. In real terms, however, this represents a decline in the number per head of population. Given that the National Skills Commission predicts that there will be moderate demand for acupuncturists and Chinese herbal medicine in the future, the ability to attract students to the profession is a major challenge facing the profession at this time.

Another challenge is the need to shift attitudes toward Chinese medicine practice held by other health professions, healthcare funders and members of the public. While acupuncture is widely accepted and has been integrated into the practice of some other health professions, Chinese herbal medicine has been slower to gain acceptance. Chinese herbal medicines are generally prescribed to treat chronic conditions. The ageing population of Australia and the associated increasing prevalence of chronic disease could potentially increase the demand for Chinese herbal medicines. The need to develop and communicate the evidence base for Chinese medicine practice in a way that can be easily understood by allopathic medicine will be a key challenge facing the profession in the future.

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