

MEDICINE SAFETY: **CULTURALLY AND LINGUISTICALLY DIVERSE COMMUNITY CARE**



ABOUT PSA

PSA is the only Australian Government-recognised peak national professional pharmacy organisation representing all of Australia's 42,000 pharmacists working in all sectors and across all locations. PSA is committed to supporting pharmacists in helping Australians to access quality, safe, equitable, efficient and effective health care. PSA believes the expertise of pharmacists can be better utilised to address the healthcare needs of all Australians.

PSA works to identify, unlock and advance opportunities for pharmacists to realise their full potential, to be appropriately recognised and fairly remunerated. PSA has a strong and engaged membership base that provides high-quality health care and are the custodians for safe and effective medicine use for the Australian community.

PSA leads and supports innovative and evidence-based healthcare service delivery by pharmacists. PSA provides high-quality practitioner development and practice support to pharmacists and is the custodian of the professional practice standards and guidelines to ensure quality and integrity in the practice of pharmacy.





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CONTENTS

Foreword 6

Executive summary 8

PSA recommendations 10

Introduction 12

Medicine use in culturally and linguistically diverse communities..... 14

Medicine-related problems: insights from culturally and linguistically diverse community consultations..... 40

Role of pharmacists..... 50

References..... 52

Appendix 54





FOREWORD

Australia's strength lies in its diversity.

As Australia becomes increasingly culturally and linguistically diverse, ensuring the safe and effective use of medicines for all Australians has never been more important.

This is not simply a communication issue; it is a patient safety issue.

As a pharmacist, I have seen firsthand how easily misunderstandings can occur when patients are unable to access medicines information in a language they understand. What might seem like a minor communication barrier can affect how medicines are taken, how side effects are recognised, and ultimately whether treatment is safe and effective.

Australians from culturally and linguistically diverse backgrounds face a higher risk of medicine-related harm. As highlighted in this report, approximately one in three people receiving medicines under the Pharmaceutical Benefits Scheme were born overseas. Safety in navigating our complex healthcare system is challenging, and it is significantly more difficult for those whose first language is not English. These realities must be reflected in how we design and deliver healthcare and medicines-related services.

Medicines safety is one of Australia's National Health Priority Areas. Yet systemic barriers continue to prevent many Australians from accessing, understanding, and using their medicines safely and appropriately. This is unacceptable.

This eighth report in PSA's *Medicine Safety* series provides compelling evidence for system-wide action to improve medicines safety among culturally and linguistically diverse Australians. The report highlights opportunities to strengthen culturally responsive communication, expand access to multilingual information on medicines, enhance pharmacist-led review services, and improve the data needed to identify and address potential risks.

Pharmacists are among the most accessible and trusted health professionals and are uniquely positioned to improve medicines safety through culturally responsive communication, medication review services, and ongoing patient support.

No Australian should experience, or be at risk of experiencing, medicines-related harm because of the language they speak, the culture they hold, or their ability to access and navigate healthcare services safely.

The Pharmaceutical Society of Australia remains committed to advancing medicines safety for *all* Australians and to supporting pharmacists in delivering culturally safe, patient-centred care. We will continue to advocate for the policies, resources, and services needed to ensure cultural and linguistic diversity is recognised not as a barrier to care, but as a fundamental consideration in the design and delivery of safe health care.



Australians from culturally and linguistically diverse backgrounds face a higher risk of medicine-related harm.



Professor Mark Naunton
PSA National President



EXECUTIVE SUMMARY

Culturally and linguistically diverse communities represent a substantial and growing proportion of the Australian population. Understanding patterns of medicine use, access, and safety among culturally and linguistically diverse populations is essential to ensuring equitable, culturally safe, and effective health care.

This report summarises current evidence on medicine use and medicine safety among culturally and linguistically diverse communities in Australia, drawing on analysis of the Australian Bureau of Statistics (ABS) National Health Survey 2022 and findings from community consultations with people from culturally and linguistically diverse backgrounds.

In 2022, culturally and linguistically diverse communities represented a large and growing share of PBS medicine recipients

- Around 1 in 3 PBS recipients (4.6 million; 29%) were born overseas.
- Almost half a million PBS recipients reported limited English proficiency.

High and complex medicine use among culturally and linguistically diverse communities with reported limited English proficiency highlights the need for culturally appropriate medicines information

- Nearly 1 in 2 (214,000; 45%) were dispensed 6 or more medicines.
- Commonly dispensed medicines include:
 - antibiotics (270,000; 57%)
 - cardiovascular medicines (250,000; 53%)
 - mental health medicines (93,000; 20%).

Differences in age profiles across culturally and linguistically diverse communities highlight different medicines needs

- Among people born in Asia and Africa/Middle East, as well as those who reported speaking a language other than English at home, around 70% of PBS recipients were of working age (18 to 64 years).
- Almost 1 in 2 (46%) PBS recipients who reported limited English proficiency were aged 65 years and over.

Variation in PBS dispensing among culturally and linguistically diverse communities with multimorbidity

- Among people reporting multimorbidity, 76% of those born in Africa/Middle East and 83% of those born in Asia had at least one PBS medicine dispensed, compared with 90% of the overall Australian population.
- These differences may reflect several factors, including variation in access to care, treatment patterns, or use of medicines not captured in PBS data.

Medicine-related considerations among culturally and linguistically diverse communities

- Medicine selection and dosing regimen may need to be adapted for cultural or religious practices, including restrictions on ingredients (e.g. animal-derived excipients, alcohol) and fasting practices (e.g. during Ramadan).
 - Cultural beliefs, stigma, and prior health system experiences can shape attitudes towards medicines; in some culturally and linguistically diverse communities this may contribute to delayed help-seeking, particularly for mental health conditions.
 - Consultation participants reported self-medication practices, obtaining medicines from overseas through family, friends or online community networks, and using traditional or culturally familiar practices to manage mild symptoms before seeking prescribed treatments.
-

PSA RECOMMENDATIONS

PSA recommends the following actions be implemented to ensure equity of access and improved support for culturally and linguistically diverse people:

01

Embed culturally responsive communication and interpreter use as standard care by establishing national policy and funding mechanisms that support the routine use of professional interpreters and culturally appropriate communication tools in medicines-related care.

02

Strengthen pharmacist-led medicine review services for culturally and linguistically diverse communities through targeted strategies to increase uptake of Home Medicines Reviews and other pharmacist-led medicine review services among culturally and linguistically diverse populations, including culturally tailored referral pathways and community engagement.

03

Improve data collection and monitoring of medicine safety in culturally and linguistically diverse populations by including standardised cultural and language indicators, such as language spoken at home and English proficiency, in national health datasets and medicine safety reporting systems.

04

Expand access to culturally appropriate medicines information and health literacy resources through investment in multilingual, culturally tailored medicines information, including Consumer Medicine Information, high-risk medicine resources and dosing instructions.

05

Integrate cultural safety and medicine safety into pharmacist education and practice standards by strengthening requirements within professional practice standards, guidelines and continuing professional development to embed cultural safety in medicines-related care, including:

- culturally informed medicine history-taking, including traditional medicines, complementary medicines and medicines obtained from outside Australia
- understanding of cultural beliefs that may influence medicine use
- management of high-risk scenarios, including fasting, religious restrictions and changes to usual medicine-taking routines
- communication strategies that support shared decision-making, patient autonomy and informed consent.

INTRODUCTION

Culturally safe care and equity of access are core principles of Australia's National Medicines Policy.¹ The National Medicines Policy¹ explicitly recognises the diverse needs of people from culturally and linguistically diverse backgrounds, and places strong emphasis on culturally safe medicines-related services, culturally appropriate information, person-centred care, and shared decision-making.

Importantly, the National Medicines Policy frames cultural safety, health literacy, digital literacy, and medicines literacy as system-wide responsibilities, supported by working in partnership with communities and coordinated action across government and health sectors. Within this context, this report describes what is currently known about medicine use and medicine safety among culturally and linguistically diverse communities in Australia.

This report draws on multiple sources of information. It presents descriptive analyses of medicine use in culturally and linguistically diverse populations using data from the Australian Bureau of Statistics (ABS) National Health Survey 2022.² This is complemented by lived experience consultation conducted through focus group discussions with people from culturally and linguistically diverse communities.





CASE STUDY 1

Medication misidentification in a newly arrived refugee teenager

A newly arrived refugee teenager with limited English proficiency attended a local hospital dermatology clinic for treatment-resistant acne and was commenced on isotretinoin, with a planned dose increase after four weeks. The patient also experienced anxiety and had commenced fluoxetine several months earlier.

His GP had encouraged him to bring all medicines and relevant paperwork to appointments. At one consultation, the GP identified two repeat prescriptions: one for fluoxetine and another for sertraline. The sertraline prescription belonged to an unknown female patient and was not intended for him.

The patient had commenced taking the sertraline several weeks earlier and had recently doubled the dose, mistakenly believing it was his acne medicine. He was also concurrently taking fluoxetine, creating a risk of serotonin toxicity. Fortunately, no signs of serotonin toxicity were observed. Further review found that the error had occurred at a community pharmacy when the patient responded to a name called at the counter and was handed another person's medicine. Due to limited English literacy, he could not identify the error.

This case highlights the importance of always confirming patient identity using at least two patient identifiers and engaging an accredited translator when counselling patients with limited English proficiency.

MEDICINE USE IN CULTURALLY AND LINGUISTICALLY DIVERSE COMMUNITIES

In 2021, more than 7 million (27.6%) people living in Australia were born overseas, an increase from 6.1 million or 26.3% of the population in 2016.³

Over the same period, more people also reported speaking a language other than English at home, increasing to 5.8 million people (22.8%) from 4.9 million (21.6%) in 2016.³

The cultural and linguistic diversity of Australia's population highlights the importance of understanding patterns of medicine use and access among culturally and linguistically diverse communities, and the need for resources and strategies to support safe, effective, and culturally appropriate health care and use of medicines.

In this section of the report, findings from the ABS National Health Survey 2022 are described, including the pattern of medicine use in culturally and linguistically diverse populations.

In keeping with the demographic profile of the country, 29% (4.6 million) of the 16.1 million Australians who had a medicine dispensed under the Pharmaceutical Benefits Scheme (PBS) were born overseas; further, 2.1 million (13%) spoke a language other than English at home, and 474,100 (3%) reported limited English proficiency.



BOX 1: CULTURALLY AND LINGUISTICALLY DIVERSE DEFINITION

Cultural and linguistic diversity reflects a range of characteristics, including country of birth, ancestry, parental country of birth, languages spoken, and religious affiliation. (www.aihw.gov.au/reports-data/population-groups/cald-australians/glossary).

The ABS Minimum Core Set of Cultural and Language Indicators, consist of four major concepts:

1. Country of birth
2. Main language other than English spoken at home
3. Proficiency in spoken English
4. Indigenous status.

(www.abs.gov.au/statistics/standards/standards-statistics-cultural-and-language-diversity/latest-release)

For the purposes of this report, culturally and linguistically diverse populations are identified using country of birth and language-related indicators (language spoken at home and English proficiency), reflecting data availability and the report's focus on medicine use and medicines safety among overseas-born Australians and people from culturally and linguistically diverse backgrounds.

Aboriginal and Torres Strait Islander peoples are not included in the definition of 'culturally and linguistically diverse' used in this report and are recognised as First Nations peoples with distinct cultures, histories, and health priorities, consistent with Australian policy and reporting frameworks.

BOX 2: CULTURALLY AND LINGUISTICALLY DIVERSE POPULATIONS

Culturally and linguistically diverse populations are not homogeneous and include people with different migration histories, language use, and cultural identities across generations. The ABS defines generations of Australians as follows:

- First generation Australians are people living in Australia who were born overseas.
- Second generation Australians are Australian-born people living in Australia, with at least one parent born overseas.
- Third-plus generation Australians are Australian-born people whose parents were both born in Australia. One or more of their grandparents may have been born overseas or they may have many generations of ancestors born in Australia.

(www.abs.gov.au/articles/cultural-diversity-australia)

Across generations of culturally and linguistically diverse Australians, people may differ in English proficiency, cultural practices, health beliefs, and experiences of the health system. For example, Australian-born individuals may speak English fluently but still identify with and be influenced by the cultural traditions, values, and health beliefs of their family or community.

Members of culturally and linguistically diverse communities also include recent migrants, refugees, and people on temporary visas, such as international students, whose experiences of health care and medicine use may differ substantially from those of permanent residents, and who may because of recency of arrival not yet learned how to navigate the health system.

Medicine use by country of birth and language spoken at home

Recipients of PBS medicines who were born overseas represented a diverse range of countries of origin and languages. At the country level, the largest single country-of-birth group was England, followed by India, New Zealand, China, the Philippines and Vietnam (Table 1).

TABLE 1.

Top 10 countries of birth among overseas-born PBS medicine recipients, 2022

Country of birth	Number of people	Percent
England	765,100	17%
India	408,000	9%
New Zealand	355,200	8%
China (excludes SARs and Taiwan)	255,400	6%
Philippines	226,900	5%
Vietnam	142,100	3%
South Africa	138,600	3%
Malaysia	110,400	2%
Italy	97,300	2%
Hong Kong (SAR of China)	94,500	2%

Source: ABS National Health Survey 2022

Notes: Percentages are calculated as a proportion of all overseas-born PBS recipients; SAR: Special Administrative Region.

With regard to the most common languages spoken at home other than English among culturally and linguistically diverse people receiving PBS medicines, almost 1 in 5 (19%) spoke a Chinese language (Mandarin or Cantonese). Arabic was the next most common language (8%), followed by Hindi (6%), and Vietnamese (5%) (Table 2). Arabic is spoken across multiple countries and communities and therefore does not correspond to a single country of birth in Table 1.

TABLE 2.

Top 5 non-English languages spoken at home among PBS medicine recipients, 2022

Main languages spoken at home	Number of people	Percent
Mandarin	233,000	11%
Cantonese	165,500	8%
Arabic	159,400	8%
Hindi	117,100	6%
Vietnamese	105,500	5%

Source: ABS National Health Survey 2022

Notes: Percentages are calculated as a proportion of all PBS medicine recipients who spoke a non-English language at home.

The 2021 Australian Census shows that English proficiency varies widely between language groups. About 3 in 10 people who spoke Vietnamese at home, and 1 in 4 who spoke Mandarin or Cantonese, reported limited English proficiency. Around 15% of Arabic speakers also reported limited English proficiency. In contrast, only a small proportion of Hindi speakers (around 4%) reported difficulty with English.³

Analysis of National Health Survey 2022 data on PBS medicines commonly dispensed to people with limited English proficiency showed:

- over 270,000 people (57%) received antibiotics
- nearly 250,000 people (53%) received medicines for hypertension
- just over 100,000 people (21%) received non-steroidal anti-inflammatory and antirheumatic medicines
- more than 95,000 people (20%) received antidiabetic medicines
- approximately 93,000 people (20%) received medicines for mental health, including antidepressants, antipsychotics, anxiolytics, and hypnotics or sedatives
- more than 50,000 people (11%) received opioids.

These findings highlight the need for culturally appropriate information and support to help people navigate health care and medicine use, delivered in their preferred languages to promote safe and effective medicine use.

BOX 3: HOW EVERYDAY LANGUAGE CAN INFLUENCE UNDERSTANDING OF MEDICINES

While biomedical terms for medicines exist in most languages, everyday language in many settings often describes medicines using terms based on their perceived effect. Below is the example of antibiotics which may be described as “anti-infection” or “anti-inflammatory” medicines.⁴ This can limit understanding that antibiotics are effective only for bacterial infections and potentially contributes to misuse across populations. It can also lead to confusion when communicating medication histories, where the term ‘anti-inflammatory’ may be misunderstood by health professionals as a different class of medicines.

Language	Common everyday term(s)	Literal meaning / everyday interpretation
Mandarin	消炎药 (xiāo yán yào)	“Anti-inflammation medicine”
Thai	ยาแก้อักเสบ (yaa gae aksaep)	“Medicine against infection/inflammation”

Medicine use and religious affiliation

Information on religious affiliation may be required to support culturally safe and acceptable care in some culturally and linguistically diverse groups as some medicines and formulations may contain ingredients that require consideration of a patient's religious beliefs or practices. For example, animal-derived ingredients, such as gelatin, which is commonly used in capsule shells and some vaccines may be derived from bovine (cow) or porcine (pig) sources. Heparin is typically derived from porcine tissue.⁵ These considerations need to be addressed at the individual level as views within religious and cultural groups vary from person to person and, in turn, individual practices also vary.⁵

Fasting is another consideration within some religious practices, and to account for these, adjustments to medicine regimens may be required, as well as additional education or monitoring, to support culturally safe medicines practice (see Box 4).

BOX 4: ANTIDIABETIC MEDICINES AND RAMADAN FASTING

Ramadan is a month-long period during which many Muslims fast from food and drink between dawn and sunset (typically 11 to 19 hours per day depending on location and season). Ramadan fasting is therefore a potentially relevant consideration for medicine use and safety in this population.

Evidence from a large international survey conducted in 2022, involving more than 12,500 Muslim participants, showed that over 85% fasted for at least one day during Ramadan, with a mean fasting duration of approximately 28 days. Fasting was more common among younger and middle-aged adults and substantially less common among those aged 70 years and over.⁶

The guidance concerning diabetes care and fasting during Ramadan is changing. Earlier guidance generally discouraged people with diabetes from fasting during Ramadan due to concerns about hypoglycaemia and other complications. More recent studies indicate that with individualised assessment, structured Ramadan-focused education, medicine dose adjustment, and self-monitoring of blood glucose, many people may be able to fast with only a modest increase in adverse events. Although high-quality randomised evidence remains limited for high-risk groups with diabetes, including pregnant women, people using insulin, and those with chronic kidney disease, current international guidance supports a personalised approach to fasting that balances religious practices with medicine safety.⁷

Medicine use by age and sex among culturally and linguistically diverse communities

Differences in age profiles across culturally and linguistically diverse communities have implications for medicine needs and equitable access to medicines services. Targeted approaches may be required, including medicines safety support for older adults experiencing polypharmacy and accessible information and services for younger and working-age populations.

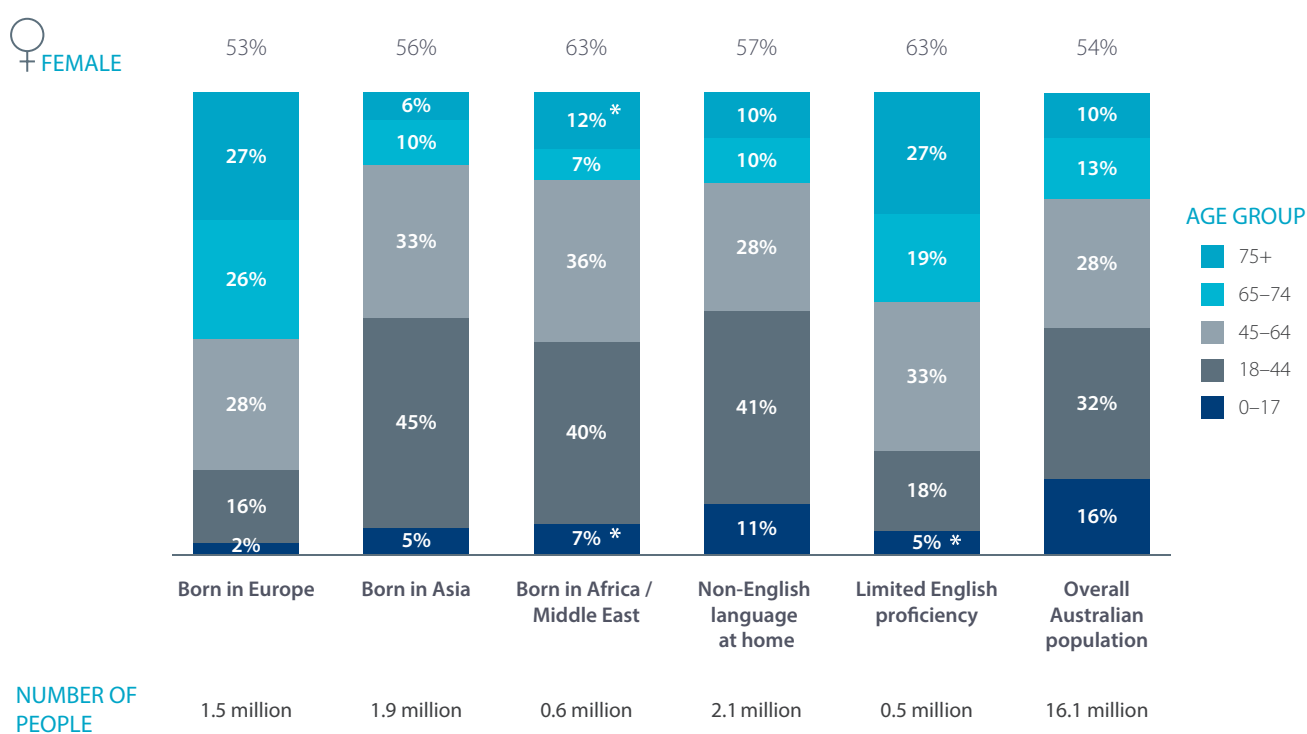
To accurately interpret patterns of medicine use across culturally and linguistically diverse communities, differences in the age distribution of population groups need to be considered. Medicine use cannot be directly compared across groups without accounting for age, as the likelihood of medicine use increases with the onset of age-related conditions.

Among people born in Asia and Africa/Middle East, as well as those who reported speaking a non-English language at home, PBS medicine recipients were largely (70%) of working age (18 to 64 years), with less than 20% aged 65 years and older. In contrast, PBS medicine recipients born in Europe, and those with limited English proficiency, were substantially older. Almost 1 in 2 PBS medicine recipients in these groups were aged 65 years and over (53% and 46%, respectively) (Figure 1). In comparison, the age profile of PBS medicine recipients in the overall Australian population showed that 60% were of working age, around 23% were aged 65 years and over, and 16% were under 18 years of age (Figure 1).

Because of these differences in age profiles, we might expect greater use of medicines for chronic conditions among people from European backgrounds and those with limited English proficiency compared with people born in Asia and Africa/Middle East.

The majority of PBS medicine recipients were female (Figure 1). However, the proportion was noticeably higher among people with limited English proficiency and those born in Africa/Middle East, where nearly 2 in 3 (63%) recipients were female, compared with just over half (54%) in the overall Australian population (Figure 1).

FIGURE 1. Age and sex profile of PBS medicine recipients by culturally and linguistically diverse groups, 2022



Source: ABS National Health Survey 2022

Note: * Estimate has a relative standard error of 25% to 50% and should be used with caution.

Medicine and levels of disadvantage in culturally and linguistically diverse communities

More people with limited English live in socioeconomically disadvantaged neighbourhoods.

Socioeconomic status is a commonly used measure that reflects a person's social and economic circumstances and opportunities. It is often reported based on area of residence, on a scale from more disadvantaged to more advantaged populations. In general, people living in more advantaged areas tend to use routine and preventive health services more often, while people in more disadvantaged areas are more likely to rely on urgent or hospital-based care.⁸

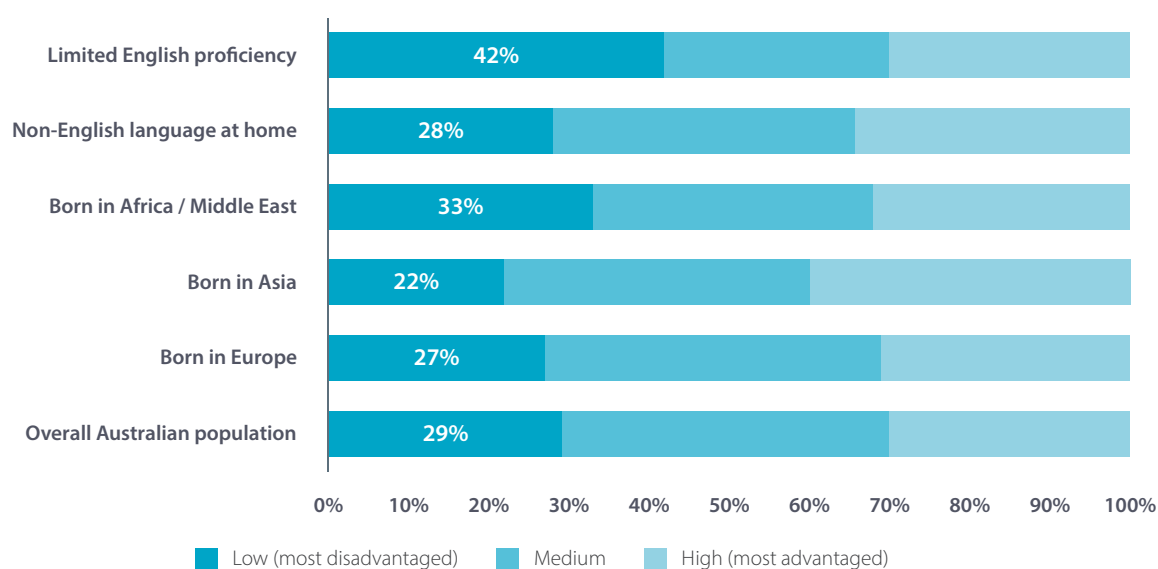
Two in five (42%) PBS medicine recipients who report limited English proficiency lived in areas classified as the most disadvantaged.

This proportion was higher than that observed for other culturally and linguistically diverse groups (including those who reported speaking a language other than English at home and those born overseas) and the overall Australian population (29%) (see Figure 2).

These findings suggest that people with limited English proficiency may benefit from targeted, culturally appropriate support services to enable timely and appropriate care, particularly as socioeconomic disadvantage is often associated with lower use of preventive healthcare services and greater reliance on acute care.



FIGURE 2. Area-level socioeconomic distribution of PBS medicine recipients by culturally and linguistically diverse groups, 2022



Source: ABS National Health Survey 2022

Notes:

- Socio-economic status is based on the Socio-Economic Indexes for Areas (SEIFA), the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD).
- IRSAD categories are grouped as follows: low (most disadvantaged) - deciles 1-3; medium - deciles 4-7; high (most advantaged) - deciles 8-10.

Types of medicine use

This section examines the types of medicines commonly supplied to people from culturally and linguistically diverse communities across different age groups. Understanding these patterns helps identify where culturally appropriate medicines information, pharmacist support, and other services may be needed to support safe and effective medicine use.

Children and adolescents

Antibiotic use is common among children and adolescents from culturally and linguistically diverse communities. Providing culturally appropriate antibiotic education for families is essential to promote appropriate use and support antimicrobial stewardship.

Among children and adolescents aged 0 to 17 years, anti-infectives for systemic use were consistently the most commonly dispensed PBS medicine across all culturally and linguistically diverse groups (Table 3). Glucocorticoids (such as prednisolone), topical treatments for skin conditions, and medicines used for reflux or nausea and vomiting were also commonly supplied (Table 3). These medicine groups likely reflect the management of common childhood and adolescent conditions such as infections, asthma, allergies, and skin conditions. This highlights the importance of accessible medicines information and counselling to support quality use of medicines among families from culturally and linguistically diverse backgrounds, particularly regarding the appropriate use of antibiotics.

An Australian national survey of parents conducted in 2016 found that 17% of parents reported giving antibiotics to their child without a prescription, often using leftover medicines or antibiotics obtained from family members or friends.⁹ Among parents whose children received antibiotics in the previous 12 months, around one-third (36%) reported that at least one course was not completed, most commonly because symptoms had improved.⁹ The survey included parents from culturally and linguistically diverse backgrounds, with 31% born overseas and 20% reporting a language other than English spoken at home, highlighting the potential role of culturally appropriate communication and counselling in supporting appropriate antibiotic use and antimicrobial stewardship among families from culturally and linguistically diverse communities.

For several culturally and linguistically diverse population groups, small sample sizes limited the reporting of medicine groups. These small sample sizes reflect the relatively small number of children and adolescents receiving PBS medicines in certain culturally and linguistically diverse populations. As a result, findings for this age group should be interpreted as indicating broad patterns of medicine use rather than specific differences between culturally and linguistically diverse populations.

TABLE 3.
Top three PBS medicine groups among children and adolescents, by culturally and linguistically diverse groups, 2022

Cultural and linguistic background	1st most common	2nd most common	3rd most common
Born in Europe	Anti-infectives*	n.p.	n.p.
Born in Asia	Anti-infectives*	Glucocorticoids [#] (e.g. prednisolone)	Digestive and metabolic medicines [^]
Born in Africa / Middle East	n.p.	n.p.	n.p.
Non-English language at home	Anti-infectives*	Skin preparations ^{&}	Glucocorticoids [#] (e.g. prednisolone)
Limited English proficiency	Anti-infectives*	n.p.	n.p.

Source: ABS National Health Survey 2022

Notes:

- Medicine classes defined according to the World Health Organization (WHO) Anatomical Therapeutic Chemical (ATC) classification, Level 1; ATC codes – *J. *Antiinfective for systemic use*, [#]H. *Systemic hormonal preparations, excluding sex hormones and insulins*, [^]A. *Alimentary tract and metabolism*, [&]D. *Dermatologicals*.
- n.p.: not published due to insufficient reliability

Working-age population

Improving culturally appropriate communication and education about antibiotics may help address information gaps and support appropriate use and antimicrobial stewardship.

Among working-age adults (18 to 64 years old) across all culturally and linguistically diverse groups, anti-infectives consistently ranked as the most commonly dispensed PBS medicine group. Cardiovascular system medicines and digestive and metabolic medicines commonly ranked second or third; while nervous system medicines appeared among the top three for some population groups (Table 4). Overall, differences across culturally and linguistically diverse population groups were minimal.

Evidence from an Australian hospital survey of culturally and linguistically diverse patients receiving antibiotics found that while most patients were informed they were receiving antibiotics, fewer than 40% were told about treatment duration and only 15% received written information, indicating substantial gaps in communication that may affect appropriate use and adherence.¹⁰

TABLE 4.

Top three PBS medicine groups among working aged adults, by culturally and linguistically diverse groups, 2022

Cultural and linguistic background	1st most common	2nd most common	3rd most common
Born in Europe	Anti-infectives*	Nervous system [#]	Cardiovascular system [^]
Born in Asia	Anti-infectives*	Cardiovascular system [^]	Digestive and metabolic medicines ^{&}
Born in Africa / Middle East	Anti-infectives*	Nervous system [#]	Digestive and metabolic medicines ^{&}
Non-English language at home	Anti-infectives*	Digestive and metabolic medicines ^{&}	Cardiovascular system [^]
Limited English proficiency	Anti-infectives*	Digestive and metabolic medicines ^{&}	Cardiovascular system [^]

Source: ABS National Health Survey 2022

Notes: Medicine classes are defined according to the WHO Anatomical Therapeutic Chemical (ATC) classification, Level 1; ATC codes – *J. Antiinfective for systemic use, [#]N. Nervous system, [^]C. Cardiovascular system, [&]A. Alimentary tract and metabolism.

Older population

Common use of cardiovascular medicines among older adults from culturally and linguistically diverse communities highlights the importance of pharmacist counselling to support safe and effective medicine use.

Among adults aged 65 years and over, the most commonly dispensed PBS medicine group was cardiovascular system medicines (Table 5). This was followed by digestive and metabolic medicines and anti-infectives. This pattern was consistent across population groups defined by country of birth, language spoken at home, and English proficiency (Table 5).

This pattern is consistent with age-related increases in prevalence of cardiovascular disease. In the 2022 National Health Survey, the proportion of people reporting heart, stroke, or vascular disease increased sharply with age, from less than 1% among those aged 0 to 44 years, to 28% among people aged 75 years and over.¹¹

Cardiovascular medicines are typically used for long-term prevention and management of chronic conditions, and their benefits may not be immediately apparent to patients. For older adults from culturally and linguistically diverse communities, language barriers and differences in health literacy may affect understanding of these therapies and their preventive role. Community pharmacists are well positioned to support older adults from culturally and linguistically diverse communities through culturally appropriate counselling and reinforcement of medicine information to support safe and effective use.

TABLE 5.

Top three PBS medicine groups among older adults, by culturally and linguistically diverse groups, 2022

Cultural and linguistic background	1st most common	2nd most common	3rd most common
Born in Europe	Cardiovascular system*	Digestive and metabolic medicines [#]	Anti-infectives [^]
Born in Asia	Cardiovascular system*	Digestive and metabolic medicines [#]	Anti-infectives [^]
Born in Africa / Middle East	Cardiovascular system*	Anti-infectives [^]	Digestive and metabolic medicines [#]
Non-English language at home	Cardiovascular system*	Digestive and metabolic medicines [#]	Anti-infectives [^]
Limited English proficiency	Cardiovascular system*	Digestive and metabolic medicines [#]	Anti-infectives [^]

Source: ABS National Health Survey 2022

Note: Medicine classes are defined according to the WHO Anatomical Therapeutic Chemical (ATC) classification, Level 1; ATC codes – *C. Cardiovascular system, [#]A. Alimentary tract and metabolism, [^]J. Antiinfective for systemic use.

Use of multiple medicines and medicines reviews

Use of multiple medicines is common among people from culturally and linguistically diverse communities.

Approximately half of PBS medicine recipients with limited English proficiency were dispensed six or more medicines in 2022.

This highlights the need to provide resources and medicine-related services such as medicines reviews for people from culturally and linguistically diverse backgrounds.

Many people from culturally and linguistically diverse communities are managing multiple medicines at the same time. Among PBS medicine recipients with limited English proficiency, 45% (214,000 people) were dispensed six or more different medicines in 2022. Substantial proportions were also observed across other culturally and linguistically diverse groups: 35% (533,100) of people born in Europe, 26% (148,500) of people born in Africa or the Middle East, 22% (447,700) of people living in non-English-speaking households, and 19% (361,200) of Asian-born Australians.

Consistent with the Australian population, the use of multiple medicines increased markedly with age across culturally and linguistically diverse population groups. It was most prevalent among people aged 65 years and over. Age-specific estimates for children and adolescents were not publishable due to small sample sizes (Table 6).



45%

of PBS medicine recipients with limited English proficiency were dispensed 6 or more medicines in 2022.

TABLE 6.
Dispensing of 6 or more medicines by age group and culturally and linguistically diverse groups, 2022

Cultural and linguistic background	Age group			Total
	0–17	18–64	65+	
Born in Europe	n.p.	97,400 (18%)	438,000 (82%)	533,100
Born in Asia	n.p.	213,000 (59%)	142,300 (39%)	361,200
Born in Africa / Middle East	n.p.	81,600 (55%)	63,200 (43%)*	148,500
Non-English language at home	n.p.	n.p.	n.p.	447,700
Limited English proficiency	n.p.	86,200 (40%)*	132,700 (62%)	214,000

Source: ABS National Health Survey 2022

Notes:

- Number of medicines was defined as the count of unique medicines dispensed, classified at WHO Anatomical Therapeutic Chemical (ATC) classification, Level 4.
- n.p.: not publishable due to small sample size.
- * Estimate has a relative standard error of 25% to 50% and should be used with caution.
- Cells in this table have been randomly adjusted to protect confidentiality. As a result, discrepancies may occur between component items and totals.

Home Medicines Reviews (HMRs), funded by the Australian Government, are a mechanism to support people who take multiple medicines. It is possible that this service is under-utilised by people from culturally and linguistically diverse backgrounds. While data on the extent of use of this service by culturally and linguistically diverse groups are not available, our consultation showed there was limited awareness of HMR services among participants. Older Asian-born participants who had lived in Australia for more than 40 years and had limited English proficiency reported no prior awareness of HMRs. In addition, an older

participant managing a high number of medicines reported never having received a medicines review service and expressed reluctance to engage with the service when it was described. The service was explained as a free medicines review conducted by a pharmacist, typically involving a visit to the patient's home to review medicines and provide advice. However, the participant did not express interest in participating and did not provide a specific reason for this reluctance.

These observations, while based on a small number of participants and not intended to be generalisable, highlight potential barriers to awareness, perceived

relevance, and acceptability of HMR services among some people from culturally and linguistically diverse backgrounds. This suggests a need for culturally appropriate communication, trusted referral pathways, and community-informed engagement strategies to support the uptake of medicines review services in culturally and linguistically diverse communities.

High-risk medicines use

Among medicine users who report limited English proficiency, 13% were dispensed antithrombotics and 11% were dispensed opioids, both of which are considered high-risk medicines.

In this section of the report, we provide data on the use of high-risk medicines by people from culturally and linguistically diverse populations to highlight the type of medicine information resources that may be required to support culturally safe care.

Some medicines, including antithrombotic agents (blood thinners) and opioid medicines (strong painkillers), are considered high-risk due to their association with serious safety events, including bleeding, falls, sedation, and overdose. Our data analysis shows large numbers of people from culturally and linguistically diverse groups are supplied high risk medicines. In 2022, among PBS medicine recipients, 13% (201,500 people) of people born in Europe and 13% (61,500 people) of people with limited English proficiency were dispensed antithrombotic agents (Table 7). Opioids were dispensed to 19% (283,300 people) of European-born individuals, 15% (84,700 people) of those born in Africa or the Middle East, and 11% (51,200 people) of people with limited English proficiency (Table 7).

Access to medicine-specific, multilingual information may support safer use of high-risk medicines among culturally and linguistically diverse populations. For example, the Victorian Therapeutics Advisory Group (VicTAG) provides multi-language patient information leafletsⁱ for selected medicines, which may help improve understanding of dosing, bleeding risks, and when to seek medical advice for anticoagulant therapy, particularly among people with limited English proficiency. The Take-Home Naloxone Program is a national program that provides naloxone (an opioid overdose reversal medicine) and supporting information to people at risk of opioid overdose, including guidance on recognising and responding to overdose situations, with selected resources available in multiple languages to support diverse communities.ⁱⁱ

ⁱ VicTAG multi-language medication patient information leaflets: www.victag.org.au/programs/multi-language-medication-patient-information-leaflets

ⁱⁱ NSW Health. *Naloxone (Nyxoid®) factsheet – Take-Home Naloxone program*. Available from: www.health.nsw.gov.au/aod/programs/Pages/naloxone-factsheet-nyxoid.aspx

TABLE 7.

Number and proportion of people dispensed antithrombotics and opioids (high-risk medicines), by culturally and linguistically diverse groups, 2022

Cultural and linguistic background	Antithrombotic agents	Opioids
Born in Europe	201,500 (13%)	283,300 (19%)
Born in Asia	72,600 (4%)	149,200 (8%)
Born in Africa / Middle East	36,400 (6%)*	84,700 (15%)
Non-English language at home	106,700 (5%)	198,300 (10%)
Limited English proficiency	61,500 (13%)*	51,200 (11%)

Source: ABS National Health Survey 2022

Notes:

- Number of medicines was defined as the count of unique medicines dispensed, classified at WHO Anatomical Therapeutic Chemical (ATC) classification, Level 3.
- * Estimate has a relative standard error of 25% to 50% and should be used with caution.

Long-term health conditions and need for culturally relevant information

For people from culturally and linguistically diverse communities, self-management of chronic health conditions needs to be supported by appropriate and evidence-based health information relevant to their needs.

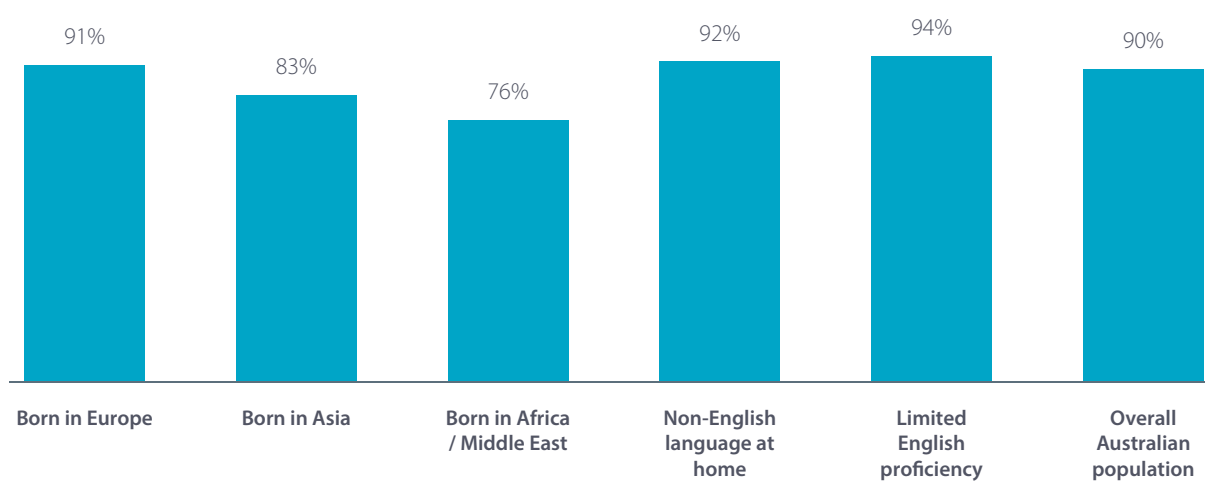
The National Health Survey provides information on the number and type of long-term health conditionsⁱⁱⁱ reported by participants.

Among people who reported three or more long-term health conditions (multimorbidity), the majority were dispensed at least one PBS medicine (Figure 3). The proportion of people who were dispensed PBS medicines varied by country of birth and language characteristics, ranging from 76% to 94%. Dispensing of PBS medicines was observed among people born in Europe (91%), Asia (83%), and Africa or the Middle East (76%), as well as among people living in non-English-speaking households (92%) and those with limited English proficiency (94%). The corresponding proportion in the overall Australian population was 90% (Figure 3).

Lower use of PBS medicines among people born in Asia and Africa or the Middle East who reported multiple long-term health conditions may indicate possible unmet needs or difficulties accessing PBS medicines. However, this may also reflect differences in patterns of medicine use, such as greater use of medicines obtained privately or traditional and complementary medicines, which are not captured in the data and may help explain lower observed PBS medicine use despite reported multimorbidity.

ⁱⁱⁱ Long-term health conditions are conditions which were current at the time of the survey interview and had lasted, or were expected to last, for 6 months or more.

FIGURE 3. Proportion of people with PBS medicine use among those with three or more long-term health conditions, by culturally and linguistically diverse groups, 2022



Source: ABS National Health Survey 2022

Note: Estimates are presented as weighted proportions and were not age standardised. Differences between population groups may partly reflect differences in age structure and should be interpreted as descriptive.



The three most commonly reported long-term health conditions among culturally and linguistically diverse groups are presented in Table 8. These results highlight the information needs to support health management. The most commonly reported conditions included arthritis, hay fever and allergic rhinitis, hypertension (high blood pressure), and mental and behavioural conditions (including depression and anxiety).



TABLE 8.

Top three most common self-reported long-term health conditions among PBS medicine recipients, by culturally and linguistically diverse groups, 2022

Cultural and linguistic background	1st most common	2nd most common	3rd most common
Born in Europe	Arthritis	High blood pressure	Mental and behavioural conditions
Born in Asia	Hay fever and allergic rhinitis	High blood pressure	Mental and behavioural conditions
Born in Africa / Middle East	Hay fever and allergic rhinitis	Mental and behavioural conditions	High blood pressure
Non-English language at home	Hay fever and allergic rhinitis	High blood pressure	Mental and behavioural conditions
Limited English proficiency	High blood pressure	Arthritis	Hay fever and allergic rhinitis

Source: ABS National Health Survey 2022

Note: Long-term health conditions are ranked based on overall prevalence among PBS medicine recipients within each culturally and linguistically diverse indicator. Results should be interpreted in the context of differences in age profiles (Figure 1) across culturally and linguistically diverse population groups.

Long-term health conditions often require ongoing medicine use, making understanding medicine instructions and recognising potential side effects essential for safe and effective use of medicines. Communication barriers may therefore present additional challenges for people with limited English proficiency.

Adherence to a medicine regimen can be challenging for many people, and studies around the world have shown, on average, 50% of people may be non-adherent.¹² This could be due to a range of factors and is not simply related to knowledge or understanding. Evidence from Australian studies shows that medicine adherence is similarly a problem in culturally and linguistically diverse communities.¹³⁻²¹ For example, Australian studies among Arabic-speaking, Vietnamese, Indian, and Chinese migrant populations with diabetes or hypertension, have reported missed doses, delayed initiation of treatment, selective adherence (such as taking medicines only when symptoms are present), and discontinuation of prescribed medicines.^{14,17,18,21} Consistent with studies in other populations, these behaviours were associated with concerns about long-term side effects, medicine costs, stigma, and competing priorities such as work, family responsibilities, and managing multiple health conditions, as well as level of understanding of chronic disease management.¹³⁻²¹

Our consultation participants reported that some older people from culturally and linguistically diverse communities may temporarily stop their regular prescribed medicines when taking over-the-counter or “as needed” pain medicines. This was often done without consulting a doctor or pharmacist, based on concerns about taking too many medicines at the same time and a reluctance to “be a bother” or a perception that it was unnecessary to ask health professionals, particularly where the interruption to long-term treatment was perceived to be brief.

“If she has pain, she will take over-the-counter medicines and stop her regular medicines, like blood pressure tablets, for a short time without consulting a doctor, because she thinks they shouldn’t be taken together.”

(Consultation participant, carer of an older parent with limited English proficiency)

Consultation participants noted that cultural norms around politeness and not wanting to inconvenience others may limit questions during healthcare encounters.

“Some people may hesitate to ask questions because they just want things to move quickly. They don’t want to make the queue longer or be seen as a burden. Even if they have questions, they may not ask them because they are trying to be considerate.”

(Consultation participant, community leader)

Several organisations provide multilingual resources to support communication and self-management of long-term conditions among culturally and linguistically diverse communities. These include heart health information from the Heart Foundation,^{iv} and mental health and medicines information available through services such as the NSW Transcultural Mental Health Centre^v and Embrace Multicultural Mental Health.^{vi}

^{iv} www.heartfoundation.org.au/your-heart/info-lote

^v www.dhi.health.nsw.gov.au/transcultural-mental-health-centre-tmhc/resources/in-your-language

^{vi} <https://embracementalhealth.org.au/community/translated-information>



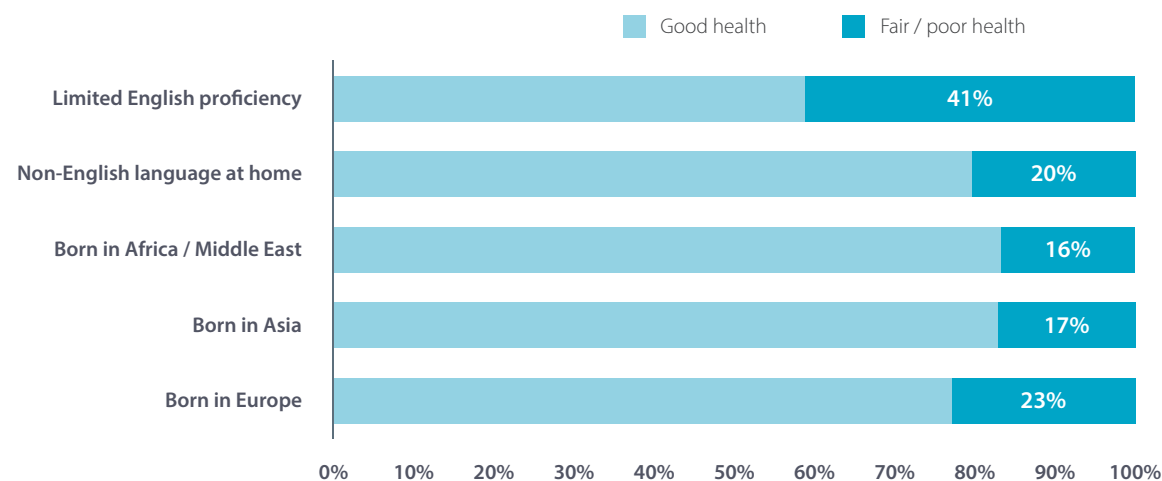
Self-rated health and culturally and linguistically diverse communities

Two in five (41%) people with limited English proficiency reported fair or poor health.

Self-rated health provides a summary measure of perceived overall health and wellbeing.

Across culturally and linguistically diverse groups, the majority of respondents reported good self-rated health, however, the proportion reporting fair or poor health was higher among people with limited English proficiency (Figure 4). The results highlight the potential intersection between language barriers and health status.

FIGURE 4. Self-rated health status among PBS medicine recipients, by culturally and linguistically diverse groups, 2022



Source: ABS National Health Survey 2022
Note: Self-rated health was based on respondents' assessment of their health and grouped into good health (excellent, very good, or good) and fair/poor health (fair or poor). This information is collected in the National Health Survey for people aged 15 years and over only.

CASE STUDY 2

Risk of harm from multiple over-the-counter medicines

A woman with limited English proficiency and no regular GP presented to her usual bulk-billing general practice requesting “more medicines” for upper respiratory tract symptoms that had persisted for greater than 10 days. She reported that her usual medicines were “not working”.

A review of her records showed she was prescribed omeprazole 20 mg daily for reflux and amlodipine 5 mg daily for hypertension. The GP explained that these medicines would not treat her respiratory symptoms. Suspecting she may also be taking non-prescribed medicines, the GP arranged a follow-up appointment the next day and asked her to bring in all medicines she was using.

At review, the patient brought two bags containing more than 20 over-the-counter products, including several antihistamines, multiple multivitamin preparations, two nasal decongestant sprays used regularly and long-term, and two different brands of ibuprofen.

Through discussion, the patient explained that in her culture medicines were expected for any illness and, since arriving in Australia, she had often purchased “many tablets” from pharmacies when unwell.

The GP identified that the patient was likely suffering from rhinitis medicamentosa (rebound congestion) caused by overusing topical nasal decongestants and was also at risk of other adverse effects from duplication of medicines including vitamin B12 toxicity.

This case highlights the importance of routinely asking about over-the-counter and complementary medicines, particularly for patients who may have different expectations about medicine use. It also demonstrates the need for culturally responsive communication, interpreter support where required, and clear counselling to help patients understand when medicines are appropriate, how to use them safely, and when non-medicine options may be suitable.



MEDICINE-RELATED PROBLEMS: INSIGHTS FROM CULTURALLY AND LINGUISTICALLY DIVERSE COMMUNITY CONSULTATIONS

Medicine safety in culturally and linguistically diverse communities is an under-researched area.

Medicine use in people from culturally and linguistically diverse communities is influenced by cultural beliefs about illness and treatment, English proficiency, health literacy, and ability to navigate the healthcare system.²² Where people are not provided with health and medicines education and information in their preferred language, or health systems are not set up to support cultural diversity and ease of system navigation, miscommunication, misunderstanding of medicine instructions, reduced engagement with healthcare providers, and increased medicine-related harm can occur.²²

Medicine safety in culturally and linguistically diverse communities is an under-researched area. This is partly due to limitations in routinely collected health datasets, where key variables such as language spoken at home, migration background, or English proficiency are not consistently recorded, making it difficult to identify culturally and linguistically diverse populations and examine medicine-related outcomes. Additional challenges include language barriers affecting participation in research and the diversity of culturally and linguistically diverse populations, which can complicate recruitment and analysis. Furthermore, many qualitative studies focus on specific culturally and linguistically diverse communities, which can provide important insights but may not be generalisable across the broader and heterogeneous culturally and linguistically diverse population.

Medicine-related issues in culturally and linguistically diverse communities have been illustrated in case reports that describe how medicine-related problems arise as a result of language barriers, differing beliefs about illness and treatment, and lack of culturally appropriate communication between families and healthcare providers (see Box 5).



BOX 5: CULTURAL SAFETY AND FAMILY-CENTRED MEDICINES MANAGEMENT—AN ILLUSTRATIVE CASE

A widely cited case illustrating medicine-related harm associated with cultural differences is that of Lia Lee, a Hmong child with epilepsy in the United States.²³ Lia's family were refugees from Laos and members of a Hmong community with cultural beliefs about illness that differed from Western biomedical explanations. Lia's treatment involved complex antiepileptic medicine regimens that were difficult for her family to understand due to language barriers, limited interpreter support, and differing beliefs about the causes and management of illness. While clinicians attributed Lia's seizures to neurological causes and prescribed anticonvulsant medicines, her family understood the condition within a spiritual framework and used traditional healing practices alongside biomedical treatment.

Episodes of perceived non-adherence were interpreted by health professionals without adequate consideration of the family's cultural context, understandings of health and illness, or caregiving responsibilities. These misunderstandings contributed to repeated communication breakdowns about medicine use and ultimately serious clinical harm, including uncontrolled seizures that resulted in severe neurological injury.

While this case does not represent population-level risk, it illustrates how failures in communication, shared decision-making, and family-centred medicines support can contribute to medicine-related harm when cultural safety and effective cross-cultural communication are not adequately addressed within healthcare systems.

Beliefs, values, and attitudes towards medicine use

Beliefs, values, and attitudes play an important role in how people use and manage medicines. Among culturally and linguistically diverse populations in Australia, these beliefs and values are shaped by cultural norms, prior health system experiences, and social contexts, and can vary widely between individuals and communities. They can influence perceptions of the necessity of medicines, concerns about side effects, and views on long-term medicine use, which in turn affect adherence, willingness to initiate or continue treatment, and openness to reviewing or adjusting medicine regimens.

Cultural beliefs and practices may also influence when and how people seek care. In some communities, individuals may initially rely on traditional remedies or family advice before consulting health professionals, which can delay help-seeking or the initiation of prescribed treatments. Some people may also feel uncomfortable discussing cultural practices or health beliefs with clinicians due to stigma, fear of judgement, or concerns about being misunderstood. When these beliefs and practices are not openly discussed, misunderstandings about symptoms, treatment expectations, or medicine use may occur, potentially increasing the risk of medicine-related harm.

Understanding and acknowledging people's beliefs and values is central to effective shared decision-making between health professionals and patients. When medicine decisions take into account cultural perspectives, personal experiences, and individual goals, they are more likely to support safe, appropriate, and acceptable medicine use.

Consultation participants highlighted how beliefs and stigma can shape attitudes towards medicine use, particularly for mental health conditions. Participants described how shame, fear of judgement, and cultural expectations influenced help-seeking behaviours and acceptance of treatment, contributing to delays in care or reluctance to use prescribed medicines.

“My mother has very severe mental health conditions, but she will not take medication. For her, being on medication means you don’t have enough faith. She believes that if you pray enough, you wouldn’t need medicine. There is shame and guilt attached to mental health, and that can affect whether people seek help or accept medicines.”

Mental health is still very stigmatised in some cultures. There is an expectation to appear strong or ‘fine,’ even when people are not. That can influence whether someone asks for help or accepts medicines and other support they need.”

(Consultation participant, first-generation Australian)

One participant described how their physical and social environment influenced their mental health and decisions about medicine use. The participant perceived many of their mental health triggers to be linked to their life circumstances in Australia and chose to take an extended break overseas to focus on healing in a calmer, more supportive environment. This period away was described as enabling reflection and recovery, and was associated with a reduction in antidepressant dose, which occurred outside formal medical supervision.

“I’d been on antidepressants for a long time and on very high doses – up to 200 milligrams a day – and I needed special approval to get them. I’d tried a few times to reduce the dose with supervision in Australia, but it didn’t work. I ended up taking time off work and going back home to do some healing. I was in a very peaceful place – it felt like a spiritual retreat – and I was able to halve my dose. I did that without medical supervision.”

(Consultation participant, first-generation Australian)

Other consultation participants described using culturally familiar traditional practices, such as coin rubbing (Box 6), as part of their approach to managing mild symptoms, such as bloating or cold symptoms. These practices were often used before medicines and reflect broader cultural understandings of illness, health, recovery, and attitudes towards medicine use.

"I'm very open to using medicines, but in my culture, if symptoms are mild, we usually try traditional practices first. This can include applying massage oil and doing coin rubbing to help the body relax. We prefer to start with traditional medicine first, and if the symptoms get worse, then we will use medicines."

(Consultation participant, international student)

BOX 6: COIN RUBBING PRACTICES AND MEDICINE USE

Coin rubbing is a traditional practice used in parts of the Asian region to manage mild symptoms and support general wellbeing. It typically involves rubbing or scraping the skin with a coin or spoon, often using oil, and may cause temporary redness or bruising. The practice is commonly used for symptoms such as bloating, cold or flu-like symptoms, muscle discomfort, or fatigue.

Coin rubbing is known by different names across cultures, including "kerokan" in Indonesian communities, "cạo gió" in Vietnamese communities, and "gua sha (刮痧)" in Chinese. In these traditions, symptoms may be understood as resulting from imbalance or the entry of "wind" into the body, and coin rubbing is believed to help remove this "wind", restore balance, and relieve discomfort. These understandings form part of broader cultural models of illness and recovery.

While coin rubbing is generally considered safe, it may have implications for medicine use and safety. The practice may increase the risk of bruising or bleeding among people taking anticoagulant or antiplatelet medicines. In addition, skin markings from coin rubbing may be misinterpreted as signs of injury or abuse, particularly in children or older adults, if health professionals are unfamiliar with the practice.

Awareness of culturally familiar practices such as coin rubbing can support culturally safe communication, accurate clinical assessment, and open discussions about medicine use, particularly for people managing long-term conditions or using medicines associated with bleeding risk.

Use of overseas-sourced medicines

The use of medicines obtained from overseas for self-medication has been reported among some culturally and linguistically diverse communities in Australia. In an Australian interview study involving 31 migrants from 17 different countries, participants described purchasing or importing medicines from overseas for self-medication, including antibiotics and complementary medicines.^{4,24,25} These practices were often shaped by prior experiences in countries of origin where self-diagnosis, over-the-counter antibiotic access, and informal dispensing were more common.^{4,24,25} These insights highlight the need for awareness of this practice by health professionals when undertaking medication histories to ensure an accurate history, as well as the need for targeted public education and culturally appropriate health literacy initiatives about the potential problems with importation of medicines and unregulated practice.

“In my home country, it’s very easy to get medicines from stores that aren’t registered pharmacies. In Australia it’s harder, but that’s actually a good thing because medicines are only used when necessary. A neighbour from my home country once asked if I knew anyone travelling overseas who could bring back her long-term medicines.”

(Consultation participant, international student)

Our consultation participants also provided further insights into these practices, describing differences between medicine access and regulation in Australia and their countries of origin. One participant noted that in some countries, medicines can be easily obtained from stores that are not registered pharmacies, making access quick and unrestricted. In contrast, Australia’s more regulated system was viewed as limiting access but also supporting safer use of medicines. Several participants also described bringing medicines from overseas for neighbours, family members, or friends living in Australia, including through informal arrangements coordinated via community networks and online community groups, highlighting informal medicine supply practices that may occur within social networks.

“Many people bring medications from overseas – I do this too. It’s not just medicines; it’s also things like saline spray for my child’s allergies. Here, the price is so high it feels like it’s ‘infused with gold’. I bring it from overseas because it’s much more affordable, but I can’t bring large amounts because of border restrictions.”

(Consultation participant, recent migrant)





Reliance on traditional medicines

Cultural norms can include use of traditional medicines and health practices. Evidence from qualitative studies suggests that reliance on traditional or complementary medicines influences medicine use among culturally and linguistically diverse communities.^{21,26-28} Studies conducted in Australia among communities with Arabic, Chinese, Indian, and Vietnamese backgrounds found that beliefs about Western medicines, cultural norms, and prior health system experiences shaped how traditional medicines were used alongside, or in place of prescribed treatments.^{21,28,29} Some study participants expressed scepticism towards Western medicines and concerns about long-term side effects, and thus a preference for traditional medicines. Participants reported switching to, or supplementing treatment with traditional remedies such as Ayurvedic or other alternative medicines, particularly due to stigma, side effects, or medication burden.^{21,29}

While traditional medicine use is not inherently problematic, evidence suggests it may contribute to medicine-related problems when it leads to delayed treatment initiation,³⁰ is associated with lower adherence to prescribed therapies,³¹ substitution of prescribed therapies,³² or potential medicine interactions.³³ This may be more problematic if health professionals are unaware of traditional medicine use.

Consultation participants provided examples of how past experiences and concerns about medicine safety shaped their preferences. One participant described a serious antibiotic allergy that occurred when allergy status and medicine contents were not discussed, leading to a strong preference for avoiding antibiotics and using more natural remedies.

"I'm allergic to penicillin, but I wasn't asked about allergies and wasn't told that the antibiotic contained penicillin. This happened both in my home country and in Australia. Each time, I had a serious reaction and had to be admitted to hospital. It was very frightening – it could have killed me. Since then, I'm very cautious about antibiotics and prefer more natural or traditional medicines, because I feel safer with them."

(Consultation participant, first-generation Australian)

Another participant described using traditional medicines as a first response for mild illness in children, particularly due to concerns about side effects.

"When a child is sick, we often think about what we can do differently, especially for mild illness. In our community, we sometimes use traditional medicines first, such as "rose berry" syrup, instead of medicines like paracetamol. We do this because we are worried about side effects, especially for children. If the illness becomes more serious, then we would seek medical treatment."

(Consultation participant, first-generation Australian)

Access to healthcare services

During our consultations, participants from culturally and linguistically diverse communities described common challenges in accessing healthcare services, particularly in relation to primary and specialist care. They reported difficulties in finding general practitioners who bulk-billed, and long waiting times to access specialist services. These access barriers were perceived to delay care, complicate ongoing management of health conditions and affect continuity of medicines use.

Participants with temporary resident status, including international students and temporary work visa holders, reported difficulty identifying general practitioners and specialists who were covered by private health insurance, uncertainty about out-of-pocket costs, and challenges locating providers familiar with their insurance arrangements.

"It feels bizarre that parents have to pay for compulsory vaccinations. If people can't afford it, they may delay or avoid vaccinating their children, and that affects everyone."

(Consultation participant, temporary visa holder)

Participants also described differences between healthcare systems in Australia and their countries of origin, particularly in relation to access to specialists and prescribing practices, which shaped expectations about how quickly treatment should be available.

"In my country, access to specialists and medicines is much easier. You can often see a specialist within a day, sometimes even the same afternoon. GP can prescribe most medicines without restrictions. In Australia, I've noticed that some medicines can only be prescribed by specialists, and there are limits on doses and prescribing. It feels much more restricted here."

(Consultation participant, international student)



Despite these challenges in accessing primary and specialist care, consultation participants highlighted pharmacists as an accessible and approachable source of medicines advice and an important facilitator of safe medicine use. Pharmacists were described as easy to access and playing a key role in providing clear, detailed explanations about medicines, particularly for children. Participants valued the time pharmacists spent explaining how medicines should be used, which supported understanding and confidence in managing treatments.

CASE STUDY 3

Supporting medicine adherence through dose administration aids

A newly arrived refugee with limited English proficiency and low literacy presented to a GP for the first time after arriving in Australia unwell and required hospital admission for multiple acute conditions.

On discharge from hospital, he had received several new diagnoses, including hepatitis C and HIV, and was commenced on multiple medicines. Although the hospital pharmacist had provided comprehensive discharge counselling, the patient later reported to his GP that he was not taking any of his medicines as prescribed.

He explained that his family had been denied education due to their background as a persecuted minority group in their country of origin, and that no one in the household was able to read or understand the medicines regimen.

Non-adherence to his therapy placed this patient at a high risk of preventable deterioration due to the increased risk of treatment failure, drug resistance, disease progression and opportunistic infections. It also increased the risk of transmission to others in the community.

Recognising the patient held a Health Care Card and was eligible for cost-free medicine packing, the GP arranged a dose administration aid for collection the following day. The pack used visual cues, including a sun to indicate morning medicines and a moon for night-time medicines.

The GP also liaised with the pharmacy to ensure prescriptions were proactively managed. These supports enabled the patient to take his medicines as prescribed.

This case highlights the importance of practical adherence supports such as interpreter use, visual instructions, dose administration aids and proactive pharmacist–GP communication.

Medicine information and communication

Australian literature reports that patients describe written medicines information as complex, insufficient, and difficult to understand, with commonly provided Consumer Medicine Information (CMI) leaflets often perceived as overly technical and challenging to comprehend.^{34,35} For example, people living with mental illness report receiving insufficient information about their medicines.³⁶ For individuals from culturally and linguistically diverse backgrounds, these challenges may be further compounded if information is not provided in the preferred language.³⁵

In our consultations with people from culturally and linguistically diverse communities, interpreter use was viewed as a valuable and essential support for understanding medicine use. Participants valued free access to the professional interpreter services and expressed a strong preference for continuity of interpreter support (ideally with the same interpreter across appointments) particularly for medicines-related discussions. While reliance on family members as informal interpreters was sometimes viewed as convenient, it was also perceived as potentially problematic, as family members were not always confident with medical terminology, raising concerns about misunderstandings of medicines instructions.

Consultation participants also highlighted the importance of clear, practical explanations about how medicines should be used. Participants described wanting information about whether medicines should be taken before or after food, how to measure doses correctly (particularly for liquid medicines), and what side effects may occur, especially for children. Clear explanations were seen as important for building confidence in medicine use and avoiding dosing errors or unnecessary concern about side effects.

Participants further noted that communication and shared language influenced their choice of healthcare provider and shaped how they engaged in discussions about medicines. Some participants reported a preference for general practitioners and specialists with shared cultural or linguistic backgrounds. An Australian study found that individuals preferred to attend pharmacies where staff spoke their first language, often willing to travel further for such a pharmacy.³⁷

Participants in our consultations reported that they valued having shared cultural or linguistic backgrounds with clinicians because it made discussing symptoms, medical terminology, and treatment options easier. This was described as fostering greater trust and confidence when managing ongoing conditions or medicine use.





BOX 7: LANGUAGE AND COMMUNICATION SUPPORT

Free Interpreting Service (FIS)

Eligible healthcare providers and their support staff in Australia can access the Free Interpreting Service (FIS) to communicate with patients with limited English. The FIS provides free professional interpreting services for eligible healthcare practitioners, including for general practitioners, specialists, and community pharmacists. Services are delivered via phone, video, or pre-booked on-site interpreting*. Registration for the FIS is free, quick and easy. For more information, see www.tisnational.gov.au/Free-Interpreting-Service

**Eligible pharmacies can access free phone and video interpreting services through the FIS.*

Some jurisdictions, such as the Interpreting and Translating Centre in South Australia (<https://translate.sa.gov.au/>) and the Interpreting and Translating Service NT in the Northern Territory (<https://nt.gov.au/community/interpreting-and-translating-services/interpreting-and-translating-service-nt>), also provide interpreting and translation support, with free access available for certain government-funded or priority services, and fee-based services offered for other contexts.

Digital communication support tools

CALD Assist app

CALD Assist is a free communication app developed by the CSIRO Australian eHealth Research Centre, to support basic clinician-patient communication when professional interpreters are unavailable. The app includes more than 200 commonly used healthcare phrases professionally translated into multiple languages, supported by images, video, and pre-recorded audio. More information at: www.csiro.au/en/research/health-medical/overcoming-language-barriers-in-healthcare

ROLE OF PHARMACISTS

Pharmacists play an important role in supporting medicine safety for culturally and linguistically diverse populations by identifying medicine-related problems, addressing communication and health literacy barriers, and facilitating culturally safe medicines management across the healthcare system.

These activities align with the Medication Safety Standard of the National Safety and Quality Health Service (NSQHS) Standards, which emphasises accurate medication histories, continuity of medication management across transitions of care, and patient-centred communication to reduce medicine-related harm.^{38,39} In culturally and linguistically diverse contexts, pharmacists support medicine safety through the following key activities:

- **Medication management review**

Conducting medicines reviews with consideration of language, migration history, and care transitions to identify medicine-related problems, including non-adherence, inappropriate dosing, duplication, and potential drug-herbal interactions, including those involving traditional medicines.

- **Culturally informed medicine history-taking**

Proactively asking about the use of traditional or complementary medicines, or medicines imported from overseas, to identify medicine-related problems and potential safety risks.

- **Supporting understanding of medicine regimens for people with limited English proficiency**

Providing clear, culturally responsive explanations of medicine purpose, dosing, duration, and monitoring using interpreters where required, visual aids, and verbal counselling to reduce reliance on written information.

- **Culturally safe medicines counselling**

Applying cultural awareness and cultural safety principles to medicines counselling, including recognition of differing beliefs about illness, medicines, and authority, as well as the role of family members in shared decision-making and medication management.

- **Addressing cultural and religious considerations in medicines**

Providing advice on medicine ingredients or formulation characteristics that may be relevant to cultural or religious beliefs, such as animal-derived ingredients or alcohol content. Pharmacists may also identify suitable alternative formulations or substitutions where available and clinically appropriate. In addition, pharmacists can provide tailored medicines advice during cultural or religious practices, such as Ramadan fasting, including guidance on dose timing, hypoglycaemia risk, monitoring requirements, and when medical review may be required. This may involve collaboration with specialist pharmacist roles such as credentialed diabetes educators.

- **Health system navigation, referral, and preventive care support**

Supporting culturally and linguistically diverse consumers to access broader health services by facilitating referrals to general practitioners, allied health providers, interpreters, and community services. Pharmacists may also contribute to preventive care through services such as vaccination, health screening, health promotion activities, and assistance with navigating health programs and entitlements (e.g. preventive dental or chronic disease management programs). These activities can help improve access to care, health literacy, and continuity of care for people experiencing language or cultural barriers.



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APPENDIX

Literature review search strategy

To ensure rigour and completeness, the report's literature review search strategy was developed in collaboration with specialist librarians (Mr Scott Dale and Ms Lorien Delaney) from the University of South Australia.

Embase

Embase Classic+Embase <1947 to 2025 September 16>

1. "Australia and New Zealand"/ 18,070
2. exp Australia/ 224,384
3. (australia* or queensland* or tasmania* or northern territor* or new south wales or canberra* or brisbane* or melbourn* or hobart* or darwin* or perth*).ti,ab,kf,in. 1,383,263
4. (sydney* or adelaide*).ti,ab,kf. 25,392
5. or/1-4 1,422,328
6. cultural factor/ 73,970
7. migration/ 47,101
8. exp refugee/ 21,108
9. ethnic group/ 96,298
10. exp migrant/ 60,701
11. exp English proficiency/ 1,759
12. exp multilingualism/ 5,018
13. minority group/ 21,659
14. ((cultur* adj3 (minorit* or divers* or pluralis* or equality or equity or inclusi* or accessibility or belonging* or background* or belief*)) or culturally and linguistically diverse).ti,ab,kf. 32,855
15. (multicultur* or "multi cultur*" or crosscultur* or cross cultur* or transcultural).ti,ab,kf. 34,702
16. (migrant* or asylum seek* or emigrant* or immigrant* or displaced person* or displaced people or refugee* or ethnic* or race or racial minorit* or minority group* or "recently arrived" or diaspora*).ti,ab,kf. 583,973
17. (((lingu* or language*) adj2 (divers* or barrier*)) or "non english-speak*" or NESB or "limited english proficiency" or "English as an additional language" or "English as a second language" or ((multi or bi) adj lingual) or (english adj (proficien* or ability)) or "level of English" or polyglot* or polylinguism or multilingual* or bilingual*).ti,ab,kf. 30,776
18. ((african or syrian or chinese or Asian or Indian or minorit*) adj2 (background or heritage or ancest*).ti,ab,kf. 15,864
19. or/6-18 794,479
20. medication therapy management/ 18,672
21. potentially inappropriate medication/ 3,645
22. drug dose reduction/ 114,017
23. deprescription/ 2,981
24. drug information/ 26,372
25. drug administration/ 97,745
26. drug administration route/ 10,073
27. drug delivery system/ 204,756
28. drug targeting/ 133,098
29. dose calculation/ 26,250
30. exp prescribing error/ 11,440
31. exp medication error/ 27,359
32. drug utilization review/ 3,500
33. drug monitoring/ 64,670
34. medication compliance/ 59,648
35. exp prescription drug misuse/ 3,166
36. adverse drug reaction/ 391,424
37. drug cost/ 92,103
38. dispensing fee/ 84
39. polypharmacy/ 30,131
40. pharmacoepidemiology/ 10,731
41. (accident/ or home accident/) and drug intoxication/ 336
42. drug intoxication/ and (unintentional or accident*).ti,ab,kf. 2,023
43. ((accident* or unintentional) adj5 poison*).ti,ab,kf. 5,540
44. ((medication* or medicines or pharmaceut* or drug or drugs or pharmacotherap* or pharmaco therap* or dose* or dispensing or dosing or dosage) adj3 (manag* or appropriate* or inappropriate* or availabil* or accessib* or access or inacessib* or equit* or inequit* or referral or select* or form* or logistic* or delivery or targeting or monitor* or process or duration or affordab* or inaffordab* or safety or adverse or incident* or mishap* or mistake* or misadventure* or harm* or problem* or toxicity or reporting system* or error* or admission* or review* or misus* or overus* or overutilis* or overutiliz* or adher* or nonadher* or compliance or noncompliance or optimis* or patient cent* or utilis* or utiliz* or reconcil* or usage evaluation or "use evaluation" or side effect* or educat* or screen* or document* or administ*).ti,ab,kf. 1,289,112
45. ((drug or prescript* or dispensing) adj (cost* or fee or fees or charge)).ti,ab,kf. 11,981

46. (pharmaceutical arithmetic or pharmaceutical calculation*).
ti,ab,kf. 84
47. (pharmacoepidemiolog* or pharmaco epidemiolog*).ti,ab,kf.
10,559
48. ((dose or drug) adj2 (taper* or reduc*)).ti,ab,kf.
108,444
49. (prescrib* or prescription* or deprescrib* or overprescrib*
or misprescrib* or misprescript* or beers criteria or stopp
or pim* list* or polypharmacy or poly pharmacy or
polymedication or poly medication or polypharmacotherapy
or poly pharmacotherapy or polypragmas* or drug
information).ti,ab,kf. 577,730
50. or/20-49 2,627,959
51. prescription/ 299,258
52. (medication* or medicines or pharmaceut* or
pharmacotherap* or pharmaco therap* or prescrib* or
drug or drugs or prescription* or deprescrib* or dose* or
dispensing or dosing or dosage).ti,ab,kf. 6,570,399
53. 51 or 52 6,623,505
54. anamnesis/ 136,930
55. patient referral/ 191,674
56. health care quality/ 298,629
57. diagnostic error/ 81,422
58. medical error/ 22,200
59. safety/ 286,521
60. clinical audit/ 64,500
61. patient-reported outcome/ 83,970
62. outcome assessment/ 951,399
63. exp patient safety/ 193,840
64. hospitalization/ 681,647
65. length of stay/ 330,781
66. hospital admission/ 329,731
67. hospital discharge/ 217,736
68. clinical handover/ 2,632
69. hospital readmission/ 126,106
70. patient transport/ 37,688
71. exp mortality/ 1,667,526
72. survival rate/ 359,837
73. incidence/ 716,223
74. prevalence/ 1,165,655
75. epidemiology/ 354,548
76. (((medical or health) adj3 histor*) or anamnesis).ti,ab,kf.
183,480
77. (referral* or audit* or quality or safety or adverse or mishap*
or mistake* or misadventure* or toxicity or harm* or error*
or mortality or incidence or prevalence or epidemiolog* or
rate* or measur* or indicator* or outcome* or problem* or
"standard of care" or incident*).ti,ab,kf. 19,479,285
78. ((patient* or hospital) adj3 (admit or admitted or admission*
or readmission or readmit*)).ti,ab,kf. 491,759
79. (((clinical or nursing or patient) adj (handoff* or hand off* or
handover* or "hand over" or signoff or sign off or signover*
or "sign over*" or signout* or "sign out*")) or shift handover
or physician handoff or ((patient* or care or interfacility or
intrahospital or inter facility) adj2 (transport* or transfer or
transition*))).ti,ab,kf. 52,976
80. (hospitalis* or hospitaliz*).ti,ab,kf. 691,568
81. or/54-80 21,061,198
82. 53 and 81 3,973,946
83. 50 or 82 5,121,956
84. 5 and 19 and 83 3,362
85. exp meta analysis/ 377,329
86. "meta analysis (topic)"/ 59,285
87. "systematic review"/ 551,545
88. "systematic review (topic)"/ 38,152
89. "scoping review"/ 8,998
90. rapid review/ 424
91. "umbrella review"/ 816
92. literature/ 66,179
93. "review"/ and ((selection criteria or data extraction).ab.
or (systematic or scoping or integrative or integrated or
quantitative or rapid or mapping or umbrella or meta or
mixed methods or living or realist or pragmatic).ti.)
263,564
94. (meta analy* or metaanaly* or meta synthesis or
metasynthesis or metaregression or meta regression or
review of reviews or overview of reviews or evidence
synthes* or knowledge synthes* or (research adj3 integrati*)
or (pool adj3 (analy* or data)) or evidence report).ti,ab.
478,066
95. ((systematic or scoping or integrative or integrated or
quantitative or rapid or mapping or umbrella or meta or
mixed methods or living or realist or pragmatic) adj2 (review*
or overview or synthesis)).ti,ab. 560,187

96. (cochrane or embase or medline or cinhal or science citation index or web of science or scopus or systematic search* or literature search* or reference list* or bibliograph* or handsearch* or hand search* or grey literature or gray literature or google scholar or relevant journals or following databases or manual search* or selection criteria).ab. 624,392
97. or/85-96 1,223,837
98. letter/ or editorial/ 2,127,848
99. 97 not 98 1,187,261
100. ((quality adj3 (health care or care or healthcare)) or (safety adj2 (management or culture* or patient or care or healthcare or health care)) or ((medical or administrat*) adj5 (mishap* or mistake* or harm* or error* or incident*)) or "standard of care").ti,ab,kf. 450,669
101. 56 or 58 or 59 or 63 or 100 1,052,408
102. 5 and 19 and 99 and 101 242
103. 84 or 102 3,559
104. limit 103 to yr="2000 -Current" 3,438

Medline

Ovid MEDLINE(R) ALL <1946 to September 12, 2025>

1. exp Australia/ 185,288
2. (australia* or queensland* or tasmania* or northern territor* or new south wales or canberra* or brisbane* or melbourn* or hobart* or darwin* or perth*).ti,ab,kf,in. 970,863
3. (sydney* or adelaide*).ti,ab,kf. 16,689
4. or/1-3 1,005,250
5. Cross-Cultural Comparison/ 29,098
6. "Transients and Migrants"/ 15,804
7. Refugees/ 14,956
8. "Ethnic and Racial Minorities"/ 1,237
9. "Emigrants and Immigrants"/ 16,869
10. Limited English Proficiency/ 388
11. Multilingualism/ 6,892
12. Ethnicity/ 78,561
13. Minority Groups/ 19,435
14. ((cultur* adj3 (minorit* or divers* or pluralis* or equality or equity or inclusi* or accessibility or belonging* or background* or belief*)) or culturally and linguistically diverse).ti,ab,kf. 29,609
15. (multicultur* or "multi cultur*" or crosscultur* or cross cultur*).ti,ab,kf. 26,799
16. (migrant* or asylum seek* or emigrant* or immigrant* or displaced person* or displaced people or refugee* or ethnic* or race or racial minorit* or "recently arrived" or diaspora*).ti,ab,kf. 395,751
17. (((lingu* or language*) adj2 (divers* or barrier*)) or "non english-speak*" or NESB or "limited english proficiency" or "English as an additional language" or "English as a second

- language" or ((multi or bi) adj lingual)).ti,ab,kf. 11,535
18. ((african or syrian or chinese or Asian or Indian or minorit*) adj2 (background or heritage or ancest*).ti,ab,kf. 10,490
19. or/5-18 524,042
20. Medication Therapy Management/ 2,949
21. "Potentially Inappropriate Medication List"/ 1,283
22. Drug Tapering/572
23. Deprescriptions/ 1,420
24. Drug Information Services/ 3,894
25. Drug Administration Schedule/ 104,190
26. Drug Administration Routes/ 6,047
27. Drug Delivery Systems/ 88,423
28. Drug Dosage Calculations/ 2,827
29. Inappropriate Prescribing/ 5,245
30. Medication Errors/ 14,958
31. "Medication Review"/ 156
32. "Drug Utilization Review"/ 3,890
33. Drug Monitoring/ 24,811
34. Medication Reconciliation/ 1,719
35. Medication Adherence/ 21,336
36. Prescription Drug Misuse/ 2,472
37. Prescription Drug Overuse/ 429
38. "Drug-Related Side Effects and Adverse Reactions"/ 40,755
39. Drug Costs/ 18,134
40. Prescription Fees/ 1,225
41. Polypharmacy/7,668
42. Pharmacoepidemiology/ 2,108
43. (Accidents/ or Accidents, Home/) and Poisoning/ 1,076
44. Poisoning/ and (accident* or unintentional).ti,ab,kf. 2,307
45. ((accident* or unintentional) adj5 poison*).ti,ab,kf. 3,596
46. ((medication* or medicines or pharmaceut* or drug or drugs or pharmacotherap* or pharmaco therap* or dose* or dispensing or dosing or dosage) adj3 (manag* or appropriate* or inappropriate* or availabil* or accessib* or access or inaccessib* or equit* or inequit* or referral or select* or form* or logistic* or delivery or targeting or monitor* or process or duration or affordab* or inaffordab* or safety or adverse or incident* or mishap* or mistake* or misadventure* or harm* or problem* or toxicity or reporting system* or error* or admission* or review* or misus* or overus* or overutilis* or overutiliz* or adher* or nonadher* or compliance or noncompliance or optimis* or patient cent* or utilis* or utiliz* or reconcil* or usage evaluation or "use evaluation" or side effect* or educat* or screen* or document* or administ*).ti,ab,kf. 826,477
47. ((drug or prescript* or dispensing) adj (cost* or fee or fees or charge)).ti,ab,kf. 5,976

48. (pharmaceutical arithmetic or pharmaceutical calculation*).
ti,ab,kf. 49
49. (pharmacoepidemiolog* or pharmaco epidemiolog*).ti,ab,kf.
6,253
50. ((dose or drug) adj2 (taper* or reduc*)).ti,ab,kf.
60,146
51. (prescrib* or prescription* or deprescrib* or overprescrib*
or misprescrib* or misprescript* or beers criteria or stopp
or pim* list* or polypharmacy or poly pharmacy or
polymedication or poly medication or polypharmacotherapy
or poly pharmacotherapy).ti,ab,kf. 327,292
52. or/20-51 1,328,576
53. Drug Prescriptions/ 32,216
54. (medication* or medicines or pharmaceut* or
pharmacotherap* or pharmaco therap* or prescrib* or
drug or drugs or prescription* or deprescrib* or dose* or
dispensing or dosing or dosage).ti,ab,kf. 4,297,182
55. or/53-54 4,301,598
56. Medical History Taking/ 20,703
57. "Referral and Consultation"/ 80,256
58. "Quality Indicators, Health Care"/ 18,293
59. "Quality of Health Care"/ 79,856
60. "Quality Assurance, Health Care"/ 57,483
61. Diagnostic Errors/ 40,727
62. Medical Errors/ 18,293
63. Safety Management/ 22,029
64. Clinical Audit/ 2,129
65. "Standard of Care"/ 4,267
66. Patient Reported Outcome Measures/ 19,552
67. Patient Outcome Assessment/ 6,270
68. "Outcome Assessment, Health Care"/ 84,942
69. Patient Safety/ 27,897
70. exp Hospitalization/ 320,864
71. exp Mortality/ 444,986
72. Incidence/ 325,349
73. Prevalence/ 377,794
74. Epidemiology/ 12,659
75. Epidemiologic Methods/ 31,649
76. ((medical or health) adj3 histor*).ti,ab,kf. 78,102
77. (referral* or audit* or quality or safety or adverse or mishap*
or mistake* or misadventure* or toxicity or harm* or error*
or mortality or incidence or prevalence or epidemiolog* or
rate* or measur* or indicator* or outcome* or problem* or
"standard of care" or incident*).ti,ab,kf. 14,011,925
78. (patient* adj3 (admit or admitted or admission* or
readmission or readmit*)).ti,ab,kf. 161,300
79. (((clinical or nursing or patient) adj (handoff* or hand off* or
handover* or "hand over" or signoff or sign off or signover*
or "sign over*" or signout* or "sign out*")) or shift handover
or physician handoff or ((patient* or care or interfacility or
intrahospital or inter facility) adj2 (transport* or transfer or
transition*))).ti,ab,kf. 30,624
80. (hospitalis* or hospitaliz*).ti,ab,kf. 398,806
81. or/56-80 14,577,323
82. 55 and 81 2,339,163
83. 52 or 82 2,875,142
84. 4 and 19 and 83 1,761
85. exp Meta-Analysis/ 224,879
86. exp Meta-Analysis as Topic/ 27,743
87. "Systematic Review"/ 303,276
88. Systematic Reviews as Topic/ 16,537
89. Scoping Review/ 29,315
90. Scoping Review as Topic/470
91. Review Literature as Topic/ 9,238
92. "Review"/ and ((selection criteria or data extraction).ab.
or (systematic or scoping or integrative or integrated or
quantitative or rapid or mapping or umbrella or meta or
mixed methods or living or realist or pragmatic).ti.)
112,088
93. (meta analy* or metaanaly* or meta synthesis or
metasynthesis or metaregression or meta regression or
review of reviews or overview of reviews or evidence
synthes* or knowledge synthes* or (research adj3 integrati*)
or (pool adj3 (analy* or data)) or evidence report).ti,ab.
380,346
94. ((systematic or scoping or integrative or integrated or
quantitative or rapid or mapping or umbrella or meta or
mixed methods or living or realist or pragmatic) adj2 (review*
or overview or synthesis)).ti,ab. 471,188
95. (cochrane or embase or medline or cinhal or science citation
index or web of science or scopus or systematic search*
or literature search* or reference list* or bibliograph* or
handsearch* or hand search* or grey literature or gray
literature or google scholar or relevant journals or following
databases or manual search* or selection criteria).ab.
501,587
96. or/85-95 839,171
97. Comment/ or Letter/ or Editorial/ 2,352,701
98. 96 not 97 815,811
99. ((quality adj3 (health care or care or healthcare)) or (safety
adj2 (management or culture* or patient or care or healthcare
or health care)) or ((medical or administrat*) adj5 (mishap*
or mistake* or harm* or error* or incident*)) or "standard of
care").ti,ab,kf. 274,054
100. 58 or 59 or 60 or 62 or 63 or 65 or 69 or 99 419,102
101. 4 and 19 and 98 and 100 126
102. 84 or 101 1,870
103. limit 102 to yr="2000 -Current" 1,766

Technical appendix 1: Australian Bureau of Statistics (ABS) National Health Survey 2022 data analysis

This report incorporates ABS National Health Survey 2022 data to provide population-level context on culturally and linguistically diverse communities in Australia and their use of medicines.

Analyses were undertaken using the ABS TableBuilder platform. Further information on survey design and the medicines data is available in the ABS National Health Survey methodology documentation - www.abs.gov.au/methodologies/national-health-survey-methodology/2022#pbs-medications

Analyses presented are descriptive in nature and report the numbers and proportions of Australians within culturally and linguistically diverse groups, based on country of birth and language-related indicators. Results are not age-standardised and are intended to describe the profile of medication users from culturally and linguistically diverse communities, providing contextual insight to support service planning, policy development, and medicines safety considerations. It does not assess comparative prevalence of disease or medication use, risk, or causality between population groups.

Area-level socioeconomic status

This report uses the 2021 Socio-Economic Indexes for Areas (SEIFA), the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD) to measure socio-economic status.

SEIFA indexes are derived from data collected in the Census of Population and Housing and summarise a range of population, family, and household characteristics associated with socioeconomic circumstances. IRSAD reflects the relative position of areas along a continuum from greater disadvantage to greater advantage. IRSAD incorporates multiple Census indicators, including measures of income, education, employment, occupation, and housing. Areas with lower IRSAD scores are characterised by higher levels of relative disadvantage, while areas with higher scores reflect greater relative advantage.

Importantly, IRSAD is an area-based measure, not an individual-level indicator. Individuals living in the same area may experience very different socioeconomic circumstances, and areas can contain both pockets of advantage and disadvantage. Thus, IRSAD provides contextual information about the socioeconomic environment in which people live rather than a direct measure of individual socioeconomic position.

For more information see www.abs.gov.au/methodologies/socio-economic-indexes-areas-seifa-australia-methodology/2021

Analytical approach and statistical considerations

Descriptive analyses were conducted using custom cross-tabulations created within the ABS TableBuilder environment. All analyses applied ABS-provided population weights to produce nationally representative estimates.

Analyses were primarily descriptive. Results were interpreted with consideration of survey design, weighting, and confidentiality restrictions. Relative standard errors (RSEs) were used to assess the reliability of estimates, in accordance with ABS guidance. Where relevant, RSEs were reported for key estimates. Estimates with an RSE greater than 50% were considered too unreliable for publication and were suppressed. Estimates with an RSE between 25% and 50% were interpreted with caution and are flagged accordingly in tables and figures.



Technical appendix 2: Consultations with people from culturally and linguistically diverse community

This report includes community consultation conducted through focus group discussions (FGDs) to explore culturally and linguistically diverse consumers' experiences with medication use and medication safety. FGDs were chosen to facilitate shared reflection, collective insight, and discussion of common and varied experiences across culturally and linguistically diverse communities. Insights were informed by consumer consultations conducted using focus group discussions.

The FGD was approved by the University of South Australia Human Research Ethics Committee (HREC), Ethics Protocol 207245. All participants received a participant information sheet and provided informed consent prior to participation.

Recruitment

Recruitment occurred between October and early December 2025. Participants were recruited using a multi-faceted, community-based recruitment strategy to maximise reach and inclusivity. Recruitment involved dissemination of HREC-approved flyers through:

- Federation of Ethnic Communities' Councils of Australia (FECCA)
- Multicultural Aged Care, South Australia
- Primary Health Networks (Queensland), facilitated by the Pharmaceutical Society of Australia (PSA)
- Girls' Programming Network
- Research team social media platforms.

Convenience and snowball sampling were used, with participants invited to share study information within their networks. One focus group used targeted snowball recruitment to engage first-generation migrants who had lived in Australia for several decades and were not fluent in English, to ensure representation of under-represented culturally and linguistically diverse voices.

Participants

Eligible participants were adults from culturally and linguistically diverse backgrounds with lived experience of using medicines in Australia, either personally or as carers. Efforts were made to include participants with diverse migration histories (e.g. international students, long-term migrants, parents, older adults).

Data collection

FGDs were conducted online and in person (South Australia). Discussions were facilitated by members of the research team using a semi-structured discussion guide, covering experiences with medication use, medication information, side effects, access to care, continuity, and safety in high-risk situations.

The FGDs were moderated by four researchers from diverse culturally and linguistically diverse backgrounds (African, Middle-Eastern, and Asian), which supported culturally safe facilitation and rapport building. Where required, language support was provided by family members at the participant's preference, or through a professional interpreter, to support comfort, trust, and participation.

Most FGDs were audio-recorded and transcribed verbatim. In one session where recording was not captured, detailed contemporaneous field notes were taken and documented immediately after the discussion and included in the analysis.

Consultation approach and reporting considerations

Notes were taken during consultations to capture key themes and contextual factors influencing discussions. Moderators from diverse culturally and linguistically diverse backgrounds were involved to support inclusive and culturally safe engagement. Illustrative quotes are included to reflect participants' perspectives and have been lightly edited for clarity and to protect participant anonymity.

Participants demographic characteristics

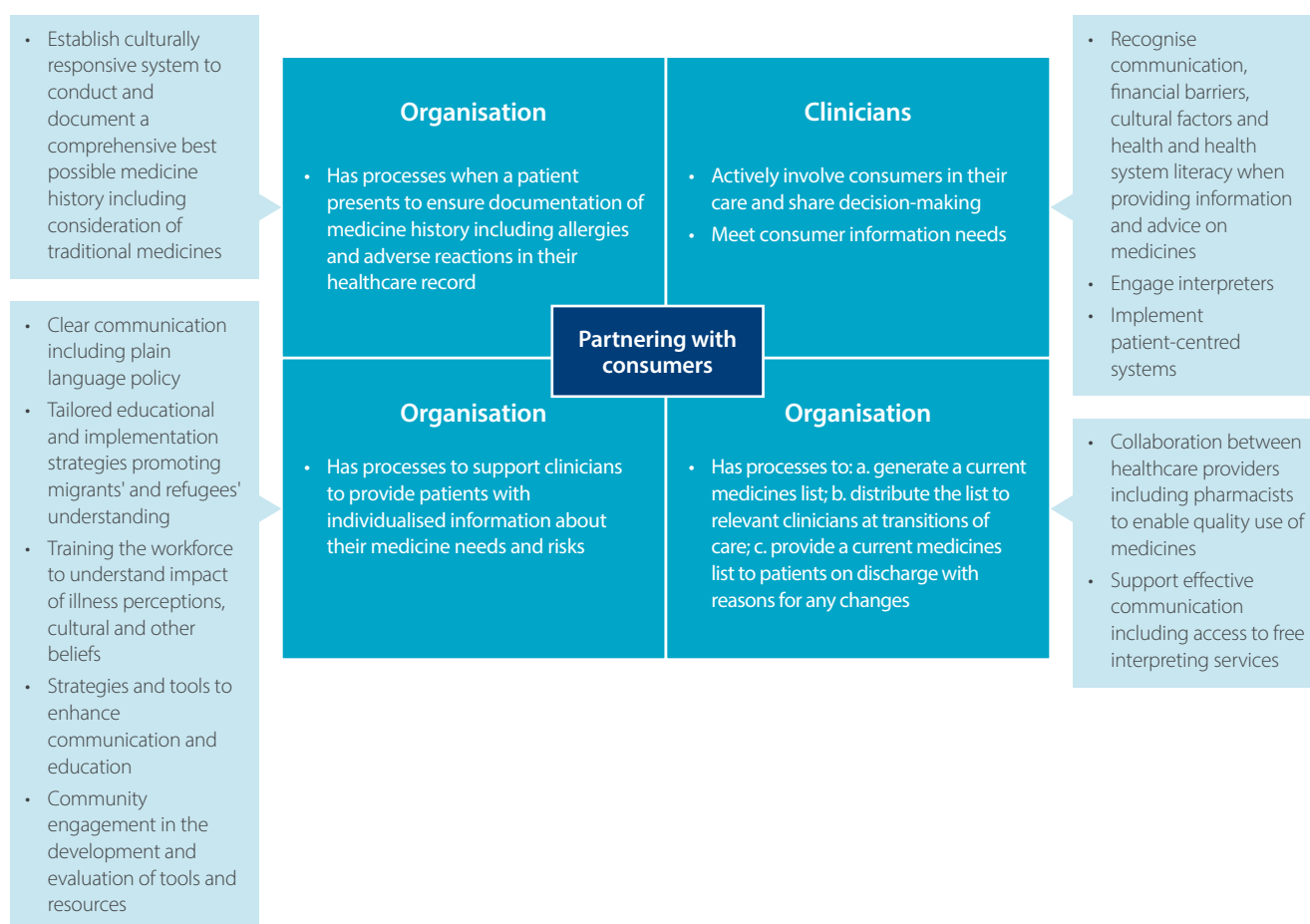
Characteristics		Number	Percent
Female		18	67%
Age group	18–44 years	15	56%
	45–64 years	8	30%
	65+	4	15%
COB	Europe/America	2	7%
	Asia	19	70%
	Africa/Middle East	6	22%
Interpreter needed		4	15%
Language spoken at home	Indonesian	6	22%
	Chinese	2	7%
	Persian	5	19%
	Laotian	4	15%
	South Asian languages	3	11%
	European languages	2	7%
	English	5	19%
Year of arrival	Before 1990	9	33%
	1990 - 2009	4	15%
	2010 - 2019	2	7%
	2020 - 2025	12	44%
Highest level education completed	High school	11	41%
	Vocational education and training (TAFE)	2	7%
	Undergraduate / postgraduate degree	14	52%

Technical appendix 3: Medication Safety Standard – Guide for Health Service Organisations Providing Care for Patients from Migrant and Refugee Backgrounds

The Australian Commission on Safety and Quality in Health Care has published a *User Guide for Health Service Organisations Providing Care for Patients from Migrant and Refugee Backgrounds* (2021).³⁹ This guide supports implementation of the National Safety and Quality Health Service (NSQHS) Standards, including the Medication Safety Standard, to ensure safe and high-quality care for people from migrant and refugee backgrounds.

The guidance supports health service organisations in delivering safe and culturally responsive medication management for people from migrant and refugee backgrounds (Figure A).

FIGURE A. Medication Safety Standard – Guide for Health Service Organisations Providing Care for Patients from Migrant and Refugee Backgrounds (adapted from reference 39)



Safer medicines
through better
communication,
cultural understanding
and equitable care.