Health of refugees and humanitarian entrants in Australia

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About

The unique experiences of refugees and humanitarian entrants prior to their arrival in Australia can have a significant impact on their health outcomes. Understanding the health status, health care needs and health service use of humanitarian entrants can provide vital information to inform policies and services for these diverse populations.

This web report presents data on the health outcomes, health service use and causes of death for humanitarian entrants who arrived in Australia from 2000 to 2020.

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Findings from this report:

- <u>In 2021, 7.6% of humanitarian entrants reported having diabetes compared with 4.3% of the rest of the population</u>

- <u>Accidental drowning deaths in humanitarian entrants were 2.4 times as high as the rest of the population, in 2007-2020</u>

- <u>Almost 9 in 10 humanitarian entrants had a GP attendance in 2021</u>

- <u>Antidepressant dispensing in 2021 was 50% higher in female than male humanitarian entrants</u>

Summary

On this page:

Australia has a long history of resettling refugees and people in humanitarian need. A range of government and non-government organisations provide services to facilitate successful settlement in Australia. While data are routinely collected on the health and welfare outcomes of the broader Australian population, there are limited data available to measure and assess the health of refugees and humanitarian entrants, which is one of the key factors critical for successful settlement.

This report aims to provide data to help address this data gap. It provides data on the health outcomes, health service use and causes of death for all humanitarian entrants who arrived in Australia from 2000 to 2020 using the Australian Bureau of Statistics' (ABS) Person-Level Integrated Data Asset (PLIDA) (previously known as Multi-Agency Data Integration Project (MADIP)). Details of the range of data sources are described in the Background and Technical notes.

Importance of investigating the health of humanitarian entrants

Good health is vital for new migrants to successfully settle and thrive in Australia. Humanitarian entrants are at risk of poor health outcomes due to exposure to trauma, challenges of the migration experience and barriers to accessing health care pre- and post-arrival.

Understanding patterns of health outcomes and health service use within the refugee and humanitarian entrant population is important to:

- identify gaps in accessing appropriate health care
- better address the health needs of refugees and humanitarian entrants
- inform the design and delivery of appropriate health care and settlement services.

Significance of this report

There are limited data available on the health of humanitarian entrants in Australia. The novel use of linked administrative data in this report allows the Australian Institute of Health and Welfare (AIHW) to build an evidence base on the health of this population. This can be used to inform policy, research and health service provision.

Important information provided in this report

This report presents a wealth of invaluable data. Data are presented on health service use, medication dispensing, self-reported long-term health conditions and causes of death.

Information is provided on the health outcomes for subsets of the humanitarian population including by time since arrival in Australia and country of birth. Data reported by these disaggregations allows for the identification of unique health concerns of the different subgroups of the refugee and humanitarian population to inform the development of targeted programs and services.

Key insights from the data

Humanitarian entrants had high rates of GP attendances

Almost 9 in 10 humanitarian entrants attended a GP (general practice) at least once in 2021 and around 99% of these attendances were bulk-billed. After standardising for age, the rate of GP attendances in humanitarian entrants was 30% higher in females than it was for males.

Humanitarian entrants had a higher rate of self-reported diabetes compared with the rest of the Australian population

In 2021, when adjusted for age, 7.6% of humanitarian entrants reported living with diabetes, type 1 or type 2. This rate was 1.8 times as high as the rest of the Australian population (4.3%). Among the humanitarian population, diabetes was more common in older age groups and females whereas for other permanent migrants and the rest of the Australian population diabetes was more common in older age groups and males.

Humanitarian entrants had higher rates of certain causes of death

The leading cause of death in humanitarian entrants was cerebrovascular disease in females and coronary heart disease in males. Deaths due to accidental drowning and submersion, and liver cancer had higher mortality rates in the humanitarian population than other permanent migrants and the rest of the Australian population.

Mental health outcomes were less common among humanitarian entrants compared with the rest of the Australian Population and more common in female humanitarian entrants

After standardising for age, self-reported mental health conditions were 50% lower for humanitarian entrants than the rest of the Australian population. Rates of antidepressant prescriptions and GP mental health management plans were also lower for humanitarian entrants than the rest of the Australian population (48% lower and 35% lower, respectively).

For humanitarian entrants, females were more likely than males to report these mental health outcomes. A similar gender disparity in mental health outcomes was seen in the rest of the Australian population.

Note: Humanitarian entrants may access mental health care through other pathways and the data presented does not include information on the overall use of mental health services. Additionally, GPs may provide mental health care under general consultation items which may further underestimate the total use of mental health services. For more information, see GP mental health treatment plans.

What's next?

This web report is the initial stage of the AIHW's Refugee and humanitarian entrant health project funded by the Department of Home Affairs. Further data including linkage of data from the Department of Home Affairs' Settlement Database with hospital admissions, emergency department presentations and specialist homelessness services will be released in 2024. See What's next? for further information.

For information on this project see Refugee and humanitarian entrant health.

Sections in this report

> ### Heath service use
> Presents data on Medicare Benefits Schedule (MBS) subsidised health service use by humanitarian entrants in 2021.

> ### Medication dispensing
> Presents data on Pharmaceutical Benefits Scheme (PBS) subsidised medications dispensed to humanitarian entrants in 2021.

> ### Long-term health conditions
> Presents data on the rate of self-reported long-term health conditions using data from the 2021 Census.

> ### Mortality
> Presents data on causes of death in humanitarian entrants from 2007-2020.

> ### Case study: Humanitarian entrants born in Afghanistan
> Presents data on health outcomes in humanitarian entrants born in Afghanistan.

Background

Refugees and humanitarian entrants' health outcomes in Australia can be severely impacted by their experiences and health challenges prior to arriving in Australia. They are a subset of a group of people from culturally and linguistically diverse backgrounds, who have been identified as a population of interest across the health sector, including in several key Australian Government strategies.

Understanding patterns of health outcomes and service use within the refugee and humanitarian entrant population is important to identify gaps in accessing appropriate health care, to better address the health needs of refugees and humanitarian entrants, and to inform the design and delivery of health care services and settlement services.

While data are routinely collected on the health and welfare outcomes of the broader Australian population, there is no demographic information to identify the refugee and humanitarian population in national health and welfare data sets. As a result, there is limited ability to assess refugees and humanitarian entrants' health status and outcomes.

This report provides data on the health service usage, medication dispensing patterns, health status and mortality of refugees and humanitarian entrants who arrived in Australia from 2000 to 2020 using the Australian Bureau of Statistics' (ABS) Person-Level Integrated Data Asset (PLIDA) (previously known as Multi-Agency Data Integration Project (MADIP)) (Box 1.1).

> **Box 1.1: Refugees and humanitarian entrants**
>
> The Department of Home Affairs administers the Australian Government's Refugee and Humanitarian Program which resettles humanitarian entrants in Australia. Consistent with the approach adopted by the United Nations High Commissioner for Refugees (UNHCR), under the Humanitarian Program, Australia prioritises those cohorts who have the greatest resettlement need, including:
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> - people outside their home country, assessed as refugees by the UNHCR and referred to Australia for resettlement
> - applicants proposed by a close family member in Australia
> - vulnerable cohorts within refugee populations, including women and children, ethnic minorities, LGBTQI+ and other identified minority groups. (Home Affairs 2023).
>
> For the purposes of this project, **humanitarian entrants** refers to those who have been resettled in Australia under the **offshore component** of Australia's Humanitarian Program. The term humanitarian entrants is used in the report to refer to refugees and humanitarian entrants.

Background

Refugees and humanitarian entrants are at risk of poorer physical and mental health outcomes compared with the general population (WHO 2022). This is due to a range of factors including prior exposure to war and persecution trauma (Liddell et al. 2021a) and challenges from the migration experience (Liddell et al. 2021b).

Many refugees and humanitarian entrants arrive with significant physical and mental health challenges, and often have had limited or disrupted access to health services in their country of origin or first asylum (WHO 2022). Approximately three-quarters of refugees experienced traumatic events prior to arrival in Australia (Russell et al. 2013).

Good health is vital for refugees to settle in Australia and rebuild their lives through social, economic, and cultural opportunities (Russell et al. 2013). Once resettled in a new country, there are a range of factors including suboptimal working and living conditions, ethnic discrimination and social isolation that can further exacerbate health issues in this population group (Altun et al. 2022; WHO 2022).

International studies have shown that refugees and humanitarian entrants experience an excessive burden of:

- communicable diseases
- chronic diseases
- nutritional deficiencies
- skin lesions
- reproductive health complications
- untreated injuries
- mental health issues (Timlin et al. 2020).

References

Altun A, Soh S E, Brown H and Russell G (2022) *The association between chronic pain and pre-and-post migration experiences in resettled humanitarian refugee women residing in Australia*, BMC public health, 22(1):911, doi:10.1186/s12889-022-13226-5.

Liddell B J, O'Donnell M L, Bryant R A, Murphy S, Byrow Y, Mau V and Nickerson A (2021a) *The association between COVID-19 related stressors and mental health in refugees living in Australia*, European Journal of Psychotraumatology, 12(1):1947564, doi:10.1080/20008198.2021.194756

Liddell B J, Murphy S, Mau V, Bryant R, O'Donnell M, McMahon T, and Nickerson A (2021b) *Factors associated with COVID-19 vaccine hesitancy amongst refugees in Australia*, European journal of psychotraumatology, 12(1):1997173, doi:10.1080/20008198.2021.1997173.

Russell G, Harris M, Cheng I, Kay M, Vasi S, Joshi C, Chan B, Lo W, Wahidi S, Advocat J, Pottie K, Smith M and Furler J (2013) Coordinated primary health care for refugees: a best practice framework for Australia, Report to the Australian Primary Health Care Research Institute, p 6.

Timlin M, Russo A, and McBride J (2020) *Building capacity in primary health care to respond to the needs of asylum seekers and refugees in Melbourne, Australia*: the 'GP Engagement, *Australian journal of primary health,* 26(1):10-16, doi:10.1071/PY18190.

World Health Organization (2022) *World report on the health of refugees and migrants*, accessed on 7 June 2023.

Background

The first 5 years of permanent residence in Australia after arrival is generally considered the settlement period. This is a time of adjustment as migrants and new arrivals seek to become oriented, established, integrated and independent in their communities (Home Affairs 2016b).

The Australian Government funds services to help humanitarian entrants settle in Australia and become participating members of Australian society (Home Affairs 2016a). See Box 1.2. The focus of these services is for the first 5 years of settlement.

Box 1.2: Settlement services

Settlement services available to humanitarian entrants and eligible migrants include:

- Australian Cultural Orientation (AUSCO) program is offered to refugees and humanitarian entrants over the age of 5 years prior to their departure for Australia. AUSCO gives practical advice about the journey to Australia, focusing on travel, on-arrival assistance, practical information on post-arrival settlement services and managing cultural, social and economic expectations.
- The Humanitarian Settlement Program (HSP) supports humanitarian entrants during their initial settlement to integrate into Australian life by helping them build the skills and knowledge they need to become self-reliant and active members of the community.

In recognition of the importance of physical and mental wellbeing to successful settlement, HSP service providers support humanitarian entrants to:

- register with Medicare
- arrange and attend a post-arrival health assessment with a refugee health clinic or general practitioner (GP)
- register Health Undertakings with the Department of Home Affair's migration medical services provider
- access physical and mental health services, including the Program of Assistance for Survivors of Torture and Trauma (PASTT)
- complete a health topic as part of the HSP's orientation program to develop the skills and knowledge needed to manage their own health needs beyond the HSP.

In addition to HSP, the following services are also provided to support the settlement of humanitarian entrants and other eligible migrants:

- The Settlement Engagement and Transition Support (SETS) providers work to improve clients' understanding of the Australian health system, assisting clients with mental health issues, accessing appropriate counselling services, including torture and trauma and psychological services and providing targeted education on health issues for specific groups (particularly women and young people). Activities also support women in situations of family violence and activities that advance refugee and women's social and economic inclusion.
- Adult Migrant English Program (AMEP) is a free service to help refugees, humanitarian entrants and other eligible migrants with low English levels to improve their English language skills and settle in Australia.
- Free Interpreting Service provides equitable access to key services for people with limited or no English language proficiency. Using interpreters can enable better access to essential services for refugees and humanitarian entrants and is particularly important for conversations about health.

Humanitarian entrants who arrive with permanent residency visas are immediately eligible to access health care under Medicare, Australia's universal health insurance scheme. Medicare is a national scheme providing free or subsidised health care services and programs in Australia, including primary health care through bulk-billed GP appointments, as well as public hospital care and subsidised medicines.

Some additional humanitarian entrant specific services are offered Australia-wide, such as the PASTT. PASTT provides counselling and other specialised support services to help refugees and humanitarian entrants cope with psychological or psychosocial issues arising from their trauma (DHAC 2023). This service is provided free of cost and is funded directly by the Australian Government. The use of this service is not captured by Medicare Benefits Schedule data.

Other services and programs available to humanitarian entrants in Australia may differ by state or territory. Some hospitals and large health centres in states and territories provide services including counselling, advice, referral and health information for local humanitarian communities (Home Affairs 2016a).

References

Home Affairs (Department of Home Affairs) (2016a) *Beginning a Life in Australia: Welcome to Australia*, Home Affairs website, accessed 9 June 2023.

Home Affairs (2016b) *The National Settlement Framework*, Home Affairs website, accessed 27 June 2023.

DHAC (Department of Health and Aged Care) (2023) _Program of Assistance for Survivors of Torture and Trauma_, DHAC website, accessed 9 June 2023.

Background

The majority of reports on the health of refugees and humanitarian entrants in Australia use data from the Building a New Life in Australia: The Longitudinal Study of Humanitarian Migrants (BNLA) and research studies. Information on the full spectrum of health issues faced by humanitarian entrants is not available, and due to the nature of academic studies which tend to focus on case studies of sub-groups, the available data is often difficult to draw accurate conclusions on a population level (Dowling et al. 2019).

References

Dowling A, Enticott J, Kunin M and Russell G (2019) _The association of migration experiences on the self-rated health status among adult humanitarian refugees to Australia: an analysis of a longitudinal cohort study_, International Journal for Equity in Health, 18 (130), doi:10.1186/s12939-019-1033-z.

Background

On this page:

- Data sources
- Country of birth and time since arrival in Australia analysis
- Data measures

Data sources

This report provides data on the health service usage, medication dispensing patterns, health status and mortality of refugees and humanitarian entrants using the Australian Bureau of Statistics' (ABS) Person-Level Integrated Data Asset (PLIDA) (previously known as Multi-Agency Data Integration Project (MADIP)).

The PLIDA data sets used in this analysis were:

- Person Linkage Spine (Spine – ABS)
- Settlement Database (SDB – Department of Home Affairs)
- Medicare Consumer Directory (MCD – Department of Health and Aged Care/Services Australia)
- Medicare Benefits Schedule (MBS – Department of Health and Aged Care)
- Pharmaceutical Benefits Scheme (PBS – Department of Health and Aged Care)
- 2021 Census of Population and Housing (Census – ABS)
- Causes of Death (COD – ABS)
- Deaths Registrations (Deaths – ABS)
- PLIDA Combined Demographics File (ABS).

This stage of work does not include hospital data when describing health service usage. In the second stage of analysis, the AIHW will link permanent migrants' data from the Department of Home Affairs' Settlement Database with health and welfare data sets held by the AIHW, including data from hospital admissions, emergency department presentations and specialist homelessness services.

Methods

Country of birth and time since arrival in Australia analysis

In this report, data are presented by country of birth and time since arrival in Australia for the humanitarian entrant and other permanent migrant cohorts and not the rest of the Australian population.

Reporting by time since arrival can provide insights into how migrants' health and health service use change as they settle in Australia. Many factors that influence health may change over time. Pre-arrival experiences, the effects of the migration process, familiarity with the Australian health care system and settling into Australia may impact migrants' interaction with the health system after arrival. Understanding how health changes with time since arrival in Australia can provide a greater understanding of these factors and allow services to be targeted more effectively to improve the health of migrants.

Health service use, medication dispensing, and long-term health conditions are reported for the year 2021. Therefore, reporting by year since arrival in Australia is point in time and relates to the cohorts who arrived in certain years:

- Arrival less than 5 years ago are migrants who arrived in the years 2017–2020.
- Arrival 5 to 10 years ago are migrants who arrived in the years 2011–2016.
- Arrival more than 10 years ago are migrants arrived in the years 2000–2010.

As this is a point in time analysis, differences between the cohorts may also reflect differences in the arrival cohorts, such as countries of origin or humanitarian situations in that time period. This analysis can identify patterns for further investigation using longitudinal data to identify factors that influence migrants' health after they arrive in Australia and over time.

The health status and outcomes of migrants can vary according to the place of birth due to diverse social, economic, environmental, cultural and genetic influences. People born in the same country may identify with common cultural characteristics and sociodemographic backgrounds and share particular health risk factors related to diet or cultural practices that affect their health outcomes. Analysing the data in this report by country of birth can help to identify health service use patterns or health concerns that are common to communities with similar cultural background and experiences. This can provide important insights into the unique health concerns for different groups of the humanitarian entrant population and inform the development of tailored health services and programs.

Reporting by country of birth reflects the recorded country the person was born in. This does not necessarily reflect a person's ethnicity, nationality, or religious group. It also does not account for social and cultural differences within a country. This is particularly relevant for humanitarian entrants who may be born in refugee camps in countries of asylum. For example, a proportion of migrants born in Thailand identify as Karen, an ethnic minority group whose families have fled from Myanmar and lived in refugee camps in Thailand (Home Affairs 2018).

Country of birth has been used as a proxy for grouping migrants by cultural groups. It will be of interest to investigate the data by other cultural variables such as ethnicity, religion or language to provide further insights on the differences in health status and outcomes among the humanitarian entrant population in future work.

Data measures

There are two measures presented throughout the Health service use and Medication dispensing sections: rates of service/ medication dispensing per 1,000 people and proportion of the population with a service/ medication dispensed in 2021.

Rates provide information on the extent of service use or medication dispensing in the population, including when people use services or are dispensed medications multiple times and, when age-standardised, allow for comparison between population groups.

The proportion of the population accessing at least one service or dispensed at least one medication in 2021 provides information on how many people within a population are accessing a service or dispensed medication. This provides valuable information on population coverage as people are only counted once, no matter how many times they accessed a service within 2021. Proportion of the population measures are not age-standardised and reflect what is truly happening in the population. Due to this, differences in the proportion of the population measures between population groups may be due to age and direct comparisons should not be made.

Measures of long-term health conditions are presented as proportion of the population who reported living with common long-term health conditions and, when age-standardised, allow for comparison between population groups. Mortality measures are presented as deaths per 100,000 person years.

For more information about the data sources, measures and methods used in this analysis, see Technical notes.

References

Home Affairs (Department of Home Affairs) (2018) *Bhutan-born community information summary*, Home Affairs website, accessed 24 May 2023.

Background

This report presents data on 3 cohorts:

1. humanitarian entrants (analysis cohort)
2. other permanent migrants (comparison cohort)
3. the rest of the Australian population (comparison cohort).

The humanitarian entrant and other permanent migrant cohorts were derived by assigning each person to a group based on the visa subclass in the settlement database. The cohort comprises migrants who arrived in Australia from 2000 to 2020. A small number of migrants who arrived in early 2021 are included in the cohort. The impacts of the COVID-19 pandemic significantly reduced the number of arrivals in 2020 (ABS 2021). The rest of the Australian population will also include permanent migrants who arrived in Australia prior to the year 2000 and children born in Australia to permanent visa holders.

Humanitarian entrant cohort includes:

- Refugee visas*
- Global special humanitarian visa.

*This may include a small number of Special Assistance visa and Resolution of Status (RoS) visa holders. These RoS visa holders do not include former holders of Temporary Protection visas (TPV) and Safe Haven Enterprise visas (SHEV).

The other permanent migrant cohort includes:

- Family and partner visas
- Working and skilled visas
- Other visas (including onshore humanitarian).

Refer to the Technical notes for a listing of the visa subclasses included in the humanitarian entrant and other permanent migrant cohorts.

References

ABS (Australian Bureau of Statistics) (2021), *Overseas Migration*, ABS website, accessed 8 August 2023.
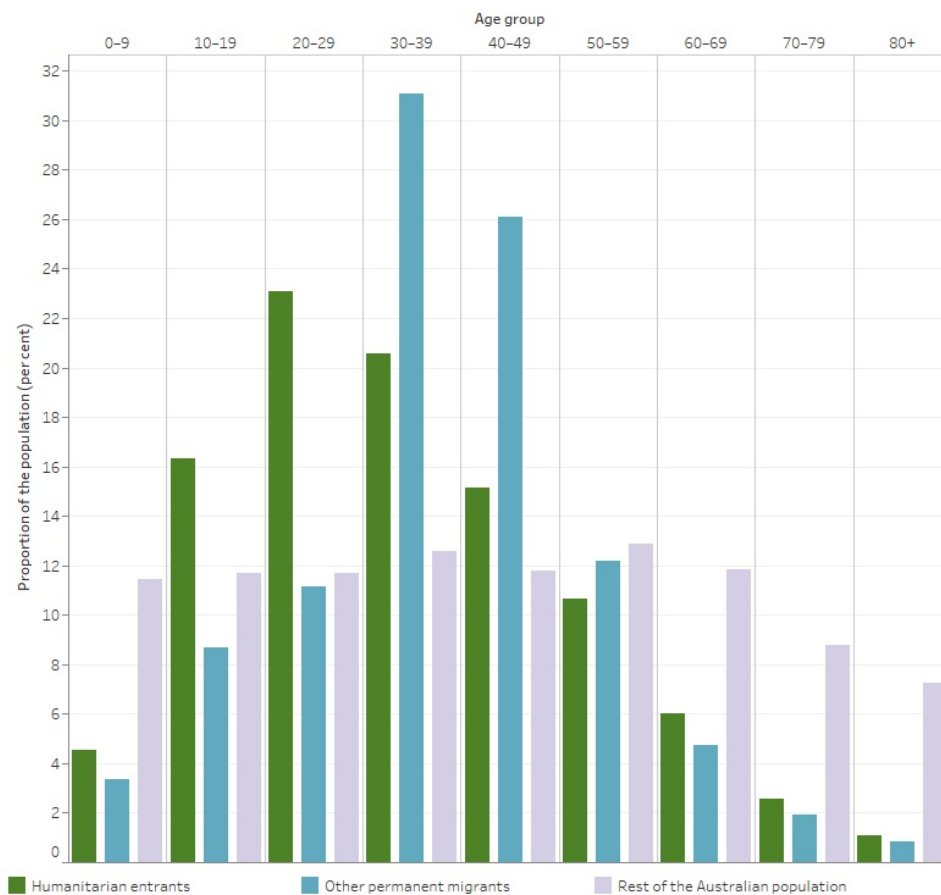
Background

Throughout this report comparisons are made between the humanitarian entrant cohort, other permanent migrants and the rest of the Australian population. Each of these cohorts differ in their demographics.

Among the humanitarian entrant population, 50% are males, compared with 47% males in the other permanent migrants and 50% males in the rest of the Australian population. The median ages among the cohorts were 32 for humanitarian entrants, 38 for other permanent migrants and 42 for the rest of the Australian population. The age profile of the three cohorts also differs (Figure 1.1). The proportion of the humanitarian entrant cohort in the younger age groups is high, peaking at 23% of the population in the 20–29 age group. Whereas the other permanent migrants' cohort is slightly older with the highest proportion of their population belonging to the 30–39 age group. The rest of the Australian population has a flatter age structure with a larger proportion of the population in the older age groups over 50.

The following data visualisation (Figure 1.1) provides a column chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 1.1: Proportion of population groups in 10-year age groups, 2021

The humanitarian entrant population is generally younger, peaking at 20-29 years, whereas the other migrant population peaks at 30-39.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Many health outcomes can be more common in older age groups, therefore when comparing outcomes between cohorts with different age structures, it is important to take age into account. Throughout this report, age-standardisation has been used to make comparisons among the different cohorts.

For more information on age-standardisation and the methods used in this report, see the Technical notes.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Health service use

Health services provided by general practitioners (GPs), medical specialists and other allied health providers are integral to supporting and improving the health of humanitarian entrants.

However, humanitarian entrants face many barriers to accessing timely and appropriate health care, and this may include one or more of the following:

- limited English proficiency
- financial constraints
- low educational achievement
- varying degrees of health literacy
- varying cultural and health beliefs
- competing settlement priorities (Timlin et al. 2020; Griswold et al. 2018).

A systematic review that included studies from Australia and other countries found that many humanitarian entrants may be reluctant to seek health care assistance when needed due to a range of complex factors including psychological trauma and cultural beliefs (Iqbal et al. 2022).

Health seeking behaviour for mental health challenges is low despite high levels of symptoms. This is largely driven by poor mental health literacy, cultural understandings of mental illness and associated stigma (Tomasi et al. 2022). Older adults, females and those with better English proficiency are more likely to seek professional help (Byrow et al. 2020). Additionally, it has been shown that a longer time spent in the host country is associated with higher levels of professional help-seeking (Markova, Sandal, & Pallesen, 2020).

In Australia, there are culturally responsive and specialised health services and programs to meet the needs of people from humanitarian backgrounds. These health services and programs for humanitarian entrants vary by states and territories. For more information on health services and programs for humanitarian entrants in each state or territory, see the following websites:

- Australian Capital Territory: Companion House
- New South Wales Department of Health: Refugee Health Plan 2022–2027
- Northern Territory: Melaleuca refugee health services
- Queensland Health: Refugee Health and Wellbeing Policy and Action Plan 2022–2027
- South Australian Health: Refugee health service
- Tasmanian government: Multicultural specific services
- Victoria Department of Health: Refugee and asylum seeker health and wellbeing information page
- Western Australian Department of Health: Humanitarian entrant health service.

This section of the report presents data on the use of Medicare funded health care services in 2021 using data from the Medicare Benefits Schedule (MBS) available in MADIP. Data is presented on:

- health service use by broad types of service (BTOS) - link
- bulk-billing rates of health services - link
- GP attendances - link
- GP mental health treatment plans - link
- non-hospital specialist consultations - link
- health services use by LGA (interactive data visualisation). - link

The COVID-19 pandemic impacted services utilisation and delivery, especially in New South Wales, Victoria and the Australian Capital Territory which had extensive lockdowns restricting services throughout this period (AIHW 2022). For example, the number of GP attendances and pathology services increased in 2021 compared to the previous year and optometry services had the biggest decrease. For more detail on the impact of COVID-19 on health care service utilisation see Impact on MBS service utilisation.

It is expected that the restrictions on health service use are consistent across the humanitarian entrant and the comparison population groups (other permanent migrant group and the rest of the Australian population) and data has been compared between the population groups, where appropriate.

Many health outcomes can be more common in older age groups, therefore when comparing outcomes between cohorts with different age structures, it is important to take age into account. Throughout this report, age standardisation has been used to make comparisons among the different cohorts. For more information on age standardisation and the methods used in this report see the technical notes.

In this report, data is presented by country of birth and time since arrival in Australia. This information is only presented for the humanitarian entrant and other permanent migrant cohorts and not the rest of the Australian population.

Reporting by country of birth reflects the recorded country the person was born in. This does not necessarily reflect a person's ethnicity, nationality, or religious group. This is particularly relevant for humanitarian entrants who may be born in refugee camps in countries of asylum.

There are two measures presented throughout this section: rates of service per 1,000 people (average per person for GP attendance section) and proportion of the population with a service in 2021. Rates are age standardised unless otherwise specified as crude or age specific. Proportion of the population is not age standardised. These two measures provide slightly different information.

Rates provide information on the extent of service use in the population, including when people use services multiple times and, when age standardised, allow for comparison between population groups. The proportion of the population accessing at least one service in 2021 provides information on how many people within a population are accessing a service. This provides valuable information on population coverage as people are only counted once, no matter how many times they accessed a service within 2021.

Proportion of the population measures are not age standardised and reflect what is truly happening in the population. Due to this, differences between population groups in proportion of the population measures may be due to age and direct comparisons should not be made.

References

Australian Institute of Health and Welfare (2022) Impacts of COVID-19 on Medicare Benefits Scheme and Pharmaceutical Benefits Scheme: quarterly data, AIHW, Australian Government, accessed 5 July 2023.

Byrow, Y., Pajak, R., Specker, P., & Nickerson, A. (2020). Perceptions of mental health and perceived barriers to mental health help-seeking amongst refugees: A systematic review. Clinical Psychology Review, 75, 101812. doi:10.1016/j.cpr.2019.101812

Griswold, K. S., Pottie, K., Kim, I., Kim, W., & Lin, L. (2018). Strengthening effective preventive services for refugee populations: toward communities of solution. Public health reviews, 39, 3. doi:10.1186/s40985-018-0082-y

Iqbal, M. P, Walpola, R., Harris-Roxas, B., Li, J., Mears, S., Hall, J., & Harrison, R. (2022). Improving primary health care quality for refugees and asylum seekers: A systematic review of interventional approaches. Health expectations : an international journal of public participation in health care and health policy, 25(5), 2065–2094. https://doi.org/10.1111/hex.13365

Markova, V., Sandal, G. M., & Pallesen, S. (2020). Immigration, acculturation, and preferred help-seeking sources for depression: Comparison of five ethnic groups. BMC Health Services Research, 20(1), 1–11. doi:10.1186/s12913-020-05478-x

Timlin, M., Russo, A., & McBride, J. (2020). Building capacity in primary health care to respond to the needs of asylum seekers and refugees in Melbourne, Australia: the GP Engagement. Australian journal of primary health, 10.1071/PY18190. Advance online publication. doi:10.1071/PY18190

Tomasi A, Slewa-Younan S, Narchal R and Rioseco P (2022), Understanding the mental health and help-seeking behaviours of refugees, Australian Institute of Family Studies website, accessed 24 May 2023.

Health service use

Health services provided by general practitioners (GPs), medical specialists and other allied health providers are integral to supporting and improving the health of humanitarian entrants.

However, humanitarian entrants face many barriers to accessing timely and appropriate health care, and this may include one or more of the following:

- limited English proficiency
- financial constraints
- low educational achievement
- varying degrees of health literacy
- varying cultural and health beliefs
- competing settlement priorities (Griswold et al. 2018; Timlin et al. 2020).

A systematic review that included studies from Australia and other countries found that many humanitarian entrants may be reluctant to seek health care assistance when needed due to a range of complex factors including psychological trauma and cultural beliefs (Iqbal et al. 2022).

Health seeking behaviour for mental ill health is low despite high levels of symptoms. This is largely driven by poor mental health literacy, cultural understandings of mental illness and associated stigma (Tomasi et al. 2022). Older adults, females and those with better English proficiency are more likely to seek professional help (Byrow et al. 2020). Additionally, it has been shown that a longer time spent in the host country is associated with higher levels of professional help-seeking (Markova et al. 2020).

In Australia, there are culturally responsive and specialised health services and programs to meet the needs of people from humanitarian backgrounds. Some refugee health services and programs provide initial health assessments and facilitate access to mainstream primary health care such as GP. Free interpreters are also available for GPs and medical specialists providing Medicare-rebateable services. These health services and programs for humanitarian entrants vary by state and territory. For more information on health services and programs for humanitarian entrants in each state or territory, see the following websites:

- Australian Capital Territory: Companion House
- New South Wales Department of Health: Refugee Health Plan 2022–2027
- Northern Territory: Melaleuca refugee health services
- Queensland Health: Refugee Health and Wellbeing Policy and Action Plan 2022–2027
- South Australian Health: Refugee health service
- Tasmanian government: Multicultural specific services
- Victoria Department of Health: Refugee and asylum seeker health and wellbeing information
- Western Australian Department of Health: Humanitarian entrant health service.

This section of the report presents data on the use of Medicare subsidised health care services in 2021 using data from the Medicare Benefits Schedule (MBS) available in Person-Level Integrated Data Asset (PLIDA). Data are presented on:

- Health service use by broad type of service (BTOS)
- Bulk-billing rates of health services
- GP attendances
- GP mental health treatment plans
- Non-hospital specialist consultations
- Interactive data visualisation: Health service use by age and sex

MBS data only includes details of services for which benefits were paid by Services Australia. They do not include services provided to public inpatients and public outpatients of hospitals and public Accident and Emergency Departments of hospitals, and services funded directly under other Australian government programs or state/territory government programs. This web report is the first stage of the AIHW's Refugee and humanitarian entrant health project and data on hospitalisations will be included in release of findings from the second stage of the project.

Additionally, many Allied Health services do not attract a Medicare rebate. Generally, Medicare subsidised allied health services are only available to patients with chronic, mental, developmental, and/or complex health conditions with a referral from a GP or specialist medical practitioner. These are the only allied health services captured in the other allied health BTOS data presented in this report. For further information on what services do not attract a Medicare rebate and therefore are not captured in this data, see Technical notes.

The COVID-19 pandemic impacted health service access, use and delivery, especially in New South Wales, Victoria and the Australian Capital Territory which had extensive lockdowns restricting services throughout this period (AIHW 2022). For example, the number of GP attendances and pathology services increased in 2021 compared to the previous year and optometry services had the biggest decrease. For more detail on the impact of COVID-19 on health care service utilisation see Impact on MBS service utilisation.

It is expected that the restrictions on health service use are consistent across the humanitarian entrant and the comparison population groups (other permanent migrant group and the rest of the Australian population) and data have been compared between the population groups, where appropriate.

For information on methods and data sources used in this section see Data sources and methods and Technical notes.

References

Australian Institute of Health and Welfare (2022) *Impacts of COVID-19 on Medicare Benefits Scheme and Pharmaceutical Benefits Scheme: quarterly data*, AIHW, Australian Government, accessed 5 July 2023.

Byrow Y, Pajak R, Specker P, and Nickerson, A (2020) *Perceptions of mental health and perceived barriers to mental health help-seeking amongst refugees: A systematic review*, Clinical Psychology Review, 75, 101812, doi:10.1016/j.cpr.2019.101812.

Griswold KS, Pottie K, Kim I, Kim W and Lin L (2018) *Strengthening effective preventive services for refugee populations: toward communities of solution*, Public health reviews, 39, 3, doi:10.1186/s40985-018-0082-y.

Iqbal MP, Walpola R, Harris-Roxas B, Li J, Mears S, Hall J and Harrison R (2022) *Improving primary health care quality for refugees and asylum seekers: A systematic review of interventional approaches*, Health expectations : an international journal of public participation in health care and health policy, 25(5), 2065–2094, doi:10.1111/hex.13365.

Markova V, Sandal GM and Pallesen S (2020) *Immigration, acculturation, and preferred help-seeking sources for depression: Comparison of five ethnic groups*, BMC Health Services Research, 20(1), 1–11, doi:10.1186/s12913-020-05478-x.

Timlin M, Russo A and McBride J (2020) *Building capacity in primary health care to respond to the needs of asylum seekers and refugees in Melbourne, Australia: the GP Engagement*, Australian journal of primary health, 26(1), 10–16, doi:10.1071/PY18190.

Tomasi A, Slewa-Younan S, Narchal R and Rioseco P (2022) *Understanding the mental health and help-seeking behaviours of refugees*, Australian Institute of Family Studies website, accessed 24 May 2023.

Health service use

On this page:

-

Broad type of service (BTOS) refers to a grouping of MBS services that relate to certain provider groups or services (see Technical notes for more detail).

When age-standardised rates of health service use (number of services used per 1,000 people) in 2021 were compared across the population groups:

- GP attendances were around 40% higher for humanitarian entrants compared with the rest of the Australian population (8,600 services per 1,000 people and 6,000 per 1,000 people, respectively).
- Pathology services were almost 20% higher for humanitarian entrants compared with the rest of the Australian population (7,700 services per 1,000 people and 6,200 per 1,000 people, respectively).
- Specialist attendances were almost 25% lower for humanitarian entrants compared with the rest of the Australian population (790 services per 1,000 people and 1,100 per 1,000 people, respectively).
- Optometry services were around 14% lower for humanitarian entrants compared with the rest of the Australian population (270 services per 1,000 people and 315 per 1,000 people, respectively) (Figure 2.1).

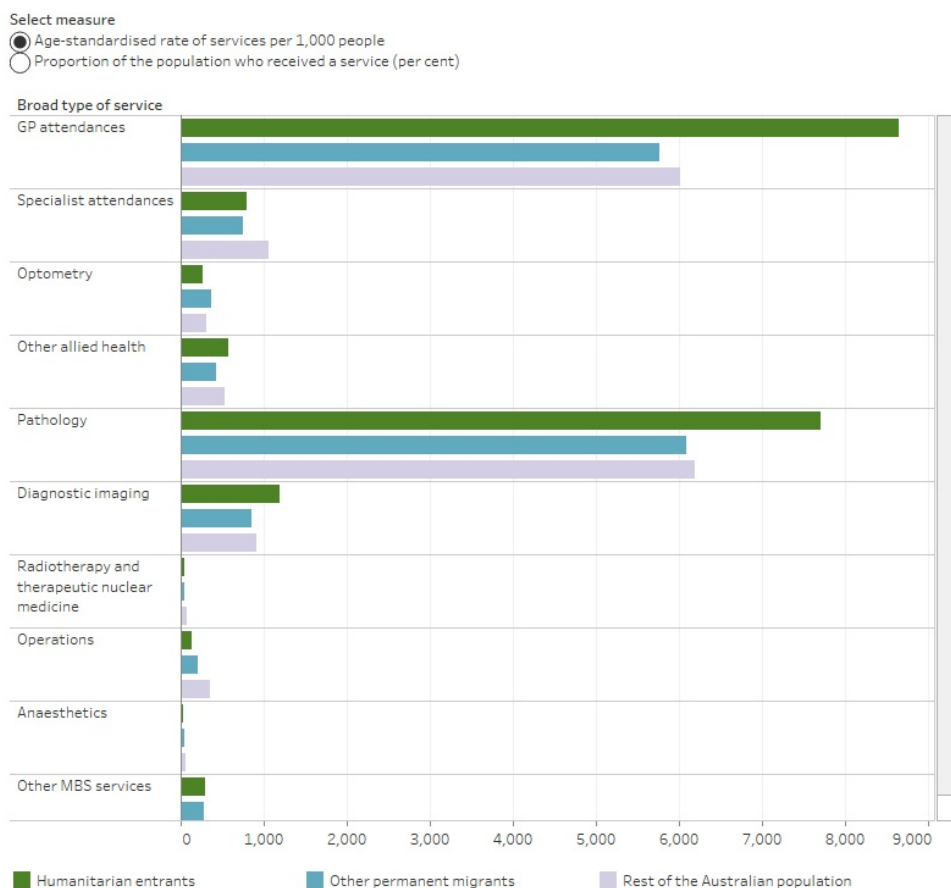Of the humanitarian entrant population, in 2021:

- almost 9 in 10 (89%) had a GP consultation
- 1 in 3 (33%) had a specialist attendance
- 7 in 10 (70%) had a pathology service
- almost 1 in 5 (19%) had an optometry service.

The higher rates of health service use among humanitarian entrants could be due to a number of factors such as refugee health services and health programs facilitating access to primary health care services such as GP and specialist health care for humanitarian entrants, and the health needs of the population. For more information see Overview: Health services used by humanitarian entrants. A better understanding of the factors that impact on the use of health services can provide further insights into the rates of health service use in this population.

> The following data visualisation (Figure 2.1) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side). The are also 2 measures to filter by: Age-standardised rate of services per 1,000 people and Proportion of the population who received a service.

Figure 2.1: Service use by broad type of service by population cohort, 2021

The rates of GP attendances, pathology and diagnostic imaging were highest in humanitarian entrants.

Select measure
● Age-standardised rate of services per 1,000 people
○ Proportion of the population who received a service (per cent)

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Health service use by time since arrival in Australia

Across most service types, the rates of service use were higher for humanitarian entrants who arrived less than 5 years ago (arrival in 2017–2020) than those who arrived 5-10 years ago (2011–2016) and for those who arrived more than 10 years ago (2000-2010) (Figure 2.2).

In 2021, compared with humanitarian entrants who arrived more than 10 years ago, humanitarian entrants who arrived less than 5 years ago had:

- 27% higher rates of specialist attendances after standardising for age (1,000 services per 1,000 people compared with 800 per 1,000 people)
- 21% higher rates of pathology services after standardising for age (8,600 services per 1,000 people compared with 7,100 per 1,000 people) (Figure 2.2)

For pathology services, the age adjusted rate for those who arrived more than 10 years ago was similar to the rest of Australia population (6,900 services per 1,000 people).

Figure 2.2 also shows the proportion of the population who had a service in 2021 in each BTOS by time since arrival in Australia. Despite the differences in rates of specialist attendances and GP attendances for the humanitarian entrant cohort by time since arrival, in 2021 the proportion of the population accessing at least one service was 2 percentage points lower in those who arrived more than 10 years ago (88% for GP attendances and 22% for specialist attendances) when compared with those who arrived in the last 5 years (90% for GP attendances and 24% for specialist attendances) for both service types

Factors such as differences in the health status and the health needs of the cohorts who arrived in the different time periods can impact on the use of health services. Undertaking longitudinal analysis to examine the use of health services by humanitarian entrants from arrival in Australia can fill a gap in our knowledge of the changes in the level of health service use over time and inform the planning and delivery of health services in the short-term and longer-term.

For more information about reporting by time since arrival in Australia see Data sources and methods.

The following data visualisation (Figure 2.2) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side). The are also 2 measures to filter by: Age-standardised rate of services per 1,000 people and Proportion of the population who received a service.

Figure 2.2: Service use by broad type of service for humanitarian entrants by time since arrival in Australia, 2021

The rates of GP attendances, pathology, specialist attendances and diagnostic imaging were highest in humanitarian entrants who arrived less than 5 years ago compared to those who arrived 5-10 years ago.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
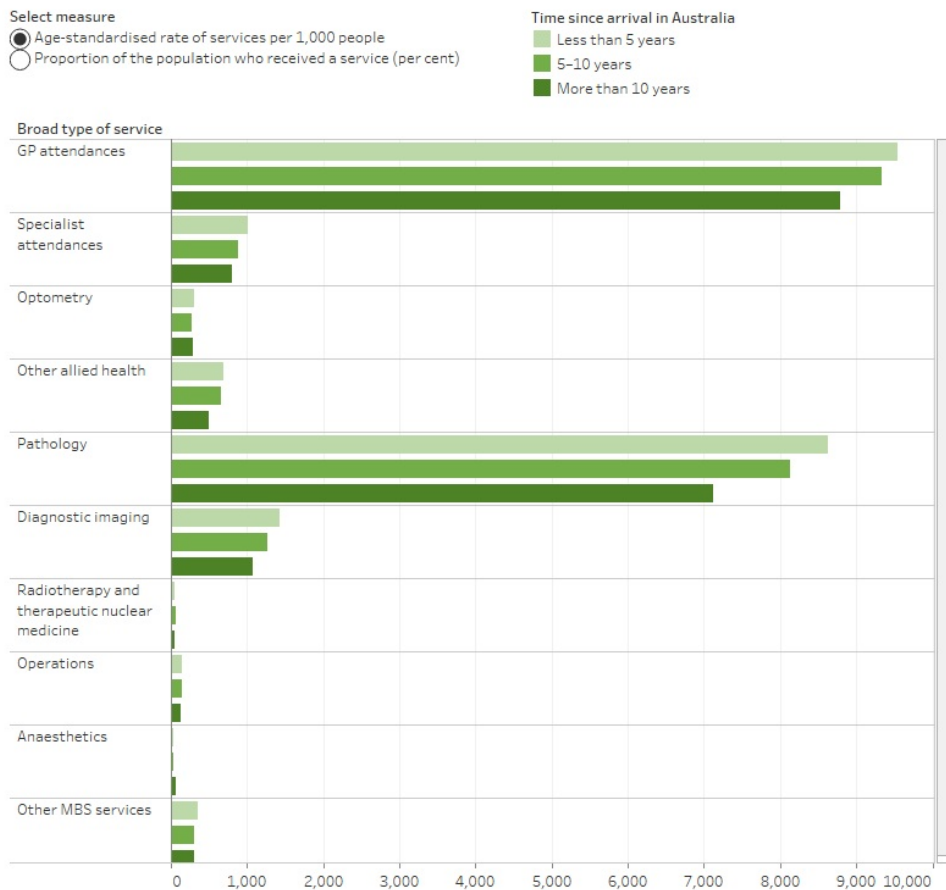
Health service use by country of birth

Due to small numbers, age-standardisation of rates is only possible for limited countries of birth. Data is only presented for the top 5 countries of birth of the humanitarian entrant population (Afghanistan, Iraq, Myanmar, Sudan and Syria) (Figure 2.3).

After standardising for age, the rates of health service use in humanitarian entrants for the top 5 countries of birth of humanitarian entrants were:

- highest for those born in Iraq for diagnostic imaging (1,600 services per 1,000 people), other allied health (820 per 1,000 people) and pathology (10,500 per 1,000 people) services
- lowest for those born in Myanmar for diagnostic imaging (750 services per 1,000 people), other allied health (270 per 1,000 people) and pathology (5,300 per 1,000 people) services.

The rates of health service use were lower among humanitarian entrants born in Myanmar and Sudan compared with other permanent migrants born in the same countries across most BTOS. In comparison, the rates of health service use among humanitarian entrants born in Afghanistan, Iraq and Syria were similar or higher than other permanent migrants.

For more information about reporting by country of birth see Data sources and methods.

The following data visualisation (Figure 2.3) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side). The drop-down menu allows filtering of the data by broad type of service.

Figure 2.3: Service use for selected broad types of service by country of birth and population cohort, 2021

Broad type of service for the top 5 countries of birth of humanitarian entrants (Sudan, Syria, Iraq, Myanmar and Afghanistan). The rates of pathology services were highest in migrants from Myanmar for both humanitarian entrants and other permanent migrants.

Cohort
- Humanitarian entrants
- Other permanent migrants

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
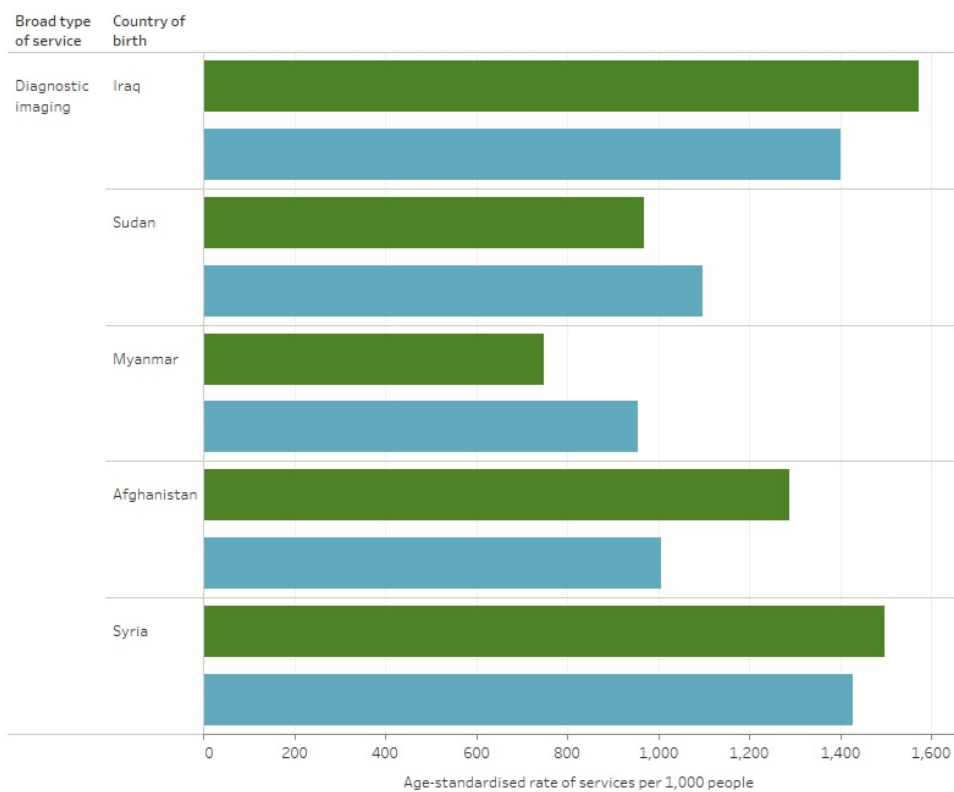
For all data on health service use for humanitarian entrants and other permanent migrants by other countries of birth see supplementary data table S1.4.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Health service use

On this page:

- Introduction
- Bulk-billing of GP attendances by age and sex

Bulk-billing rates describe the proportion of total services provided that were bulk-billed, where the full cost of the service was billed directly to Medicare. For more information on how bulk-billing rates were derived see Technical notes.

A high proportion of services were bulk-billed for humanitarian entrants in 2021, 97% across all broad types of service. This was higher than other permanent migrants (89%) and the rest of the Australian population (81%).

In 2021, across the broad types of services used by the humanitarian entrant population:

- Almost all GP attendances provided to humanitarian entrants were bulk billed (98.9%). This was also the case for pathology services (99.6%) and optometry services (99.1%). This was higher than the rates of bulk-billing for these BTOS in the rest of the Australian population, see Figure 2.4 for more information.
- A markedly higher proportion of anaesthetics (63%), other allied health (92%), and specialist attendance (64%) services were bulk-billed compared with the rest of the Australian population (11%, 53% and 40% respectively).

The following data visualisation (Figure 2.4) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 2.4: Proportion of services that were bulk-billed by broad type of service and population group, 2021

The rates of bulk billing were highest in humanitarian entrants for all broad types of service.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
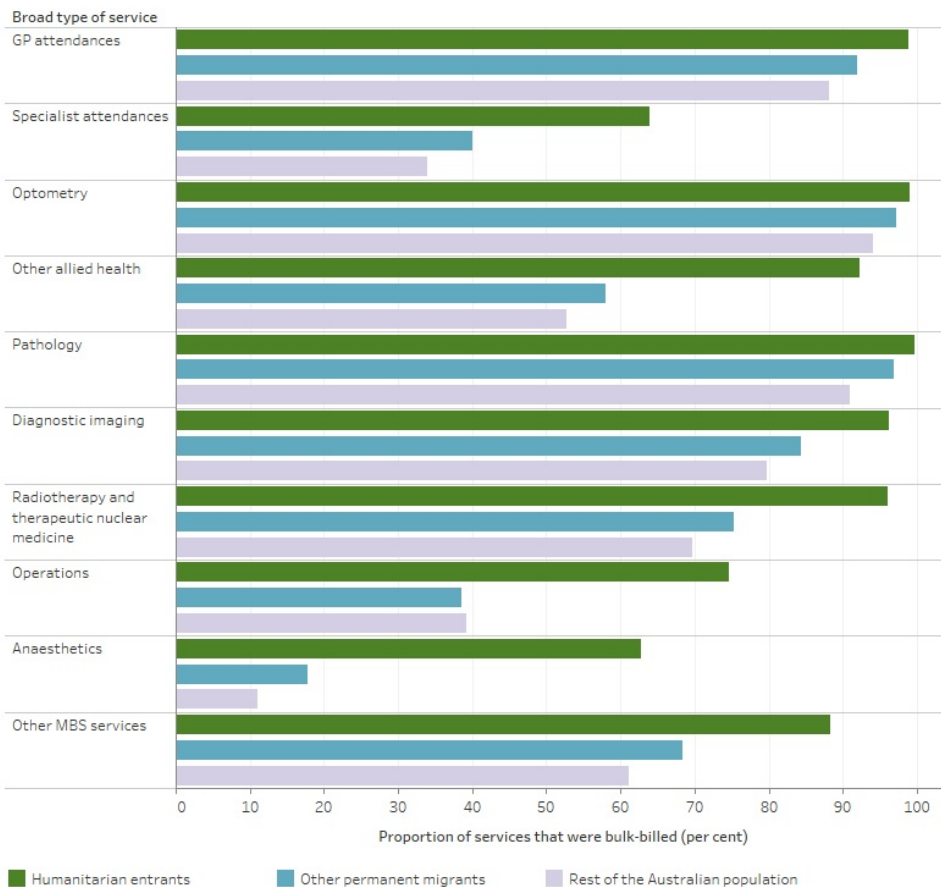
Rates of bulk-billing for MBS services varies by location and this may influence the patterns observed for services that were bulk-billed for the humanitarian entrant population. Some local government areas (LGAs) with a higher percentage of provider fees paid by Medicare are also areas where there are large communities of humanitarian entrants. For data on MBS services by LGAs, see Medicare Benefits Scheme funded services: monthly data.

The higher proportion of services bulk-billed for the humanitarian entrant population could be due to a number of other factors such as refugee health services and health programs facilitating access to primary health care services such as GP and specialist health care for humanitarian entrants, or financial barriers to accessing non-bulk-billed services. Additional information about the needs of the humanitarian entrant population will support the identification of factors influencing the data presented.

Bulk-billing of GP attendances by age and sex

Bulk-billing of GP attendances across age groups were consistently high across humanitarian entrants with the proportion of services bulk-billed above 98% across all age groups for both males and females.

For other permanent migrants and the rest of the Australian population, the proportion of services bulk-billed decreased with age, before increasing among those aged over 60. This pattern was consistent for both males and females.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Health service use

On this page:
General Practitioner attendances by age and sex
General Practitioner attendances by time since arrival in Australia
General Practitioner attendances by country of birth

## General Practitioner attendances by age and sex

After standardising for age, the rate of General Practitioner (GP) attendances for humanitarian entrants is 30% higher for females than it is for males. Similarly, GP attendance rates are 29% higher for females than males for other permanent migrants and 35% higher for the rest of the Australian population.

Rates of GP attendance are higher for humanitarian entrants than other permanent migrants and the rest of the Australian population across all age groups, except among those aged 0–9 years old (Figure 2.5).

The following data visualisation (Figure 2.5) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 2.5: Rates of GP attendances by age, sex and population group, 2021

Rates of GP attendance are higher in humanitarian entrants than other permanent migrants and the rest of the Australian population, except among those aged 0-9 years old.
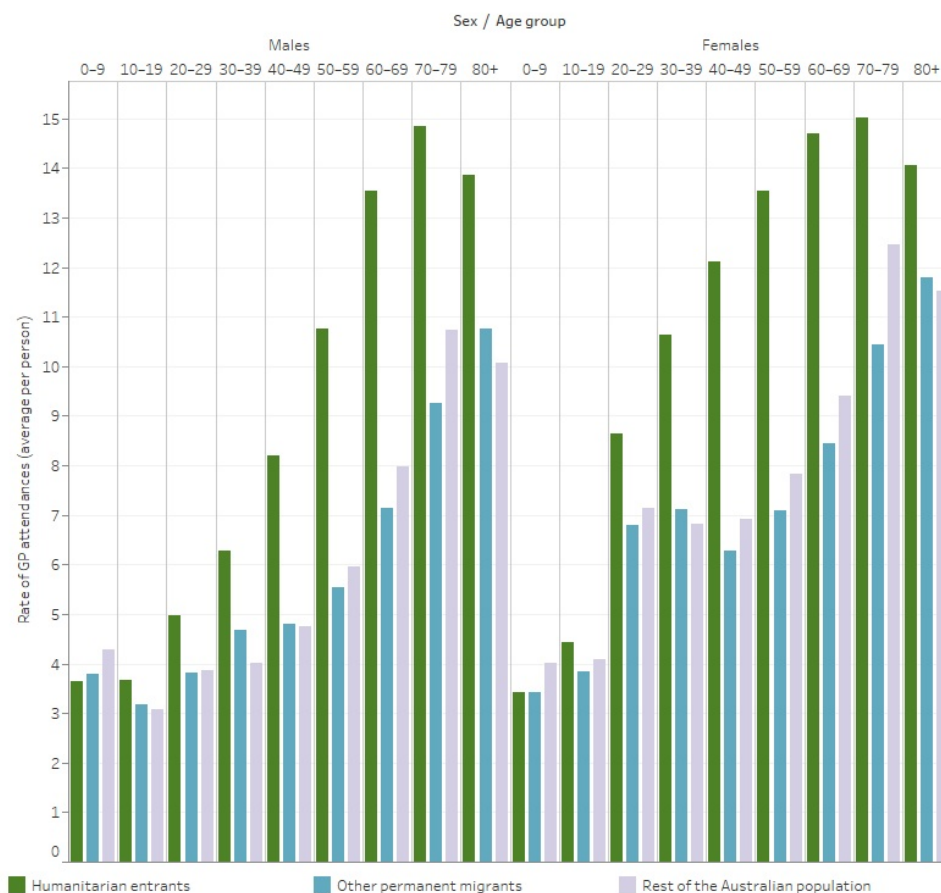
Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

For humanitarian entrants, the proportion of the population with at least one GP attendance in 2021 was high across all age groups, ranging from 81% of population aged 10–19 to 95% of the population aged 60–69. A higher proportion of humanitarian entrants had at least one GP attendance than other permanent migrants and the rest of the Australian population across all age groups.

General Practitioner attendances by time since arrival in Australia

In 2021, there was a slightly higher rate of GP attendances for humanitarian entrants who arrived within the last 5 years compared to those who arrived more than 10 years ago (9.5 attendances per person compared with 8.8 attendances per person).

Across the different arrival cohorts, age-standardised rates of GP attendances were higher among humanitarian entrants compared with other permanent migrants.
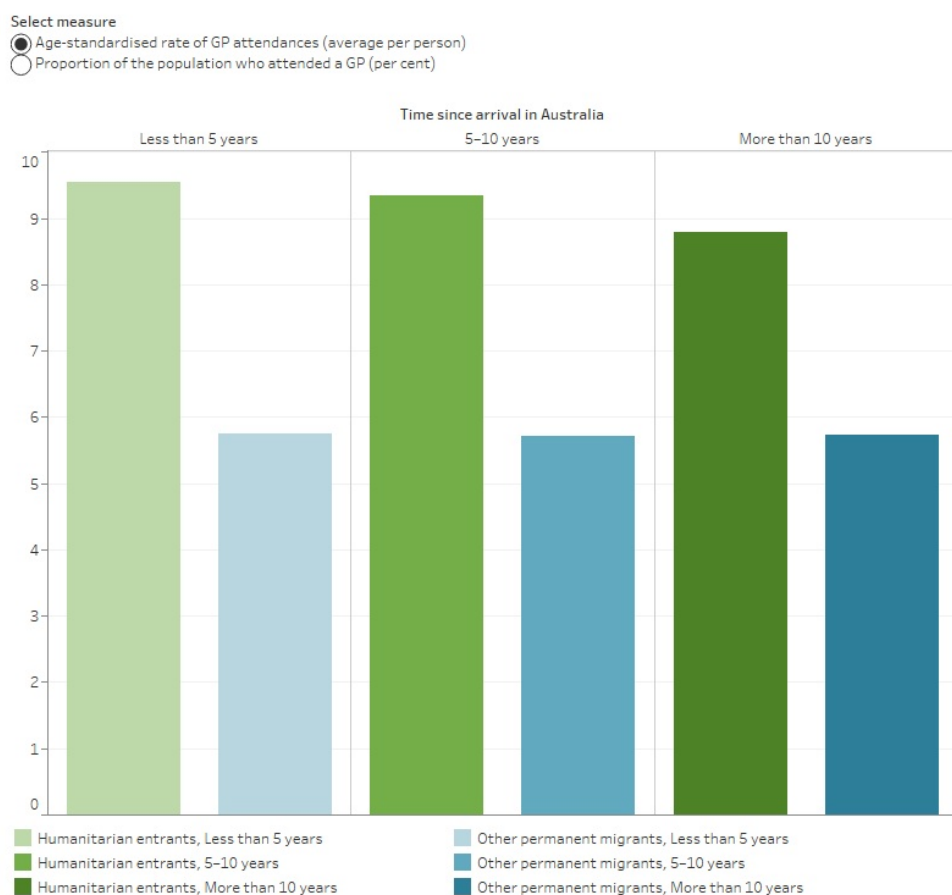
The proportion of the population with a GP attendance was higher in more recent arrivals than those who have been in the country for more than 10 years for both humanitarian entrants and other permanent migrants (Figure 2.6).

For more information about reporting by time since arrival see Data sources and methods.

The following data visualisation (Figure 2.6) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side). There are also 2 measures to filter by Age-standardised rate of GP attendances (average per person) or Proportion of the population who attended a GP.

Figure 2.6: GP attendances by time since arrival in Australia and population group, 2021

Rates of GP attendance are higher in humanitarian entrants than other permanent migrants across all arrival cohorts.

Select measure
● Age-standardised rate of GP attendances (average per person)
○ Proportion of the population who attended a GP (per cent)

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

General Practitioner attendances by country of birth

For humanitarian entrants and other permanent migrants, the rate of GP attendances in 2021 varied by country of birth (Figure 2.7).

There were more than 1 in 4 humanitarian entrants without a GP attendance in 2021 for some countries of birth. Of the countries of birth with high proportions of the humanitarian population without a GP attendance, most were in Africa (Malawi 39%, Zambia 28% and Tanzania 26%).

Additional details including population sizes by country of birth is available in the supplementary data table S1.4. For more information about reporting by country of birth see Data sources and methods.

The following data visualisation (Figure 2.7) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 2.7: GP attendances by country of birth and population group, 2021

Rates of GP attendance are higher in humanitarian entrants than other permanent migrants born in Iraq, Iran, Syria and Afghanistan.
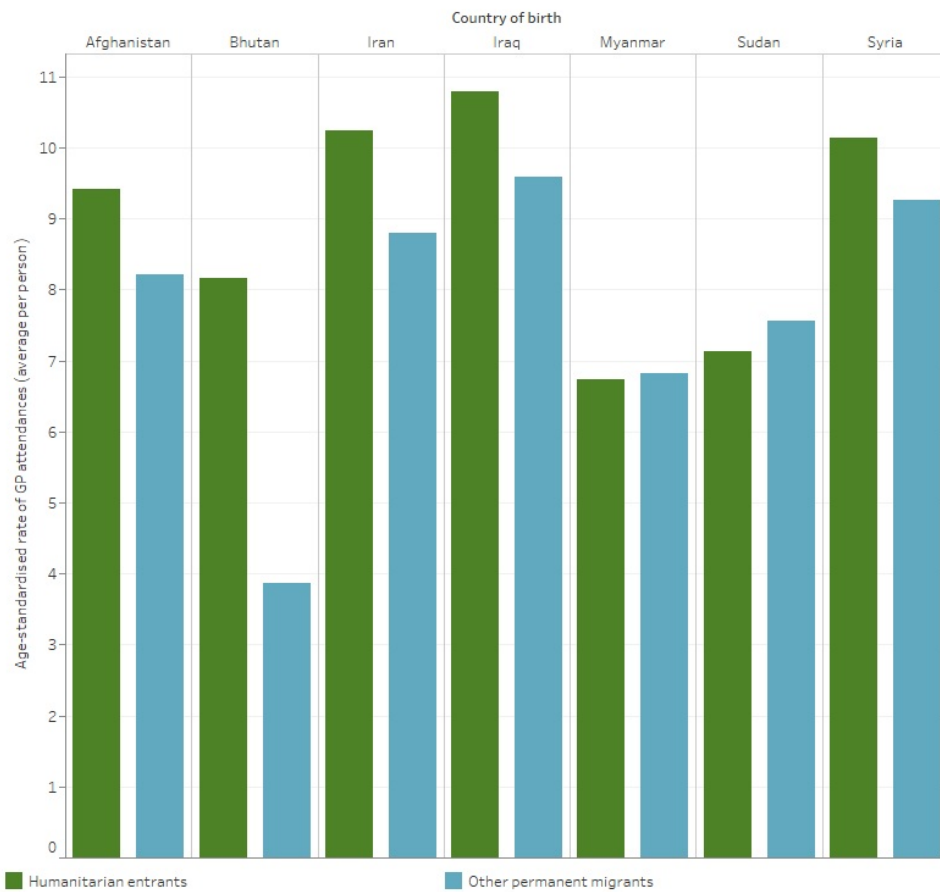
Country of birth

Afghanistan | Bhutan | Iran | Iraq | Myanmar | Sudan | Syria

■ Humanitarian entrants   ■ Other permanent migrants

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Health service use

Mental health services in Australia are provided through various pathways. A detailed explanation of the types of mental health services in Australia is provided at Australia's mental health services – Mental health. A key access pathway for Medicare subsidised mental health care in Australia is via General Practitioner (GP) mental health treatment plans (see Box 2.1).

Box 2.1: GP mental health treatment plans

GP mental health treatment plans provide a structured framework for GPs to provide early intervention, assessment and management of mental health disorders, and act as a pathway to refer to mental health treatment services such as psychological therapy. This is part of the Commonwealth Government's Better Access initiative (for more information see Better Access initiative).

Under a mental health treatment plan, a patient is entitled to Medicare rebates for up to 10 individual psychological appointments and up to 10 group allied mental health services each year. This includes access to subsidised psychologist and certain occupational therapists and social workers. An additional 10 individual psychological therapy sessions per year were made available in response to the potential adverse impacts of the COVID-19 pandemic for the period 9 October 2020 to 31 December 2022 (Department of Health 2022).

Humanitarian entrants may access mental health care through various other pathways including specialist trauma-informed care through the Program of Assistance for Survivors of Torture and Trauma (PASTT), state government mental health services, not-for-profit organisations, and other cultural or religious counselling. These services may be accessed regardless of whether the individual has a mental health treatment plan or not. As these services are not subsidised by Medicare, it is not captured in these data. The information presented in this section only includes data on Medicare subsidised GP mental health treatment plans in migrant groups and does not include data on the overall use of mental health services by this community nor the prevalence of mental health conditions.

References

Department of Health (2022) *Additional 10 MBS Mental Health Sessions during COVID-19 under the Better Access Pandemic Support Measure – Factsheet*, Department of Health, Australian Government, accessed 17 Aug 2023.

Health service use

On this page:

- General Practitioner mental health treatment plans by age and sex
- General Practitioner mental health treatment plans by time since arrival in Australia

General Practitioner mental health treatment plans by age and sex

After adjusting for age, the rate of General Practitioner (GP) mental health treatment plans made (hereon referred to as mental health plans) in 2021 was:

- the same by humanitarian entrants and other permanent migrants (37 mental health plans per 1,000 people and 37 per 1,000 people respectively)
- 35% lower by humanitarian entrants than the rest of the Australian population
- 1.6 times as high by females compared with males among humanitarian entrants, 1.7 times as high by females compared with males among other permanent migrants and the rest of the Australian population.
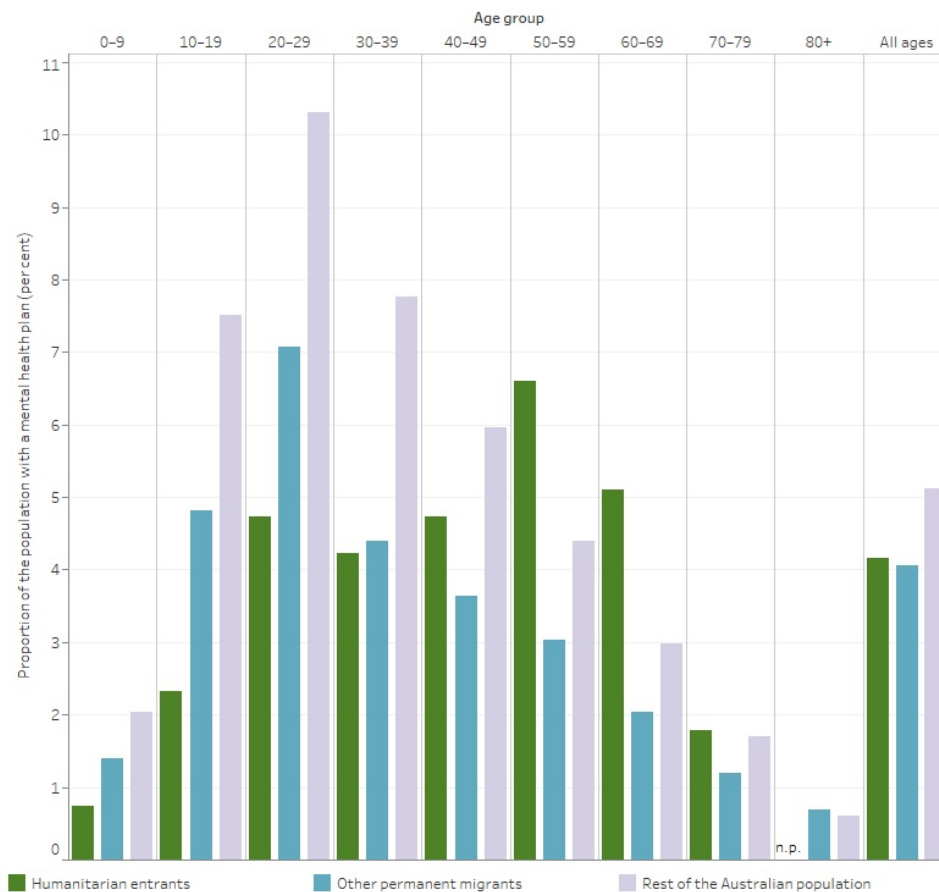
The proportion of the population with a mental health plan differs across age groups between the population groups:

- For humanitarian entrants, the proportion of people with mental health plans increased with increasing age, peaking among people aged 50–59, whereas for other permanent migrants and the rest of the Australian population the highest proportion was in the 20–29 age group.
- The biggest difference between population groups was in the 20–29 age group where 4.7% of humanitarian entrants had mental health plans compared with 7.1% of other permanent migrants and 10.3% of the rest of the Australian population (Figure 2.8).

The following data visualisation (Figure 2.8) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 2.8: Proportion of the population with a GP mental health plan by age and population group, 2021

For humanitarian entrants, the age group with the highest proportion with a GP mental health plan was those aged 50-59.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

General Practitioner mental health treatment plans by time since arrival in Australia

The proportion of the population with mental health plans was also explored by time since arrival in Australia. The proportion of humanitarian entrants who had a mental health plan in 2021 was 3.7% for those who arrived in 2017–2020, 4.2% for those who arrived in 2011–2016 and 4.3% for those who arrived in 2000–2010.

Further data on mental health outcomes in the humanitarian entrant population can be found in the mental health prescriptions and self-reported mental health conditions.

For more information about reporting by time since arrival in Australia see Data sources and methods.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Health service use

On this page:

This section specifically looks at Medicare-subsidised referred specialist attendances that have occurred in non-hospital settings, such as private consulting rooms and private outpatient clinics. Medicare-subsidised referred specialist attendances are included in the broad types of service (BTOS) specialist attendances group reported in Health service use by broad types of service on specialist attendances.

Most widely accessed specialties for non-hospital specialist consultations in 2021

There was variation in the most widely accessed specialties by each population group. Cardiology was the most widely used major specialty for humanitarian entrants (as a percentage of total specialist attendances in 2021). In other permanent migrants, it was obstetrics and gynaecology and for the rest of the Australian population it was ophthalmology.

For humanitarian entrants, gastroenterology and hepatology was the 5th most accessed major specialty (6.3% of total specialist consultations in 2021). This was higher than other permanent migrants where it was the 7th most accessed specialty, although with a similar percentage of total consultations (6.1%). For the rest of the Australian population, it was the 9th most accessed specialty (4.0% of total consultations) (Table 2.1).

Table 2.1: Most widely accessed specialties for non-hospital specialist consultations as a proportion of total non-hospital specialist consultations, 2021

Rank	Humanitarian entrants	Other permanent migrants	Rest of the Australian population
1.	Cardiology – 9.8%	Obstetrics and gynaecology –14.3%	Ophthalmology – 8.5%
2.	Obstetrics and gynaecology – 9.4%	Psychiatry – 7.4%	Cardiology – 8.4%
3.	Psychiatry – 7.3%	Cardiology – 6.9%	Psychiatry – 8.3%
4.	Ophthalmology – 6.6%	General surgery – 6.4%	General surgery – 6.3%
5.	Gastroenterology and hepatology – 6.3%	Endocrinology – 6.3%	Dermatology – 6.3%

Note: Percentage is the proportion of the total non-hospital specialist consultations for the given specialty.

Source: AIHW analysis of PLIDA, 2021.

Rates of non-hospital specialist consultations by specialty
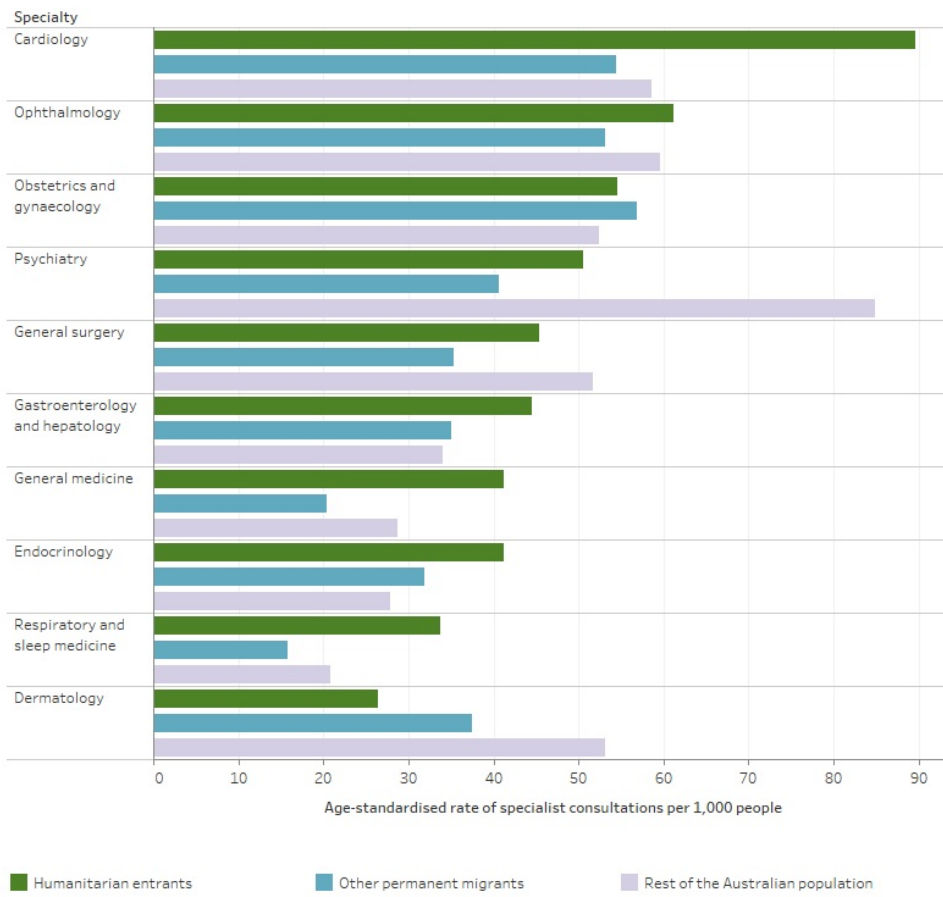
When age standardised rates of non-hospital specialist consultations were compared across the population groups (Figure 2.9):

- Humanitarian entrants had rates of cardiology consultations 1.6 times as high as other permanent migrants and 1.5 times as high as the rest of Australian population.
- Humanitarian entrants had rates of consultations more than 2 times as high as other permanent migrants for respiratory and sleep and general medicine specialties.
- Rates of dermatology consultations were lower among the humanitarian entrant population than other permanent migrants.
- Compared to the rest of the Australian population, rates of endocrinology consultations were 50% higher and rates of gastroenterology and hepatology were 30% higher among humanitarian entrants.

The following data visualisation (Figure 2.9) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 2.9: Age standardised rates of non-hospital specialist consultations by specialty and population group, 2021

In humanitarian entrants the rates of attendances for non-hospital specialist consultations were higher than other permanent migrants or the rest of the Australian population.

Specialty

Age-standardised rate of specialist consultations per 1,000 people

■ Humanitarian entrants   ■ Other permanent migrants   ■ Rest of the Australian population

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Australian Government
Australian Institute of
Health and Welfare

Health service use

This interactive data visualisation (Figure 2.10) presents data on health service use by Broad Type of Service (BTOS), age and sex, for humanitarian entrants, other permanent migrants and the rest of the Australian population.

How to interpret the interactive data visualisation
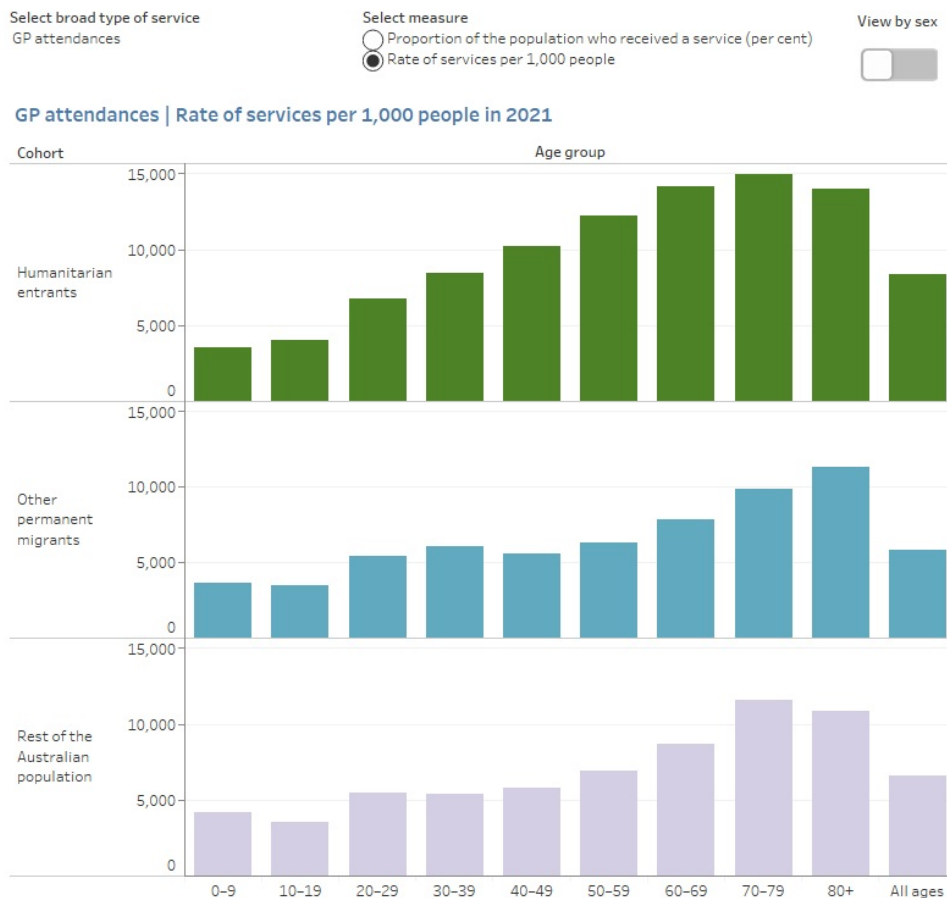
Measures

- **Proportion of the population who received a service:** the percentage of people in an age and sex group within each of the population groups who received at least one service in 2021.
- **Rate of services per 1,000 people:** the number of services provided in 2021 for people in an age and sex group within each of the population groups per 1,000 people in this population.

The following data visualisation (Figure 2.10) presents a bar chart. There are 3 data filtering elements to choose from:

- a drop-down menu to filter by BTOS
- two buttons to filter by a measure, either:
  - Proportion of the population who received a service
  - Rate of services per 1,000 people.
- a toggle switch to view the data by sex.

Figure 2.10: Health service use by age and sex, 2021

The age-standardised rate of general practitioner services was generally higher for humanitarian entrants compared to the rest of the population.

Select broad type of service
GP attendances

Select measure
○ Proportion of the population who received a service (per cent)
● Rate of services per 1,000 people

View by sex

GP attendances | Rate of services per 1,000 people in 2021

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Notes

1. 'Proportion of the population who received a service' is the number of people who used at least one MBS subsidised service in 2021 out of the total population in that age and sex group.
2. 'Rate of services per 1,000 people' is the number of MBS subsidised services used by the population group with the specified age and sex per 1,000 people in this population in 2021.
3. Data were not presented and marked as 'n.p.' (not published) when suppression was applied to manage confidentiality and when the number of events was not sufficient to produce reliable estimates. For more information on how these data were calculated, see the Technical notes.

Visualisation not available for printing

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Medication dispensing

Medication dispensing

There are several factors that can influence medication prescriptions in the humanitarian entrant population, and most of these are shared by other migrant groups. However, there are some factors that impact more on the prescription of medications for humanitarian entrants. One Australian study showed that refugees have more negative perceptions towards illness and that this impacts their attitudes towards medications (Shahin et al. 2020). Attitudes towards medication in humanitarian entrants may be influenced by education, employment and age (Shahin et al. 2020).

The types of medication prescribed to humanitarian entrants may be related to socio-cultural and economic-ecological factors in their country of birth or country of asylum. For example, Syrian refugees living in Jordan were found to have high prevalence of hypertension and type 2 diabetes and disrupted access to care (Rehr et al. 2018). As a result, they may be more likely to have higher rates of prescribed medications for these conditions than the rest of the Australian population.

The Pharmaceutical Benefits Scheme (PBS) is an Australian Government program that subsidises the cost of a wide range of medicines in Australia. The medication dispensing data in this report covers medications which are dispensed on the PBS and does not include medications dispensed to admitted patients in public hospitals, private prescriptions and over-the-counter purchases. It also does not cover the Opiate Dependence Treatment Program prior to 1 July 2023. For further information on what is not captured by the PBS data presented in this report, see the Technical notes.

The data presented are for medications which have been dispensed, it does not provide information on prescriptions that were written but not filled by the person, or medication consumption. There is no measure of need in this analysis, therefore it cannot be assumed that the high or low rates reported are reflective of an over or underservicing of the population, nor can the prevalence of certain conditions be inferred from these data.

This section presents data on the patterns of medications dispensed under the PBS/ Repatriation Schedule of Pharmaceutical Benefits in 2021. Lockdowns and service disruptions may have affected the dispensing of PBS medications throughout this year. For information on the impact of COVID-19 on PBS prescriptions see Medicines in the health system.

Medicines are organised into Anatomical Therapeutic Chemical (ATC) classification groups according to the body system or organ on which they act. Medicines are classified on their main therapeutic use, even though a medication may be used for multiple important therapeutic uses. There are 5 levels of the ATC classification system ranging from ATC1, anatomical main subgroup, to ATC5, chemical substance. For further information on the ATC classification system see the Anatomical Therapeutic Chemical (ATC) Classification.

Data are presented on:

- Medications dispensed by medication group
- Mental health-related prescriptions
- Interactive data visualisation: Medication prescriptions dispensed by age and sex.

For information on methods and data sources used in this section see Data sources and methods and Technical notes.

References

Rehr M, Shoaib M, Ellithy S, Okour S, Ariti C, Ait-Bouziad I, van de Bosch P, Deprade A, Altarawneh M, Shafei A, Gabashneh S and Lenglet A (2018) *Prevalence of non-communicable diseases and access to care among non-camp Syrian refugees in northern Jordan*, *Conflict and Health,* 12 (33), doi:10.1186/s13031-018-0168-7.

Shahin W, Kennedy GA, Cockshaw W, and Stupans I (2020) *The role of refugee and migrant migration status on medication adherence: Mediation through illness perceptions*, *PloS one*, 15(1), e0227326, doi:10.1371/journal.pone.0227326.

Medication dispensing

On this page:

Data in this section are reported for the top 10 ATC3 groups (pharmacological subgroup) dispensed to humanitarian entrants, based on the number of prescriptions dispensed. The description of these drug groupings and rates of dispensing in humanitarian entrants are shown Table 3.1.

Table 3.1: Prescriptions dispensed per 1,000 people for the top 10 ATCs medication groups for humanitarian entrants, 2021

Medication group	Main use of the medication	Rate (Prescriptions dispensed per 1,000 people in 2021)
Lipid modifying agents, plain	Treat cholesterol abnormalities, for example, statins	917
Blood glucose lowering drugs, excl. insulins	Treat type 2 diabetes, for example, metformin	736
Drugs for peptic ulcer and gastro-oesophageal reflux disease (GORD)	Treat stomach ulcers and reflux, for example, Nexium	638
Antidepressants	Treat mental illness	522
Angiotensin II receptor Blockers (ARBS), combinations	Treat high blood pressure and heart failure, combined with other drugs, for example, calcium channel blockers	324
Beta-lactam antibacterials, penicillins	Antibiotics, for example, amoxicillin	319
Angiotensin II receptor blockers (ARBS), plain	Treat high blood pressure and heart failure, for example, candesartan (Atacand)	313
Anti-inflammatory and antirheumatic products – non steroids	Treat pain and inflammation, for example, NSAIDs such as naproxen and celebrex	287
Beta blocking agents	Treat high blood pressure, for example, propranolol	267
Opioids	To treat pain, for example, oxycodone	252

Notes: Rate is PBS subsidised prescriptions dispensed in 2021 per 1,000 humanitarian entrants.

Source: AIHW analysis of PLIDA, 2021.

Medication prescriptions dispensed by population group

When age-standardised rates of prescriptions for the ATC3 groups were compared across population groups in 2021 (Figure 3.1):

- Lipid modifying agents, plain, were dispensed to humanitarian entrants at 1.8 times (1,300 prescriptions per 1,000 people) the rate they were dispensed to other permanent migrants (730 per 1,000 people) and 1.6 times the rest of the Australian population (840 per 1,000 people).
- Antidepressants were much less commonly dispensed to humanitarian entrants (570 prescriptions per 1,000 people) than the rest of the Australian population (1,100 per 1,000 people), and slightly more than other permanent migrants (430 per 1,000 people).
- Rates of dispensing of blood glucose lowering drugs were more than 2.4 times higher for humanitarian entrants (1,000 prescriptions per 1,000 people) than rates in both other permanent migrants (430 per 1,000 people) and the rest of the Australian population (430 per 1,000 people).

- Drug groups that are used for treatment of blood pressure and heart conditions (Angiotensin II receptor Blockers (ARBS), combinations and plain, and Beta blocking agents) were dispensed at a higher rate for humanitarian entrants (480 prescriptions per 1,000 people, 450 per 1,000 people and 420 per 1,000 people respectively) compared with other permanent migrants (240 prescriptions per 1,000 people, 330 per 1,000 people and 170 per 1,000 people respectively) and the rest of the Australian population (280 prescriptions per 1,000 people, 370 per 1,000 people and 240 per 1,000 people respectively).

> The following data visualisation (Figure 3.1) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 3.1: Medications dispensed for humanitarian entrants by ATC3 group, 2021

In humanitarian entrants, the rates of dispensing for lipid modifying agent, blood glucose lowering drugs and drugs for peptic ulcer and GORD were higher than the rest of the population.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
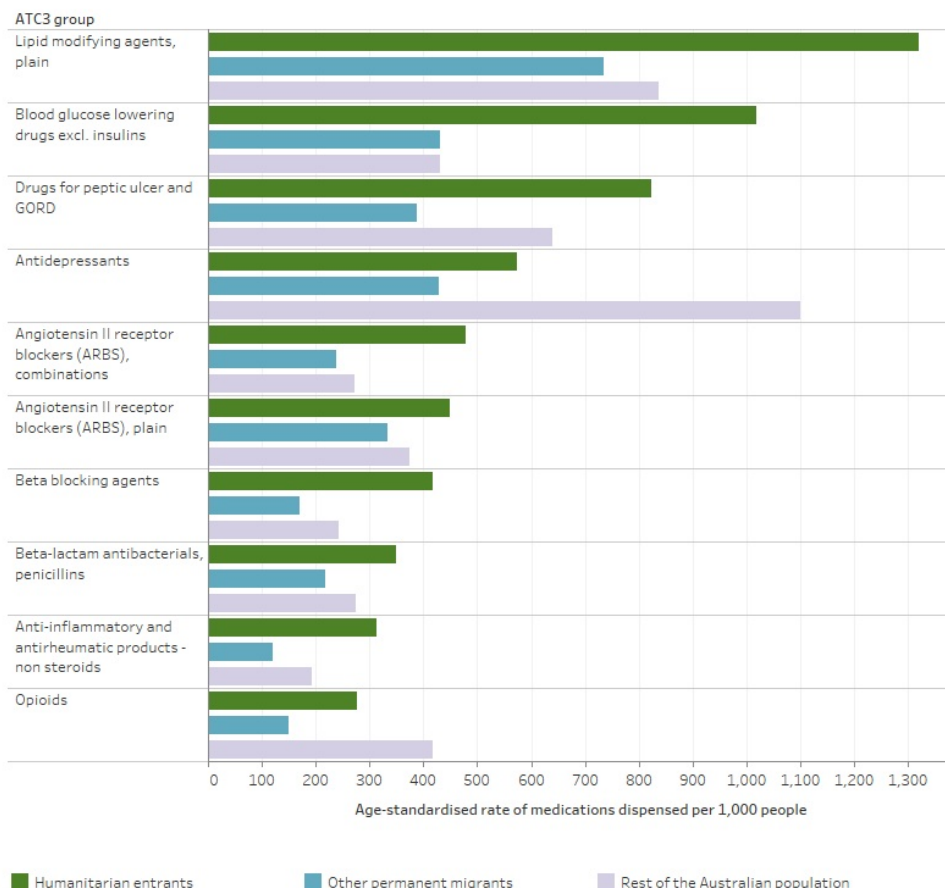
The patterns of prescriptions of these drug groups by age and sex in each population group can be explored in more detail in the interactive data visualisation.

Medication prescriptions dispensed by time since arrival in Australia

Figure 3.2 presents data on the rate of medications dispensed and the proportion of the population who was dispensed a medication for humanitarian entrants who arrived less than 5 years, 5–10 years and more than 10 years ago, for the top 10 ATC medication groups.

For more information about reporting by time since arrival in Australia see Data sources and methods.

> The following data visualisation (Figure 3.2) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side). Data can be filtered by either age-standardised rate of medications dispensed per 1,000 people or proportion of the population who was dispensed a medication.

Figure 3.2: Medications dispensed for humanitarian entrants by ATC3 group and time since arrival in Australia, 2021

In humanitarian entrants the rates of dispensing for lipid modifying agent were lowest in those who arrived more than 10 years ago.
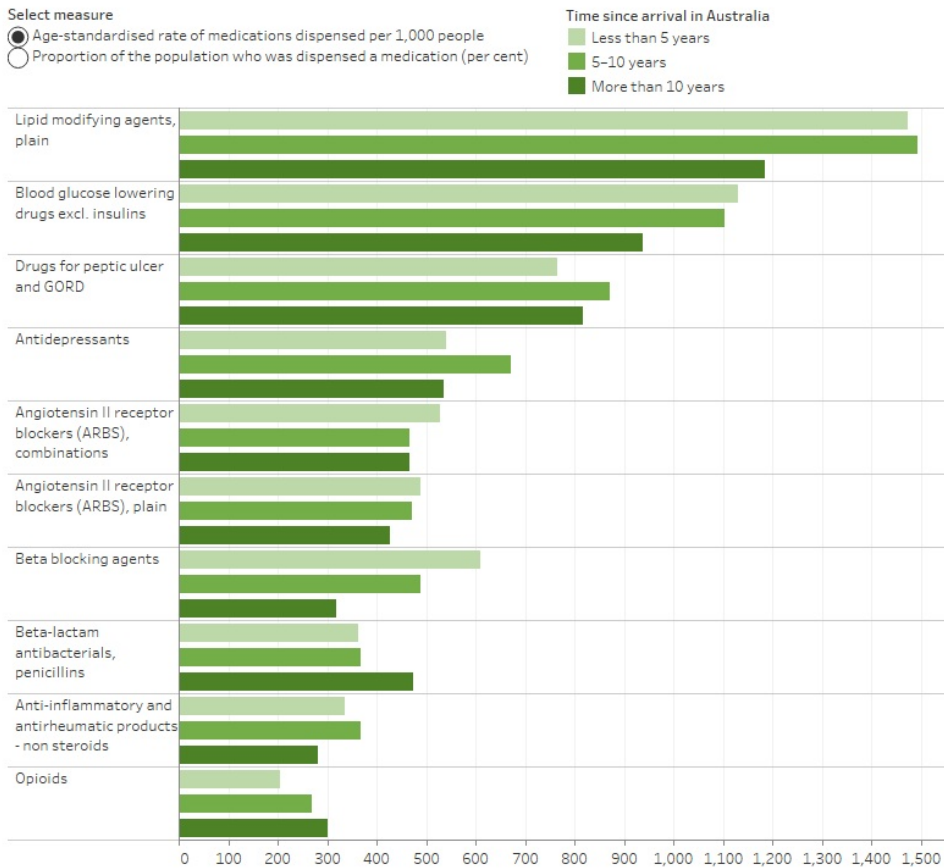
Medication prescriptions dispensed by country of birth

When comparing the age-standardised rates of dispensing by medication groups in 2021 by the countries of birth for migrant groups:

- Rates of dispensing of lipid modifying drugs were lowest for humanitarian entrants born in Sudan (690 prescriptions per 1,000 people), and highest for humanitarian entrants born in Iraq (1,800 per 1,000 people) and Syria (1,800 per 1,000 people).
- Rates for dispensing blood glucose lowering drugs were 2.7 times as high for humanitarian entrants born in Bhutan compared with other permanent migrants born in Bhutan (1,100 prescriptions per 1,000 people and 405 per 1,000 people respectively). Conversely, for humanitarian entrants born in Sudan, dispensing of blood glucose lowering drugs were lower than other permanent migrants born in Sudan (780 prescriptions per 1,000 people and 1,100 per 1,000 people respectively).

Detailed data on the rates of medications dispensed, proportion of the population who were dispensed medications and population sizes by country of birth can be explored in the supplementary table S2.3.

For more information about reporting by country of birth see Data sources and methods.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Medication dispensing

On this page:
Dispensing of mental health-related medications
Antidepressant prescriptions dispensed for humanitarian entrants

Dispensing of mental health-related medications

In 2021, humanitarian entrants were more likely to be dispensed mental health-related medications than other permanent migrants but less likely than the rest of the Australian population for both males and females (Figure 3.3). Rates were 30% higher for females than males for humanitarian entrants (885 prescriptions per 1,000 females and 680 per 1,000 males).

The proportion of females who were dispensed mental health-related prescriptions were higher than males for humanitarian entrants (13% of females and 8.8% of males). A similar pattern was observed for the other permanent migrants (9.6% of females and 6.7% of males) and the rest of the Australian population (21% of females and 14% of males).

Of the total mental health-related medications dispensed for each population group, antidepressants accounted for 71% for humanitarian entrants and 79% for other permanent migrants and 73% for the rest of the Australian population.

> The following data visualisation (Figure 3.3) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side). Date can be filtered by either age-standardised rate of mental health medications dispensed per 1,000 people or proportion of the population with a mental health medication dispensed.

Figure 3.3: Mental health-related medications dispensed by sex and population group, 2021

Mental health-related medication dispensing in humanitarian entrants was lower than the rest of the Australian population but higher than other permanent migrants for males and females.

Select measure
◉ Age-standardised rate of mental health medications dispensed per 1,000 people
○ Proportion of the population with a mental health medication dispensed (per cent)
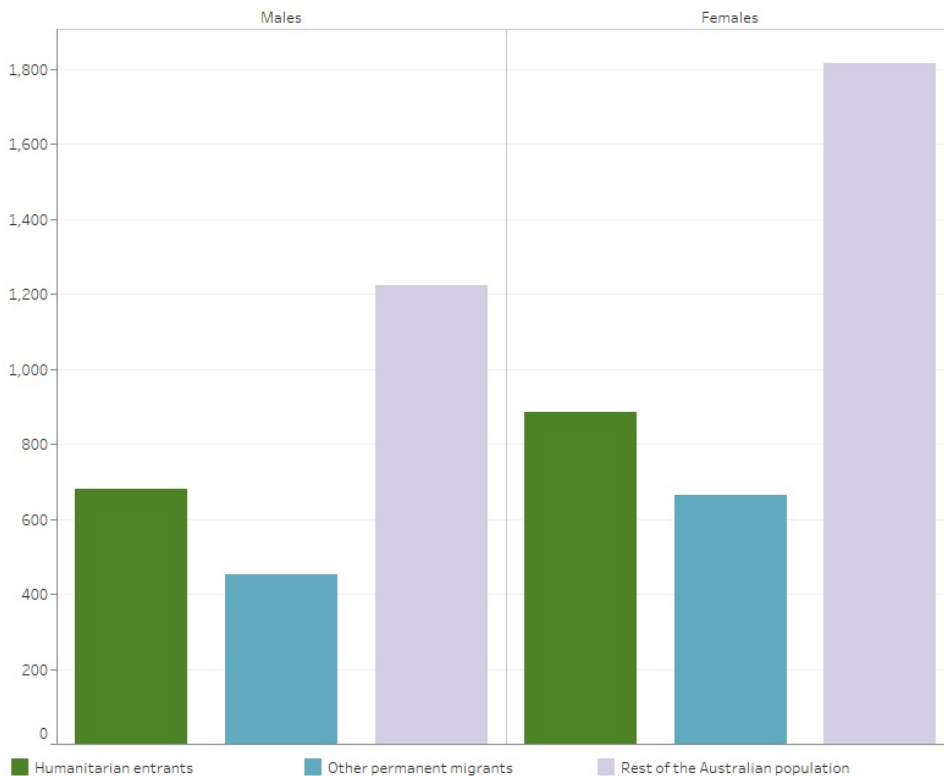
■ Humanitarian entrants　■ Other permanent migrants　■ Rest of the Australian population

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Antidepressant prescriptions dispensed for humanitarian entrants

Rates of antidepressants dispensed were lower among humanitarian entrants compared to the rest of the Australian population and slightly higher than other permanent migrants in 2021 (See Medication prescriptions dispensed by medication group).

Among humanitarian entrants, antidepressant prescriptions were:

- 50% higher for females than males (690 prescriptions per 1,000 people and 450 per 1,000 people respectively)
- dispensed variably across age groups, ranging from more than 1 in 5 (20.3%) people in the 60–69 year age group, compared with less than 1 in 20 (4.8%) in the 20–29 year age group
- dispensed variably across countries of birth, ranging from more than 1 in 7 people born in Bosnia and Herzegovina (18%), Croatia (17%), Kosovo (15%), Bhutan (15%) and Iran (16%) compared with 1 in 50 people from Thailand (2%) and India (2%).

Further data on mental health outcomes in the humanitarian entrant population can be found in:

- General Practitioner mental health treatment plans
- Mental health conditions.

Mental health-related medications (prescribed by all medical practitioners or nurse practitioners) reported in this section comprise the broad groups:

- Psycholeptics
- Antipsychotics
- Anxiolytics
- Hypnotics and sedatives
- Psychoanaleptics
- Antidepressants
- Psychostimulants
- Agents used for Attention-deficit hyperactivity disorder (ADHD)
- Nootropics.

When interpreting these results, it is important to note some medications classified as mental health-related medications may be prescribed for reasons other than the treatment of mental health conditions. For example, some antidepressants, such as amitriptyline (brand name ENTRIP, Endep), are more commonly used for the treatment of chronic pain and migraine prevention. The PBS data does not include medications dispensed to admitted patients in public hospitals. For more information about the PBS data, see Technical note.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Medication dispensing

This interactive data visualisation (Figure 3.4) presents data on medication dispensing for the top 10 ATC3 groups dispensed to humanitarian entrants by age and sex. Comparisons are presented for other permanent migrants and the rest of the Australian population.

How to interpret the interactive data visualisation

Measures

- **Proportion of the population who was dispensed a prescription:** the percentage of people in an age and sex group within each of the population groups who were dispensed at least one medication prescription in 2021.
- **Rate of prescriptions dispensed per 1,000 people:** the number of medication prescriptions dispensed in 2021 for people in an age and sex group within each of the population groups per 1,000 people in this population.

The following data visualisation (Figure 3.4) presents bar charts. There are 3 data filtering elements to choose from:

- a drop-down menu to filter by medication group
- two buttons to filter by a measure, either:
  - proportion of the population who was dispensed a prescription
  - rate of prescriptions dispensed per 1,000 people
- a toggle switch to view the data by sex.

Figure 3.4: Medication prescriptions dispensed by age and sex, 2021

The rates of antidepressant prescription dispensing were higher in females than males for humanitarian entrants, other permanent migrants and the rest of the Australian population.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Notes

1. 'Proportion of the population who was dispensed a prescription' is the number of people who were dispensed at least one PBS prescription for a medication in 2021 out of the total population group for sex and age group.
2. 'Rate of prescriptions dispensed per 1,000 people' is the number of prescriptions for medications that were dispensed on the Pharmaceutical Benefits Scheme (PBS) per 1,000 people in a population between 1 January 2021 and 31 December 2021.
3. Data were not presented and marked as 'n.p.' (not published) when suppression was applied to manage confidentiality.
4. For more information on how these data were calculated, see Technical notes.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Long-term health conditions

Long-term health conditions

The risk of long-term health conditions may be exacerbated for refugees and humanitarian entrants due to limited access to timely medical services for disease prevention, treatment, and care (WHO 2022).

This section explores the rate of common long-term health conditions in humanitarian entrants. The data presented are derived from the Australian Bureau of Statistics (ABS) 2021 Census of Population and Housing question on long-term health conditions. See Box 4.1. The data presented in this section may differ from other published data on long-term health conditions from the Census, as the data in this report excludes people who do not link to the Person-Level Integrated Data Asset (PLIDA) spine (for more information see Technical notes).

The data collected from this question allows us to explore the proportion of the population who reported living with common long-term health conditions in 2021. A limitation of the long-term health condition variables in the 2021 Census is that the data rely on the responses from a single question, unlike the ABS National health surveys that have a detailed set of questions to capture the information on the conditions more accurately.

> **Box 4.1: Long-term health condition data from the 2021 Census**
>
> In the 2021 Census, a question was included for the first time to capture information on the number of Australians with selected long-term health conditions.
>
> Respondents could record multiple long-term health conditions including:
>
> - arthritis
> - asthma
> - cancer (including remission)
> - dementia (including Alzheimer's disease)
> - diabetes (excluding gestational diabetes)
> - heart disease (including heart attack or angina)
> - kidney disease
> - lung condition (including COPD or emphysema)
> - mental health condition (including depression or anxiety)
> - stroke
> - any other long-term health condition(s).
>
> The question asked if the person had been told by a doctor or nurse that they have any of the 10 listed common long-term health conditions.
>
> People were asked to include health conditions that have lasted, or are expected to last, for six months or more and:
>
> - may recure from time to time
> - are controlled by medication
> - are in remission.

Information based on self-reported data only is likely to underestimate the rate of long-term health conditions due to respondents either not knowing or not accurately reporting their health condition. These factors may be specifically relevant in the migrant populations who may have English as a second language and lack of trust in government due to previous experiences (Liddell et al. 2021). Additionally, there may be cultural sensitivities around reporting certain health conditions such as mental health conditions (Paudyal et al. 2021).

For information on methods and data sources used in this section see Data sources and methods and Technical notes.

References

Liddell BJ, Murphy S, Mau V, Bryant R, O'Donnell M, McMahon T, and Nickerson A (2021) *Factors associated with COVID-19 vaccine hesitancy amongst refugees in Australia*, European Journal of Psychotraumatology, 12(1), 1997173. doi:10.1080/20008198.2021.1997173.

Paudyal P, Tattan M and Cooper MJF (2021) *Qualitative study on mental health and well-being of Syrian refugees and their coping mechanisms towards integration in the UK*, British Medical Journal open, 11(8), e046065. doi:10.1136/bmjopen-2020-046065.

World Health Organization (WHO) (2022) *Refugee and migrant health*, accessed 9 August 2023.

Long-term health conditions

On this page:

In 2021, humanitarian entrants were less likely to self-report living with one or more long-term health condition(s) compared with the rest of the Australian population and more likely when compared with other permanent migrants.

Compared with the rest of the Australian population aged 50 and over, humanitarian entrants within the same age group were more likely to self-report living with one or more long-term health condition(s) (Figure 4.1).

The following data visualisation (Figure 4.1) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 4.1: Rate of one or more self-reported long-term health condition(s) by population cohort and age, 2021

For all age groups the rate is highest in those aged over 80 years. The rate is highest in the rest of the Australian population for age groups 0–49 years.
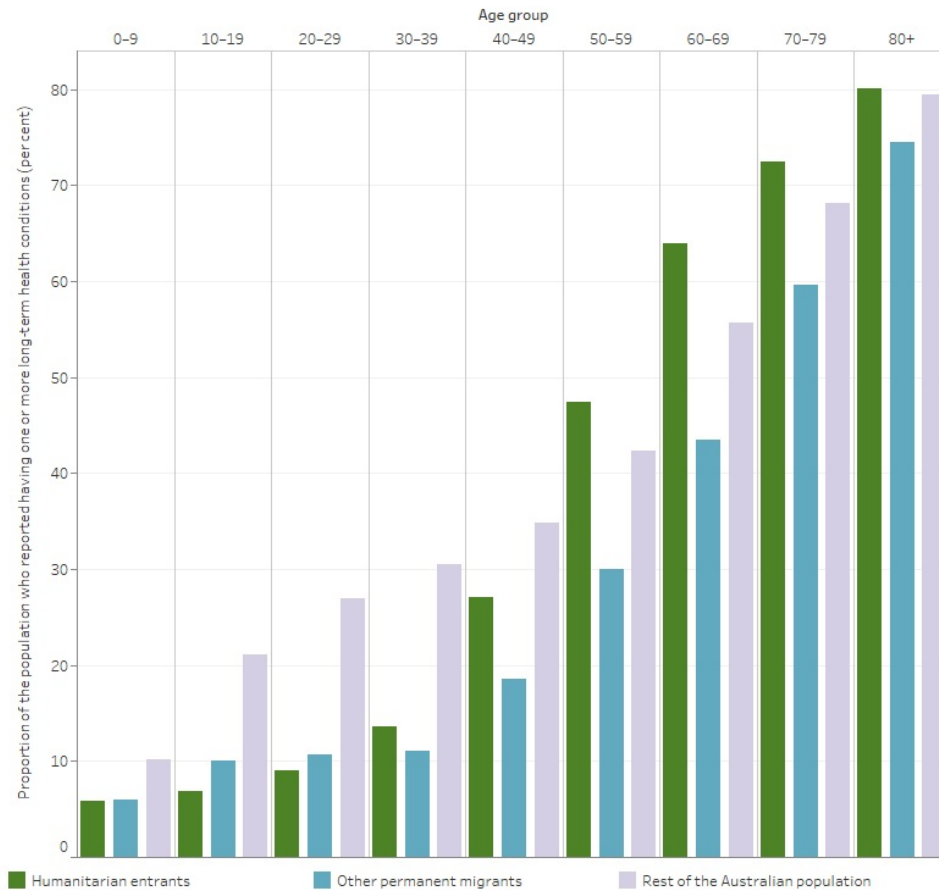
Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Self-reported long-term health conditions in humanitarian entrants

Based on data from the 2021 Census, humanitarian entrants self-reported a range of long-term health conditions including diabetes, mental health conditions, arthritis and asthma (Figure 4.2).

The following data visualisation (Figure 4.2) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 4.2: Rate of self-reported long-term health conditions in humanitarian entrants, 2021

Diabetes was the condition with the highest rate in humanitarian entrants.
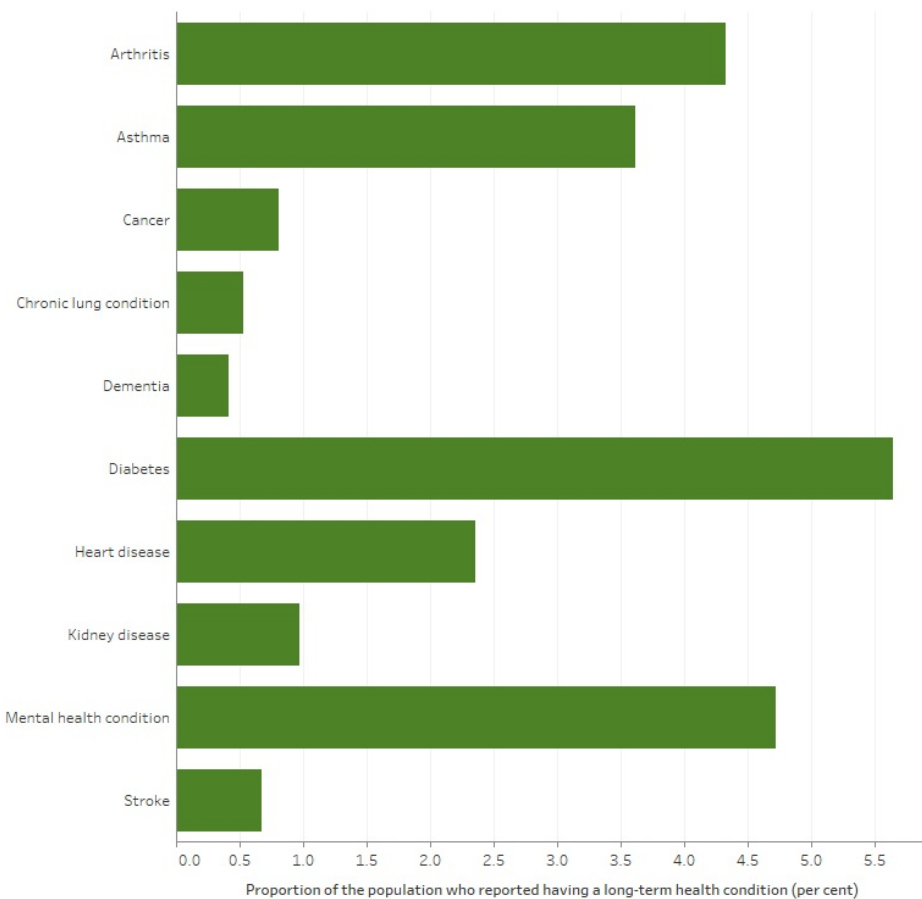
For most of the self-reported long-term health conditions, the rate was higher in humanitarian entrants than other permanent migrants and lower than the rest of the Australian population (Table 4.1).

When the age-standardised rate of self-reported long-term health conditions was compared across the population groups:

- humanitarian entrants had a higher rate of diabetes, kidney disease, stroke, heart disease and dementia compared with the rest of the Australian population
- humanitarian entrants had a lower rate of arthritis, asthma, cancer, chronic lung conditions and mental health conditions compared with the rest of the Australian population
- humanitarian entrants and other permanent migrants had a higher rate of kidney disease compared with the rest of the Australian population.

Table 4.1: Comparison of the age-standardised rate of self-reported long-term health conditions in humanitarian entrants compared with comparison cohorts, 2021

Condition	Comparison to other permanent migrants	Comparison to the rest of the Australian population
Diabetes	70% higher	80% higher
Kidney disease	130% higher	80% higher
Stroke	80% higher	40% higher
Dementia	60% higher	30% higher
Heart disease	40% higher	10% higher
Arthritis	50% higher	20% lower
Chronic lung conditions	30% higher	50% lower
Mental health conditions	50% higher	50% lower
Asthma	Equal rate	60% lower
Cancer	40% lower	60% lower

Self-reported long-term health conditions in humanitarian entrants by time since arrival in Australia

Based on the Census 2021 data, humanitarian entrants who arrived less than 5 years ago, 5–10 years and more than 10 years ago self-reported a range of long-term health conditions (Figure 4.3)

For more information about reporting by time since arrival in Australia see Data sources and methods.

The following data visualisation (Figure 4.3) provides a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 4.3: Age-standardised rate of self-reported long-term health conditions for the humanitarian entrant population by time since arrival in Australia, 2021

Humanitarian entrants who arrived less than 5 years ago were less likely to self-report mental health conditions.
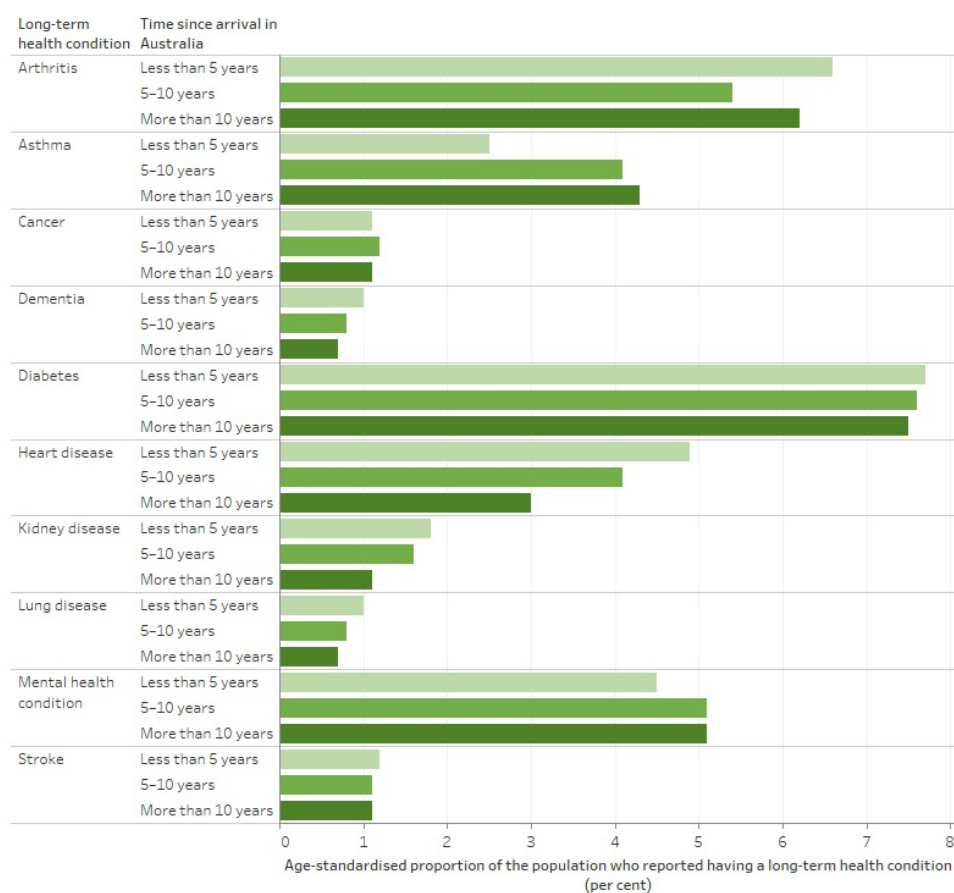
Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Self-reported long-term health conditions in humanitarian entrants by country of birth

The rate of humanitarian entrants who reported living with one or more long-term health condition(s) differs by country of birth. In 2021:

- 41% of humanitarian entrants born in Bhutan were living with one or more long-term health condition(s)
- over 3 in 10 humanitarian entrants born in Bosnia and Herzegovina, Croatia and Kuwait were living with one or more long-term health condition(s) (38%, 34%, 32% respectively).

For some countries of birth, some permanent migrant populations had a higher self-reported rate of one or more long-term health condition(s) than humanitarian entrants. For example:

- Permanent migrants born in Malawi had a higher rate of living with at least one long-term health condition(s) compared with humanitarian entrants born in Malawi (24% compared with 3.7%).
- Permanent migrants born in Malaysia, Zambia and Tanzania had a higher rate of living with least one long-term health condition(s) compared with humanitarian entrants born in these countries (5.3% compared with 17%, 6.0% compared with 24% and 6.7% compared with 20%, respectively).

Data on the self-reported rate of specific long-term health conditions by country of birth, including comparisons to other permanent migrants, can be explored using the Interactive data visualisation: Self-reported long-term health conditions by country of birth (Figure 4.7). Additional details including population sizes and numbers reporting each long-term health condition can be found in the supplementary data table S3.3.

For more information about reporting by country of birth see Data sources and methods.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Long-term health conditions

Diabetes is a chronic condition marked by high levels of glucose in the blood. The main types of diabetes are type 1 diabetes, type 2 diabetes, gestational diabetes, and other diabetes (see Box 4.2). The data from the Census question excludes gestational diabetes and does not collect data on the type of diabetes.

Data from the National Health Survey 2020–21 showed that the most common type of diabetes is type 2 (85.5%), followed by type 1 (11.0%) and type not known by person reporting (4.1%) (AIHW 2023). It is likely that the data presented in this section from the Census is predominantly people living with type 2 diabetes.

Box 4.2: Types of diabetes

Type 1 diabetes

Type 1 diabetes is a lifelong autoimmune disease that can be diagnosed at any age. The exact cause is unknown, but it is believed to be the result of an interaction of genetic and environmental factors. A person with type 1 diabetes needs insulin replacement to survive and, except in cases where a pancreatic or islet cell transplant occurs, insulin will be required every day for the rest of their life. People with type 1 diabetes must also maintain a careful balance of diet, exercise, glucose management and insulin intake.

Type 2 diabetes

Type 2 diabetes is a condition in which the body becomes resistant to the normal effects of insulin and gradually loses the capacity to produce enough insulin in the pancreas. The condition has strong genetic and family-related (non-modifiable) risk factors and is also often associated with modifiable risk factors. The exact genetic causes of type 2 diabetes are unknown. People may be able to significantly slow or even halt the progression of the condition through changes to diet and increasing the amount of physical activity (Diabetes Australia 2022).

For more information on diabetes in Australia, including information on risk factors and treatment, see Diabetes: Australian Facts.

References

AIHW (Australian Institute of Health and Welfare) (2023) *Diabetes: Australian facts*, AIHW website, accessed 26 June 2023.

Diabetes Australia (2022) *Type 2 diabetes*, Diabetes Australia website, accessed 16 August 2023.

Long-term health conditions

On this page:

- Self-reported diabetes by age and sex
- Self-reported diabetes by country of birth

Self-reported diabetes by age and sex

Humanitarian entrants had a higher self-reported rate of diabetes compared with the other permanent migrants and the rest of the Australian population.

In 2021, the age-standardised rate of self-reported diabetes was:

- 38% higher in male humanitarian entrants (7.3%) than male permanent migrants (5.3%) and 52% higher than males from the rest of the Australian population (4.8%)
- around twice as high in female humanitarian entrants (7.8%) as female permanent migrants (3.9%) and females from the rest of the Australian population (3.7%).

Diabetes is more commonly reported among males than females in the rest of the Australian population and other permanent migrant population. This is consistent with other reporting by the Australian Institute of Health and Welfare (AIHW) (see Diabetes: Australian facts). In the humanitarian entrant population after adjusting for age, self-reported diabetes is slightly more commonly reported in females than males (Figure 4.4).

For both male and female humanitarian entrants, the diabetes was more commonly reported in the 70–79-year age group (28% and 30%, respectively). Humanitarian entrants had a higher rate of self-reported diabetes than other permanent migrants and the rest of the Australian population in the age groups above 40. (Figure 4.4)

The rate of self-reported diabetes in female humanitarian entrants aged 40–49 was 2.2 times the rate of females from the rest of the Australian population.

> The following data visualisation (Figure 4.4) presents a bar chart and data table, which can be accessed by using the tabs (top left-hand side). The data can be filtered by males or females using either radio button.

Figure 4.4: Rate of self-reported diabetes by age, sex and population group, 2021

Humanitarian entrants had a higher rate of self-reported diabetes than other permanent migrants and the rest of the Australian population in the age groups above 40 for both males and females.

Sex / Age group
Males

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
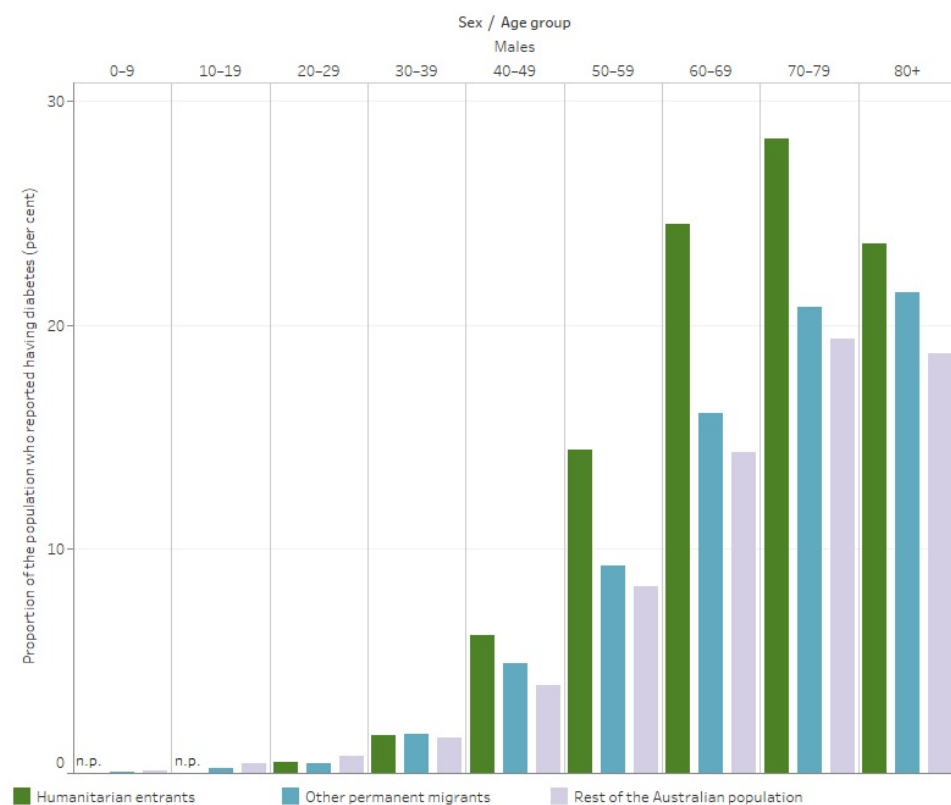
High rates of self-reported diabetes in humanitarian entrants could relate to known differences in diabetes prevalence by socioeconomic area or ethnicity, or due to the potentially high prevalence of risk factors in this population such as high blood pressure, inadequate fruit and vegetable intake and kidney disease (Abouzeid et al. 2013; AIHW 2023). Further data are needed to identify drivers of diabetes rates in this population.

Self-reported diabetes by country of birth

For most countries of birth, diabetes was more commonly reported by humanitarian entrants than other permanent migrants born in the same country. However, permanent migrants born in Myanmar, Egypt, Lebanon, Pakistan, India, Kenya and Thailand had a higher rate of self-reported diabetes than humanitarian entrants born in the same countries.

More than 1 in 8 (13.5%) humanitarian entrants born in Bhutan self-reported to be living with diabetes in 2021– around 22.5 times as high as other permanent migrants born in Bhutan (0.6%). The difference in self-reported diabetes rates among the population groups may be due to the ethnic differences between these groups or the different experiences prior to or after arrival in Australia (see Box 4.3).

Additional details including number of people reporting diabetes and population sizes by country of birth is available in the supplementary data table S3.3. For more information about reporting by country of birth see Data sources and methods.

Table 4.3: Rate of self-reported diabetes[1] in humanitarian entrants compared with other permanent migrants by the top 10 countries of birth, 2021

Country of Birth	Rate of self-reported diabetes in humanitarian entrants	Rate of self-reported diabetes in other permanent migrants
Bhutan	13.5%	0.6%
Sri Lanka	11.0%	7.4%
Kosovo	9.2%	n.p.[2]
Timor-Leste	8.4%	3.4%
Croatia	7.9%	2.6%
Kuwait	7.9%	3.7%
Burundi	7.5%	3.4%

Eritrea	7.4%	6.9%
Iraq	7.1%	6.6%
Vietnam	7.1%	2.6%

Notes:

1. Rate of self-reported diabetes is the number of humanitarian entrants reporting having diabetes in the Census 2021 divided by the total number of humanitarian entrants who responded to the long-term health condition question. The rate has not been adjusted for age.

2. Data were not presented and marked as 'n.p.' (not published) when suppression was applied to manage confidentiality and when the number of events was not sufficient to produce reliable estimates. For more information on how these data were calculated, see the Technical notes.

Source: AIHW analysis of PLIDA, 2021.

Box 4.3: Diabetes in Bhutanese refugees

Humanitarian entrants from Bhutan are primarily ethnic Nepalese who were forced to leave Bhutan in the 1990s due to ethnic unrest and violence. These migrants lived in UN-supported refugee camps in south-eastern Nepal.

Australia has resettled over 5,000 Bhutanese refugees from Nepal since 2007 under its Humanitarian Program as part of a coordinated international strategy to resolve the long-standing situation (Home Affairs 2018; Shrestha 2015).

The high rate of self-reported diabetes in this population may be due to a combination of genetic predisposition in this ethnic group and environmental factors from experiences living in refugee camps. People of South Asian descent are known to be at higher risk for diabetes than other ethnic groups and studies have shown that this group has more insulin resistance at younger ages and lower body mass index (Gujral et al. 2013).

In camps, refugees may have limited access to preventative healthcare, inadequate fruit and vegetable intake and inadequate physical activity. These are modifiable risk factors linked to developing type 2 diabetes and gestational diabetes (AIHW 2023).

References

Abouzeid M, Philpot B, Janus ED, Coates MJ, Dunbar JA (2013) *Type 2 diabetes prevalence varies by socio-economic status within and between migrant groups: analysis and implications for Australia*, BMC Public Health, 13(252), doi:10.1186/1471-2458-13-252.

AIHW (Australian Institute of Health and Welfare) (2023) *Diabetes: Australian facts*, AIHW website, accessed 26 June 2023.

Gujral UP, Pradeepa R, Weber MB, Narayan KMV, Mohan V (2013) *Type 2 diabetes in South Asians: similarities and differences with white Caucasian and other populations*, Annals of the New York Academy of Sciences, 1281(1):51–63, doi: 10.1111/j.1749-6632.2012.06838.x.

Home Affairs (Department of Home Affairs) (2018) *Bhutan-born community information summary*, Home Affairs website, accessed 24 May 2023.

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Shrestha DD (2015) *Resettlement of Bhutanese refugees surpasses 100,000 mark*, United Nations High Commissioner for Refugees website, accessed 24 May 2023.

Long-term health conditions

The data presented in the Mental Health conditions section does not reflect the actual prevalence of mental health conditions in this population group but provide valuable information on humanitarian entrants who are able to access health care to get a mental health diagnosis.

There are limitations that should be considered in assessing the rate of self-reported mental health conditions amongst humanitarian entrants from the Census data, these include:

- cultural sensitivities in self-reporting mental health conditions
- accessing refugee specific mental health services which do not require a diagnosis to receive services and are free (trauma informed care such as PASTT)
- seeking help on mental health issues from non-medical sources such as religious or community groups
- the Census question specified that the respondent had to be told by a doctor or nurse that they have a mental health condition
- poor mental health literacy
- low health seeking behaviours (Tomasi et al. 2022).

For these reasons the rate of mental health conditions in humanitarian entrants is highly likely to be underestimated by the Census data. Due to this, this section does not make comparisons with other permanent migrants or the rest of the Australian population and focusses on the rate of self-reported mental health conditions among the humanitarian entrant population to identify groups who report high rates of mental health conditions.

References

Tomasi A, Slewa-Younan S, Narchal R and Rioseco P (2022) *Understanding the mental health and help-seeking behaviours of refugees*, Australian Institute of Family Studies website, accessed 24 May 2023.

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Long-term health conditions

On this page:

Self-reported diagnosed mental health conditions in humanitarian entrants by age and sex
Self-reported diagnosed mental health conditions in humanitarian entrants by time since arrival in Australia

Self-reported diagnosed mental health conditions in humanitarian entrants by age and sex

For humanitarian entrants, females reported a higher rate of mental health conditions compared with males in all age groups except 0–9 years. When comparing across age groups, there is a similar pattern for males and females, with the rate of self-reported mental health conditions lower in younger age groups and peaking in the 60–69 age group (10.8% for males and 13.5% for females) (Figure 4.5).

> The following data visualisation (Figure 4.5) presents a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 4.5: Rate of self-reported mental health conditions in humanitarian entrants by age and sex, 2021

There was a higher rate of mental health condition in females than males and in those aged 50–69 years.
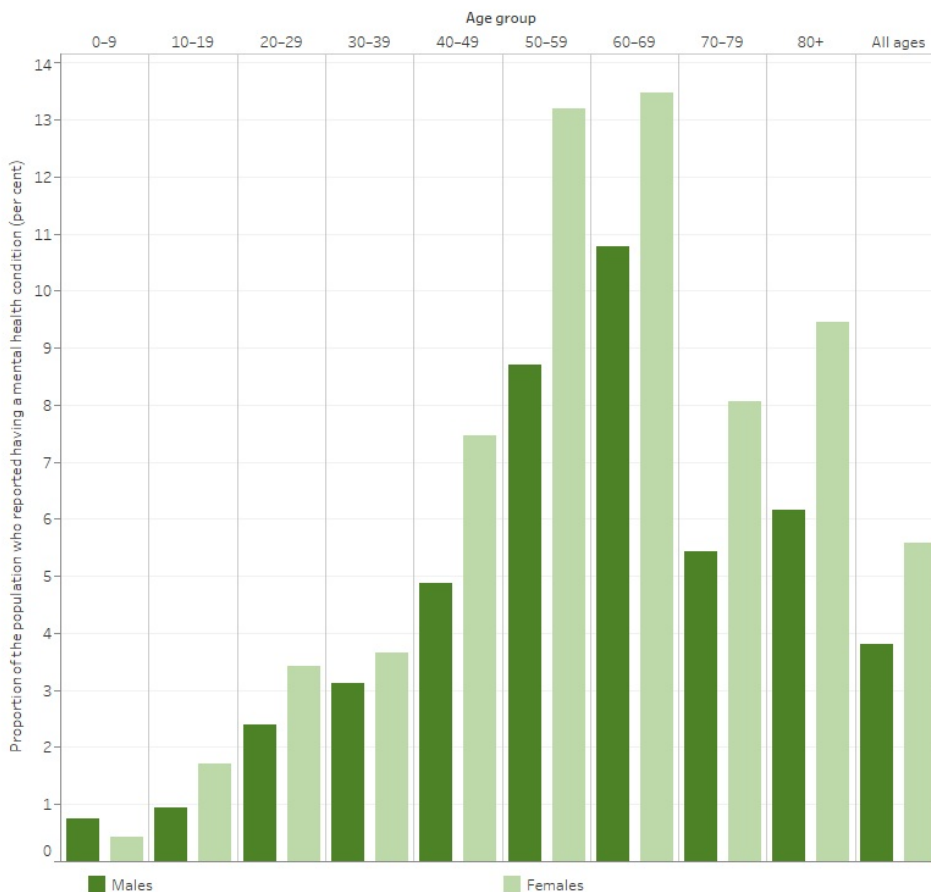
Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Self-reported diagnosed mental health conditions in humanitarian entrants by time since arrival in Australia

In 2021, the rate of self-reported mental health conditions in humanitarian entrants was higher in those who arrived more than 10 years ago (5.5%) than those who arrived 5–10 years ago (4.5%) and those who arrived within the last 5 years (3.5%). This difference might be related to the age of humanitarian cohorts, as the age-standardised rate for those who arrived more than 5 years ago were more similar (5.1%), while there was still a lower rate in more recent arrivals (4.5%). (Figure 4.6).

For more information about reporting by time since arrival in Australia see Data sources and methods.

> The following data visualisation (Figure 4.6) presents a bar chart and data table, which can be accessed by using the tabs (top left-hand side). Data can be filtered by either radio button:
>
> - Age-standardised proportion of self-reported mental health conditions
> - Proportion of self-reported mental health conditions.

Figure 4.6: Rate of self-reported mental health conditions in humanitarian entrants by time since arrival in Australia, 2021

There was a higher rate of mental health conditions in humanitarian entrants who arrived more than 10 years ago.

Select measure
- ● Age-standardised proportion of self-reported mental health conditions (per cent)
- ○ Proportion of self-reported mental health conditions (per cent)
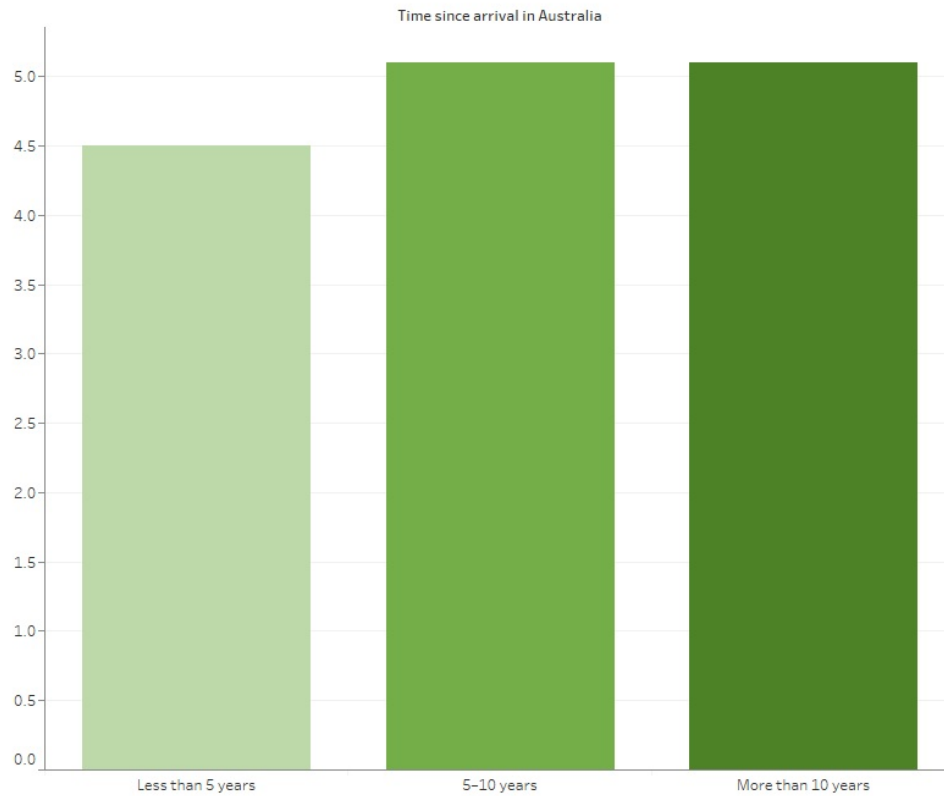
Time since arrival in Australia

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Further data on mental health outcomes in the humanitarian entrant population can be found in GP mental health treatment plans and Mental health prescriptions.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Long-term health conditions

This interactive data visualisation (Figure 4.7) presents data on self-reported long-term health conditions in humanitarian entrants and other permanent migrants by country of birth.

Reporting by country of birth reflects the recorded country the person was born in. This does not necessarily reflect a person's ethnicity, nationality, or religious group. This is particularly relevant for humanitarian entrants who may be born in refugee camps in countries of asylum.

The permanent migrant comparison group may differ by country of birth, for example, a higher proportion of other permanent migrants from Afghanistan who arrive on family visas may have a more refugee-like background than other permanent migrants from Bhutan who are more likely to arrive on skilled visas.

How to interpret the interactive data visualisation

Measures

- **Age-standardised proportion:** the percentage of humanitarian entrants or other permanent migrants from a selected country of birth who self-reported a long-term health condition, adjusted for the age structure of the population.
- **Proportion:** the percentage of humanitarian entrants or other permanent migrants from a selected country of birth who self-reported a long-term health condition.

The following data visualisation (Figure 4.7) presents a bar chart. The data can be filtered by the following:

- long-term health condition (drop-down menu)
- country of birth (drop-down menu)
- measure (x2 radio buttons)
  - age-standardised proportion
  - proportion.

Use the vertical scroll bar to view more of the bar chart.

Figure 4.7: Self-reported long-term health conditions by country of birth, 2021

Humanitarian entrants from Iraq and Syria had the highest reported age-standardised rate of diabetes.

Select long-term health condition
Diabetes

Select country of birth
All

Select measure
◉ Age-standardised proportion (per cent)
○ Proportion (per cent)

Self-reported diabetes | Age-standardised proportion (per cent) in 2021

Country of birth	Cohort	Value
Iraq	Humanitarian entrants	7.9
	Other permanent migrants	7.8
Syria	Humanitarian entrants	7.6
	Other permanent migrants	6.5
Myanmar	Humanitarian entrants	7.0
	Other permanent migrants	7.4
Iran	Humanitarian entrants	6.5
	Other permanent migrants	4.2
Vietnam	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
Turkey	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
Timor-Leste	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
Thailand	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
Sudan	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
Sri Lanka	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
South Sudan	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
South Eastern Europe nfd.	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
Somalia	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
Sierra Leone	Humanitarian entrants	n.p.
	Other permanent migrants	n.p.
Serbia	Humanitarian entrants	n.p.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

Notes

1. 'Proportion' is the percentage of humanitarian entrants or other permanent migrants from a selected country of birth who self-reported a long-term health condition in the 2021 Census.
2. 'Age-standardised proportion' is the hypothetical percentage of people with a long-term health condition that would have been observed if population groups had the same age structure. The population standard used was the 2001 Australian Standard Population.
3. Data were not presented and marked as 'n.p.' (not published) when suppression was applied to manage confidentiality and when the number of events or the size of a population were not sufficient to produce reliable estimates.
4. For more information on how these data were calculated, see the Technical notes.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Mortality

Mortality

Humanitarian entrants face unique challenges in their new country of settlement that put them at a higher risk for some causes of death compared to the general population. A systematic review and meta-analysis found that international migrants had increased mortality due to infectious diseases and external causes compared with the general population in their new country of settlement (Aldridge et al. 2018). Viral hepatitis, tuberculosis and human immunodeficiency virus (HIV) were the infectious diseases with increased mortality among migrants, and assaults and deaths of undetermined intent were the external causes with increased mortality among migrants (Aldridge et al. 2018).

There are also reports of concerning rates of suicidality among humanitarian entrants in Australia (Procter et al. 2022). This may be explained by an increased risk of mental distress, despair, hopelessness and suicidal ideation and behaviour due to traumatic events prior to resettlement in Australia and further challenges after resettlement (Procter et al. 2022).

This section includes deaths data from 2007 to 2020. All cause of death data presented are based on underlying cause of death, that is the disease or injury that began the train of events leading to the death, as recorded on the death certificate. The underlying causes of death data presented here are classified using an AIHW-modified version of Becker et al. (2006). For more information on classifying causes of death see Deaths in Australia – Leading causes of death.

Data are presented in this report on:

- Leading causes of death
- Causes of death in humanitarian entrants
- Potentially avoidable deaths
- Interactive data visualisation: Causes of death by sex

For information on methods and data sources used in this section see Data sources and methods and Technical notes.

References

Aldridge RW, Nellums LB, Bartlett S, Barr AL, Patel P, Burns R, Hargreaves S, Miranda JJ, Tollman S, Friedland JS, and Abubakar I (2018) *Global patterns of mortality in international migrants: a systematic review and meta-analysis*, Lancet, 392(10164):2553–2566, doi:10.1016/S0140-6736(18)32781-8.

Becker R, Silvi J, Ma Fat D, L'Hours A and Laurenti R (2006) *A method for deriving leading causes of death*, *Bulletin of the World Health Organization*, 84:297–304, doi:10.2471/blt.05.028670.

Procter N, Posselt M, Ferguson M, McIntyre H, Kenny MA, Curtis R, Loughhead M, Clement N and Mau V (2022) *An Evaluation of Suicide Prevention Education for People Working With Refugees and Asylum Seekers*, *Crisis*, 43(3):205–213, doi:10.1027/0227-5910/a000777.

Content warning

Caution: This content contains information some readers may find distressing as it refers to information about suicide.

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The Australian Institute of Health and Welfare (AIHW) supports the use of the Mindframe guidelines on responsible, accurate and safe reporting of suicide and self-harm. Consider these guidelines when reporting suicide and self-harm.

Mortality

On this page:

- Introduction
- Leading causes of death for humanitarian entrants
- Leading causes of death by life stages

After standardising for age, the all-cause mortality rate in the period 2007–2020 for humanitarian entrants was 310 deaths per 100,000 person years. This was higher than other permanent migrants (190 deaths per 100,000 person years) and lower than the rest of the Australian population (550 deaths per 100,000).

Due to differences in the age profile of the populations, the median age at death varied between groups. For more information about age profiles of the population groups, see Background - cohort demographics.
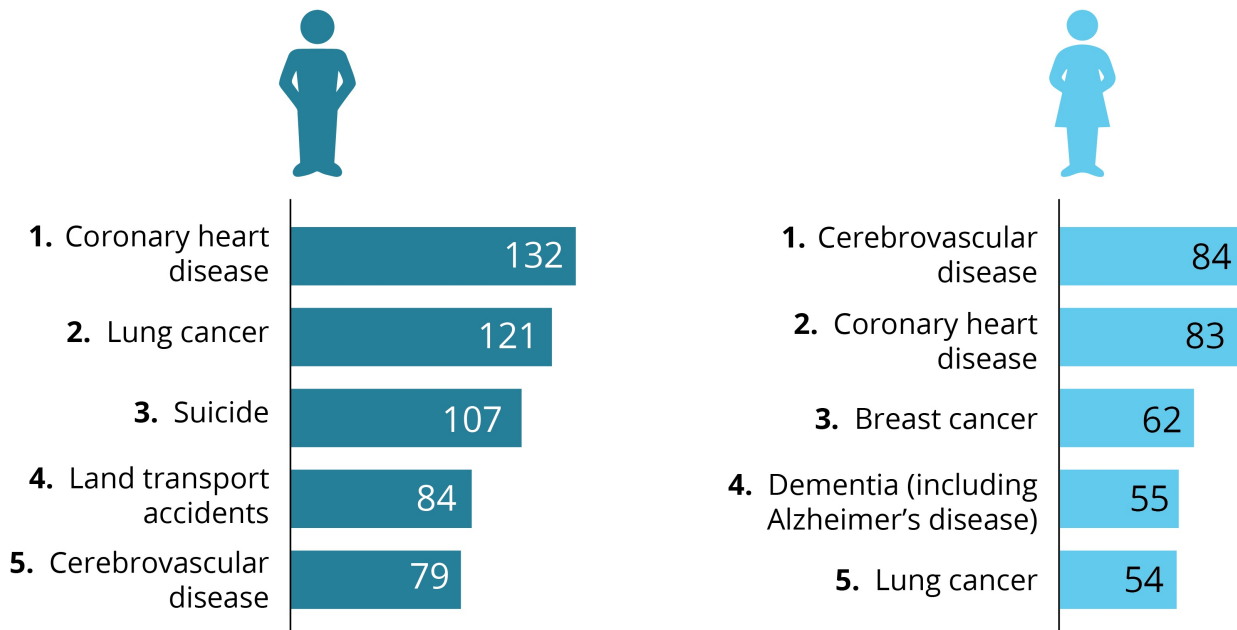
Among humanitarian entrants, the median age at death for males was 60 years and for females was 70.5 years. In comparison, for other permanent migrants, the median age at death was 64 years for males and 69 years for females, and for the rest of the Australian population it was 78 years for males and 84 years for females. Causes of death vary by age, with some causes more common in older age groups. Due to this, and the age differences between the cohorts, comparisons of leading causes of death were made within age categories.

Leading causes of death for humanitarian entrants

Figure 5.1 shows the number of male and female deaths contributing to the top 5 causes in 2007–2020. Coronary heart disease, cerebrovascular disease and lung cancer were among the top 5 causes for both males and females. Females accounted for more deaths due to cerebrovascular disease, whereas males accounted for more deaths due to coronary heart disease and lung cancer. Among males, suicide was the 3rd leading cause of death and land transport accidents was the 4th leading cause.

Figure 5.1: Leading causes of death for humanitarian entrants by sex, 2007-2020 (number of deaths)

Male		Female	
1. Coronary heart disease	132	1. Cerebrovascular disease	84
2. Lung cancer	121	2. Coronary heart disease	83
3. Suicide	107	3. Breast cancer	62
4. Land transport accidents	84	4. Dementia (including Alzheimer's disease)	55
5. Cerebrovascular disease	79	5. Lung cancer	54

Source: AIHW analysis of PLIDA, 2007–2020.

Leading causes of death by life stages

Only the top 3 ranked causes of death are presented in children aged 1–14 due to small numbers of deaths in humanitarian entrants in the less than 1 and 1–14 age groups. Babies born in Australia will be included in the rest of the Australian population and not in the comparison migrant groups. Therefore, the causes of death in the migrant groups will more likely reflect older children and not infants and should not be compared to the Australian population in this age group.

Accidental drowning is the leading cause of death in humanitarian entrant children (28% of deaths) (Figure 5.2).

Figure 5.2: Leading causes of death for children aged 1-14, 2007-2020 (proportion of total deaths)

Rank	Humanitarian entrants	Other permanent migrants
1	Accidental drowning and submersion (27.8%)	Brain cancer (14.2%)
2	Land transport accidents (n.p.)	Land transport accidents (10.1%)
3	Leukaemia (n.p.)	Leukaemia (8.1%)

Cause of death grouping
- Cancers
- External causes of morbidity and mortality
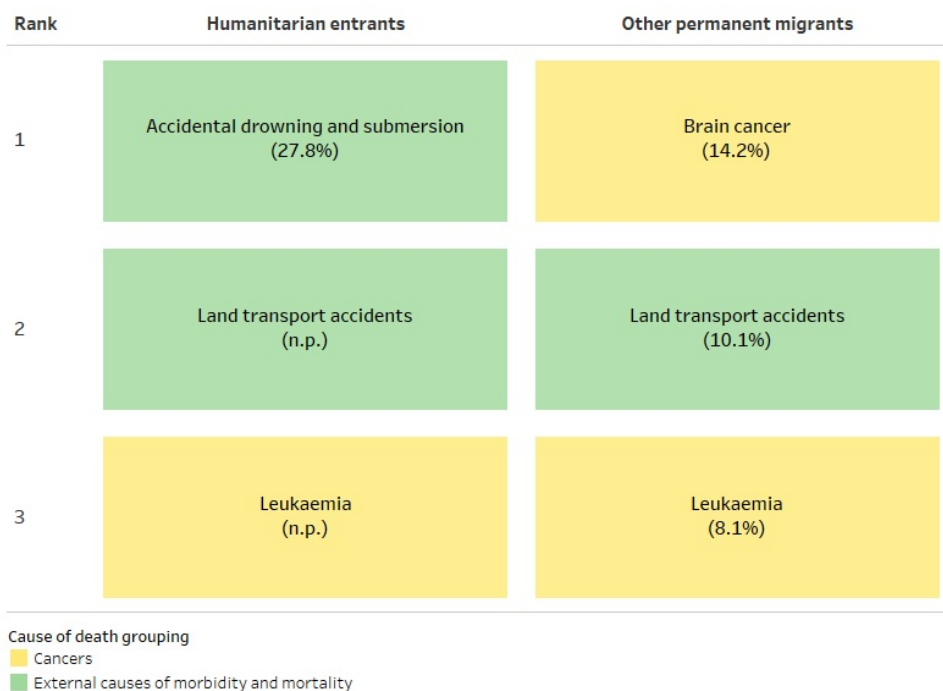
Source: AIHW analysis of PLIDA, 2007–2020.

In young people aged 15–24, suicide was the leading cause of death, followed by land transport accidents for humanitarian entrants, other permanent migrants and the rest of the Australian population. Accidentally drowning ranked higher for humanitarian entrants (3rd) with 11% of deaths, compared with 3.1% in other permanent migrants (5th) (Figure 5.3) and 1.5% among the rest of the Australian population (10th).

Figure 5.3: Leading causes of death for young people aged 15–24, 2007–2020 (proportion of total deaths)

Rank	Humanitarian entrants	Other permanent migrants	Rest of the Australian population
1	Suicide (25.3%)	Suicide (33.0%)	Suicide (30.9%)
2	Land transport accidents (14.0%)	Land transport accidents (18.4%)	Land transport accidents (24.2%)
3	Accidental drowning and submersion (11.3%)	Accidental poisoning (6.0%)	Accidental poisoning (5.7%)
4	Assault (10.2%)	Other ill-defined causes (3.3%)	Assault (2.6%)
5	Accidental poisoning (6.5%)	Accidental drowning and submersion (3.1%)	Perinatal and congenital conditions (2.1%)

Cause of death grouping
- External causes of morbidity and mortality
- Certain conditions originating in the perinatal period and congenital malformations, deformations and chromosomal abnormalities
- Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified

Source: AIHW analysis of PLIDA, 2007–2020.

Suicide was also the leading cause of death in adults aged 25-60 for all population groups. Among humanitarian entrants, land transport accidents were the 2nd leading cause of death with 7.2% of deaths, compared with 4.6% of deaths for other permanent migrants (6th) and 3.5% of deaths for the rest of the Australian population (8th). Coronary heart disease and lung cancer were among the top 5 causes for humanitarian entrants, other permanent migrants and the rest of the Australian population. Among humanitarian entrants, liver cancer was the 4th leading cause of death (5.7%) (Figure 5.4).

Figure 5.4: Leading causes of death for adults aged 25-60, 2007-2020 (proportion of total deaths)

Rank	Humanitarian entrants	Other permanent migrants	Rest of the Australian population
1	Suicide (8.6%)	Suicide (12.4%)	Suicide (9.4%)
2	Land transport accidents (7.2%)	Coronary heart disease (7.5%)	Coronary heart disease (9.4%)
3	Lung cancer (6.5%)	Breast cancer (7.5%)	Lung cancer (6.4%)
4	Liver cancer (5.7%)	Lung cancer (6.0%)	Accidental poisoning (5.2%)
5	Coronary heart disease (5.1%)	Colorectal cancer (5.3%)	Breast cancer (4.5%)

Cause of death grouping
- Cancers
- Diseases of the circulatory system
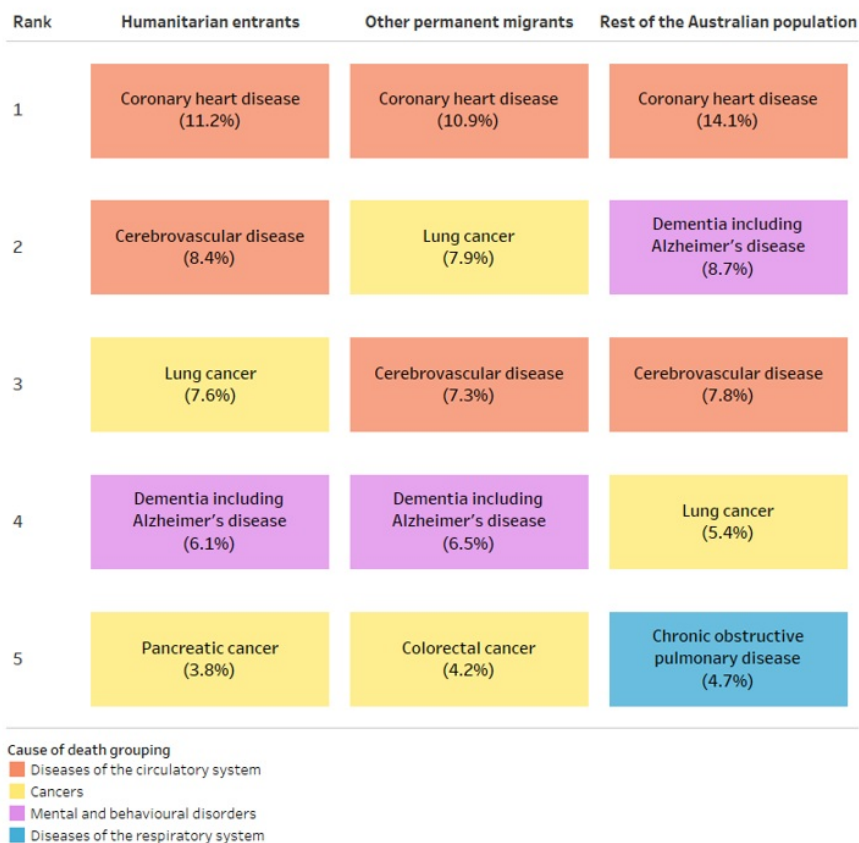- External causes of morbidity and mortality

Source: AIHW analysis of PLIDA, 2007-2020.

Leading causes of death in people aged over 60 were similar across population groups. Pancreatic cancer was the 5th leading cause of death (3.8% of deaths) in humanitarian entrants (Figure 5.5), it was also ranked 6th in other permanent migrants (3.3% of deaths) but only ranked 12th in the rest of the Australian population (1.8% of deaths).

People with long-term diabetes are more likely to develop pancreatic cancer (but pancreatic cancer can also cause diabetes) (George et al. 2022). There was a higher rate of diabetes observed in the humanitarian entrant and other permanent migrant populations (See Long-term health conditions – Diabetes).

Figure 5.5: Leading causes of death for older people aged over 60 (proportion of total deaths)

Rank	Humanitarian entrants	Other permanent migrants	Rest of the Australian population
1	Coronary heart disease (11.2%)	Coronary heart disease (10.9%)	Coronary heart disease (14.1%)
2	Cerebrovascular disease (8.4%)	Lung cancer (7.9%)	Dementia including Alzheimer's disease (8.7%)
3	Lung cancer (7.6%)	Cerebrovascular disease (7.3%)	Cerebrovascular disease (7.8%)
4	Dementia including Alzheimer's disease (6.1%)	Dementia including Alzheimer's disease (6.5%)	Lung cancer (5.4%)
5	Pancreatic cancer (3.8%)	Colorectal cancer (4.2%)	Chronic obstructive pulmonary disease (4.7%)

Cause of death grouping
- Diseases of the circulatory system
- Cancers
- Mental and behavioural disorders
- Diseases of the respiratory system

Source: AIHW analysis of PLIDA, 2007–2020.

More data on causes of death by sex in each population group, including cause-specific mortality rates, can be examined in the interactive data visualisation (Figure 5.7).

References

George S, Jean-Baptiste W, Yusuf AA, Inyang B, Koshy FS, George K, Poudel P, Chalasani R, Goonathilake MR, Waqar S and Mohammed L (2022) *The Role of Type 2 Diabetes in Pancreatic Cancer*, *Cureus*, 14(6):e26288, doi:10.7759/cureus.26288.

Person-Level Integrated Data Asset (PLIDA), 2007–2020, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

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Mortality

On this page:

- Causes of death by time since arrival in Australia
- Causes of death by country of birth
- Causes of death with high rates in humanitarian entrants
- Potentially avoidable deaths

Causes of death by time since arrival in Australia

The age-standardised mortality rate for humanitarian entrants and other permanent migrants increases with time spent in Australia (Figure 5.6). All mortality rates for the period since arrival are lower for permanent migrants than those in humanitarian entrants.

For humanitarian entrants, based on year of arrival and year of death, the mortality rate for those who died less than 5 years since arrival (275 deaths per 100,000 person years) is 20% less than those who died within 5–10 years since arrival (345 per 100,000) and 25% less than those who died more than 10 years since arrival (370 per 100,000). A similar pattern is seen for other permanent migrants.

The mortality rates for specific causes in humanitarian entrants differ with time since arrival in Australia. Suicide mortality rates increase with increased time since arrival in Australia (4.2 deaths per 100,000 person years for less than 5 years since arrival, 7.3 per 100,000 for 5–10 years since arrival, 11 per 100,000 for more than 10 years since arrival). Deaths due to coronary heart disease are lowest for humanitarian entrants who have been in Australia longer (31 deaths per 100,000 person years for less than 5 years since arrival, 38 per 100,000 for 5–10 years since arrival, 33 per 100,000 for more than 10 years since arrival).

The mortality rates by time since arrival for specified causes of death can be seen in supplementary data table S4.2. For more information about reporting by time since arrival in Australia see Data sources and methods.

Figure 5.6: Age-standardised all-cause mortality rate by time since arrival in Australia, by population group, 2007–2020

The age-standardised mortality rate for humanitarian entrants and other permanent migrants increases with time spent in Australia. All mortality rates for period since arrival are lower for permanent migrants than those in humanitarian entrants.

Source: AIHW analysis of PLIDA, 2007–2020.
https://www.aihw.gov.au
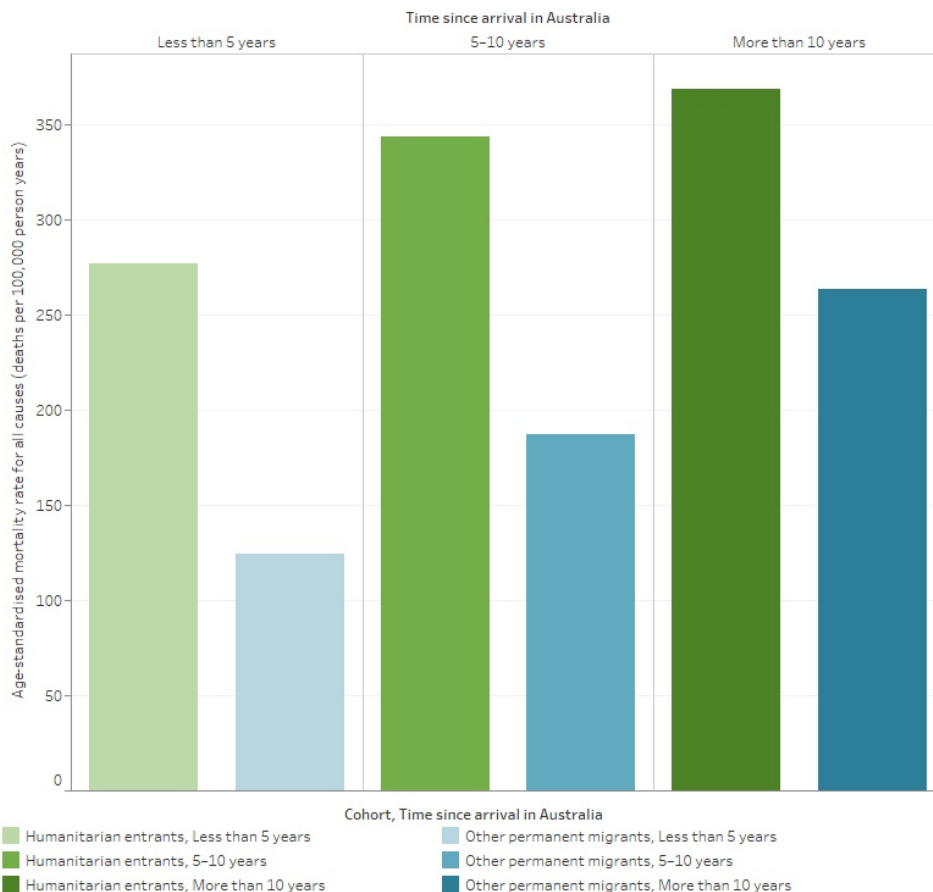
Causes of death by country of birth

The age-standardised mortality rate was highest in humanitarian entrants born in South Sudan (9,800 deaths per 100,000 person years), followed by Serbia (4,100 per 100,000) and Republic of Congo (590 per 100,000).

When looking at specific causes of death in humanitarian entrants:

- The highest number of deaths due to suicide, assault, accidental poisoning, and land transport accidents was in humanitarian entrants from Sudan (32 deaths, 14 deaths, 14 deaths and 24 deaths respectively).
- The rate of suicide was 31 deaths per 100,000 person years among humanitarian entrants born in Ethiopia and 11 per 100,000 among humanitarian entrants born in Sudan.

For more information about reporting by country of birth see Data sources and methods.

Causes of death with high rates for humanitarian entrants

When comparing age-standardised rates across population groups, the mortality rates due to liver cancer and accidental drowning among humanitarian entrants were significantly higher than the rest of the Australian population.

Liver cancer

The age-standardised mortality rate due to liver cancer in humanitarian entrants was:

- 2.1 times as high as other permanent migrants and 1.5 times as high as the rest of the Australian population
- 2.3 times as high in males as females
- increased with increased time spent in Australia (8.1 deaths per 100,000 person years for less than 5 years since arrival, 10.7 per 100,000 for 5–10 years since arrival, 11.2 per 100,000 for more than 10 years since arrival).

High rates of liver cancer in humanitarian entrants may be related to high rates of diabetes (see Long-term health conditions – Diabetes) and chronic viral hepatitis (Cancer Australia 2022; Mantovani and Targher 2017; Rajkumar et al. 2022) in this population as these conditions are known risk factors for liver cancer.

Accidental drowning

The mortality rate due to accidental drowning in humanitarian entrants was:

- 2.8 times as high as other permanent migrants and 2.4 times as high as the rest of the Australian population, after standardising for age.
- highest in humanitarian entrants who had lived in Australia for more than 10 years in terms of rates (3.0 deaths per 100,000 person years for more than 10 years since arrival compared with 2.2 per 100,000 for less than 5 years since arrival and 1.4 per 100,000 for 5–10 years since arrival). Note the rate has not been adjusted for age.
- not concentrated to humanitarian entrants from a specific country of birth.

Migrants are at higher risk of drowning in Australia due to factors such as inadequate knowledge of water safety and aquatic environments and lack of swimming and water safety skills (Willcox-Pidgeon et al. 2021). There was a higher rate of accidental drownings in humanitarian entrants, but this was not observed in other permanent migrants, consistent with previous findings from Australian research (Willcox-Pidgeon et al. 2021). Also consistent with this Australian research, there was a male predominance in drowning deaths with males accounting for 90% of accidental drowning deaths in humanitarian entrants.

Potentially avoidable deaths

Potentially avoidable deaths (PAD) are deaths among people younger than 75 that are potentially avoidable within the present health care system. They include deaths from conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care.

In 2007–2020 the age-standardised rate of potentially avoidable deaths was 65 deaths per 100,000 person years for humanitarian entrants, 31 per 100,000 for other permanent migrants and 110 per 100,000 for the rest of the Australian population.

Of the potentially avoidable deaths for humanitarian entrants:

- two thirds were in males and one third was in females (66% in males, 34% in females)
- just over a quarter were within 5 years since arrival (27% within 5 years, 38% 5-10 years, 36% for more than 10 years).

References

Cancer Australia (2022), _Liver cancer_, Australian Government Cancer Australia website, accessed 30 June 2023.

Mantovani A and Targher G (2017) _Type 2 diabetes mellitus and risk of hepatocellular carcinoma: spotlight on nonalcoholic fatty liver disease_, Annals of Translational Medicine, 5(13):270, doi:10.21037/atm.2017.04.41.

Rajkumar V, McCausland K and Lobo, L. (2022) _A Rapid Review of Interventions to Increase Hepatitis B Testing, Treatment, and Monitoring among Migrants Living in Australia_, International Journal of Environmental Research and Public Health, 19(10):5947, doi:10.3390/ijerph19105947.

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Willcox-Pidgeon S, Franklin RC, Leggat PA and Devine S (2021) *Epidemiology of unintentional fatal drowning among migrants in Australia*, *Australian and New Zealand journal of public health,* 45(3), 255–262, doi:10.1111/1753-6405.13102.

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Mortality

This interactive data visualisation (Figure 5.7) presents data for causes of deaths in humanitarian entrants, other permanent migrants and the rest of the Australian population by sex.

How to interpret the interactive data visualisation

Measures

- **Number of deaths**: the number of deaths recorded for the given cause of death between 2007 and 2020 for the population groups.
- **Mortality rate per 100,000 person-years**: the number of deaths recorded for the given cause of death between 2007 and 2020 for the population groups per 100,000 people in that population.
- **Age-standardised mortality rate per 100,000 person-years:** the number of deaths recorded for the given cause of death between 2007 and 2020 for the population groups per 100,000 people in that population, adjusted for the age structure of the population.

The following data visualisation (Figure 5.7) presents a bar chart. The data can be filtered by the following:

- cause of death grouping (drop-down menu)
- cause of death (drop-down menu)
- sex (drop-down menu)
- measure (x3 radio buttons)
  - age-standardised mortality rate per 100,000 person-years
  - mortality rate per 100,000 person-years
  - number of deaths.

Figure 5.7: Causes of death by sex, 2007-2020

In males, the age-adjusted rate of accidental drownings was higher in humanitarian entrants than in other permanent migrants and the rest of the population. In females, the age-adjusted rate of deaths caused by land transport accidents was higher in humanitarian entrants than in other permanent migrants and the rest of the population.

Select cause of death grouping
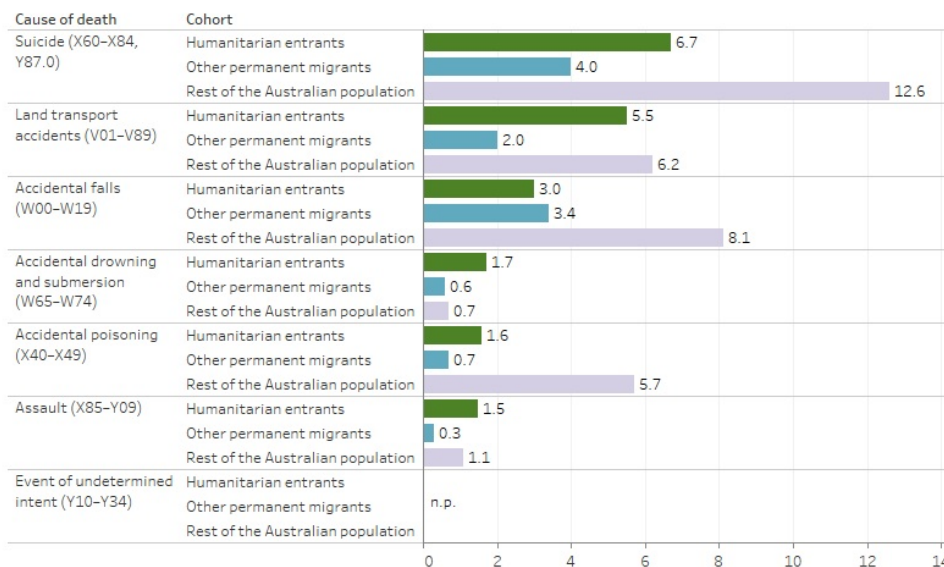External causes of morbidity and mortality

Select cause of death
All

Select sex
Persons

Select measure
- (●) Age-standardised mortality rate per 100,000 person-years
- (○) Mortality rate per 100,000 person-years
- (○) Number of deaths

External causes of morbidity and mortality: All
Age-standardised mortality rate per 100,000 person-years, 2007–2020
Persons

Cause of death	Cohort	Rate
Suicide (X60–X84, Y87.0)	Humanitarian entrants	6.7
	Other permanent migrants	4.0
	Rest of the Australian population	12.6
Land transport accidents (V01–V89)	Humanitarian entrants	5.5
	Other permanent migrants	2.0
	Rest of the Australian population	6.2
Accidental falls (W00–W19)	Humanitarian entrants	3.0
	Other permanent migrants	3.4
	Rest of the Australian population	8.1
Accidental drowning and submersion (W65–W74)	Humanitarian entrants	1.7
	Other permanent migrants	0.6
	Rest of the Australian population	0.7
Accidental poisoning (X40–X49)	Humanitarian entrants	1.6
	Other permanent migrants	0.7
	Rest of the Australian population	5.7
Assault (X85–Y09)	Humanitarian entrants	1.5
	Other permanent migrants	0.3
	Rest of the Australian population	1.1
Event of undetermined intent (Y10–Y34)	Humanitarian entrants	n.p.
	Other permanent migrants	
	Rest of the Australian population	

Source: AIHW analysis of PLIDA, 2007–2020.
https://www.aihw.gov.au

Notes

1. 'Number of deaths' is the number of deaths recorded for a population group from 2007 to 2020.
2. 'Mortality rate per 100,000 person-years' is the number of deaths per 100,000 people in a population.
3. 'Age-standardised mortality rate per 100,000 person-years' is the hypothetical number of deaths per 100,000 people in a population that would have been observed if the population groups had the same age structure. The population standard used was the 2001 Australian Standard Population.
4. Data were not presented and marked as 'n.p.' (not published) when suppression was applied to manage confidentiality and when the number of events or the size of a population were not sufficient to produce reliable estimates.
5. For more information on how these data were calculated, see the Technical notes.

References

Person-Level Integrated Data Asset (PLIDA), 2007–2020, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Content warning

Caution: This content contains information some readers may find distressing as it refers to information about suicide.

If the information presented raises any issues for you, help is available. Contact Lifeline on 13 11 14. Go to Crisis and support services for a list of support services.

The Australian Institute of Health and Welfare (AIHW) supports the use of the Mindframe guidelines on responsible, accurate and safe reporting of suicide and self-harm. Consider these guidelines when reporting suicide and self-harm.

Case study: Humanitarian entrants born in Afghanistan

Case study: Humanitarian entrants born in Afghanistan

Refugees and humanitarian entrants from Afghanistan are one of the largest refugee populations in the world (UNHCR 2023). For over four decades Afghanistan has experienced instability due to conflict, natural disasters, chronic poverty and political unrest. Many Afghans have been forced to flee their country due to persecution because of their ethnicity, religion or gender, or due to untenable living conditions as a result of war, poverty and starvation (UNHCR 2023). Afghanistan is an ethnically diverse country and includes different ethnic groups: Pashtun, Tajik, Hazara, Uzbek, Aimaq, Turkmen, Baloch and other groups (WorldAtlas 2019).

Afghanistan has consistently been one of the top countries of origin from which people are granted humanitarian visas over the last 5 years (Home Affairs 2021).

As one of the largest refugee populations in Australia, it is important to understand the patterns of health outcomes and health service use in the Afghan refugee population. Due to the protracted nature of the humanitarian crisis in Afghanistan, refugees may have a history of traumatic experiences and potentially long periods with limited access to health care which can impact their experiences with the health care system once they arrive in Australia.

This case study presents data on health service use, medication dispensing and self-reported long-term health conditions in 2021 for around 21,000 offshore humanitarian entrants born in Afghanistan that arrived in Australia in 2000–2020 (hereon referred to as Afghan humanitarian entrants). Data are also presented on deaths that occurred between 2007 and 2020.

This case study cohort does not include humanitarian entrants who may identify culturally as an Afghan but were not born in Afghanistan, migrants who arrive on another visa (for example family or skilled) but have a refugee-like background or migrants who were evacuated from Afghanistan in 2021. For more information on the visa subtypes included and excluded from this cohort see Humanitarian entrant and comparison cohorts.

This case study provides insights on the health outcomes and health service use of the Afghan humanitarian entrant population. Findings from this report can inform the development of policies and settlement services to support Afghan humanitarian entrants and support the evaluation of programs to improve the broader health outcomes of this population group. This is particularly useful given the commitment of the Australian Government to allocate 26,500 dedicated visa places for Afghans to migrate to Australia under the offshore Humanitarian Program through to 2026.

In this case study, 47% of Afghan born humanitarian entrants were males and 53% were females. The largest age group in males and females is 20–29 (Figure 6.1).

**Figure 6.1: Afghan humanitarian entrants included in the case study cohort by age and sex**

There was a larger number of females than males in the age groups from 40 to 79.

Age group

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
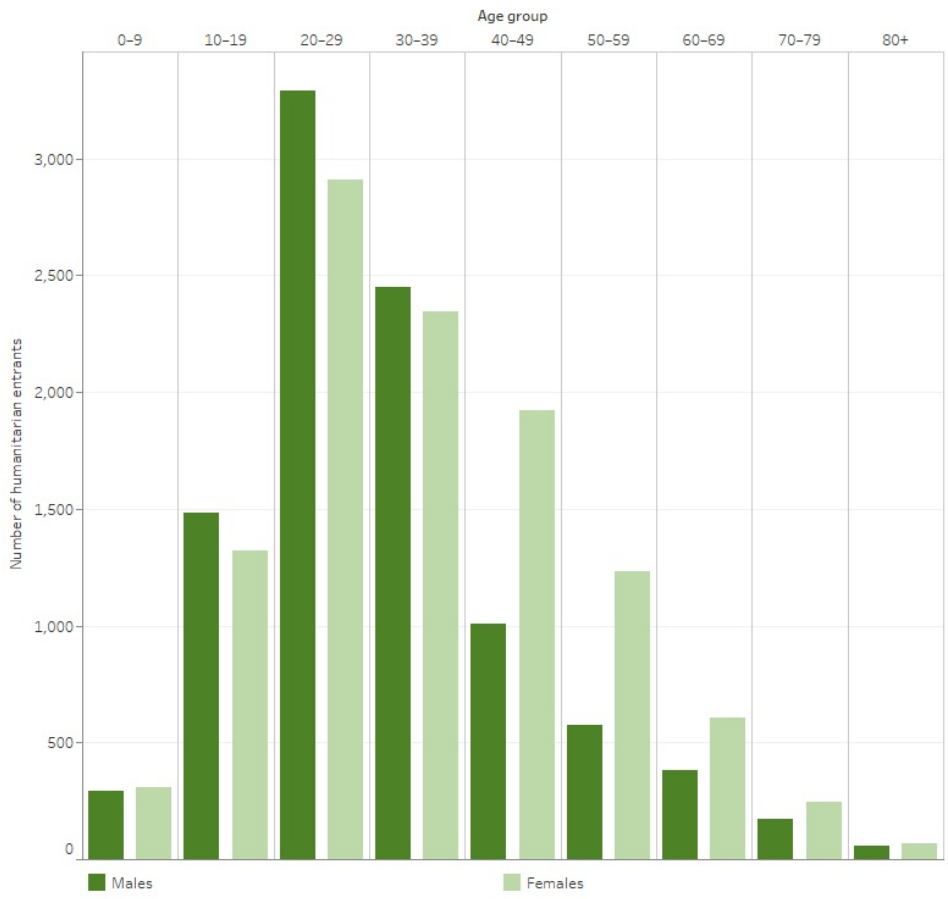
The number of Afghan humanitarian entrants arriving in Australia each year varied across the 20-year study period (Figure 6.2). Of the Afghan humanitarian entrants, 24% arrived between 2016–2020, 32% arrived between 2011–2015 and 44% arrived between 2000–2010.

Figure 6.2: Year of arrival of Afghan humanitarian entrants in the case study cohort

There was the largest number of arrivals in 2013, followed by 2014 and then 2006.
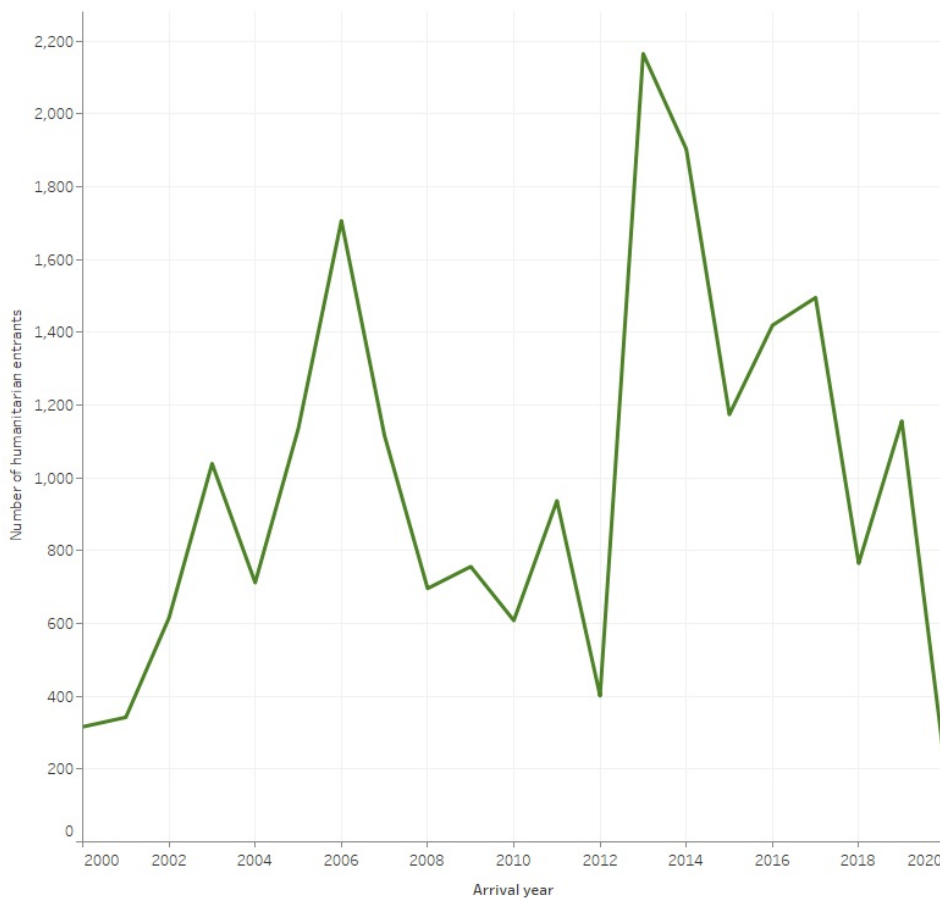
Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au

References

Home Affairs (Department of Home Affairs) (2021) *Australia's Offshore Humanitarian Program 2020-21*, Home Affairs, accessed 7 August 2023.

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

UNHCR (United Nations High Commissioner for Refugees) (2023) UNHCR website, accessed 16 August 2023.

WorldAtlas (2019) *The Ethnic Groups of Afghanistan*, WorldAtlas website, accessed 12 October 2023.

Case study: Humanitarian entrants born in Afghanistan

Health service use by humanitarian entrants born in Afghanistan

Figure 6.3 presents data on the use of health service use by Afghan humanitarian entrants by broad types of service and sex in 2021.

The following data visualisation (Figure 6.3) presents a bar chart. The data can be filtered by selecting either:

- age-standardised rate of services per 1,000 people
- proportion of the population who received a service.

Figure 6.3: Afghan refugee population accessing health services, by sex, 2021

The rate of services in 2021 was higher in males than females for all service types (specialist attendances, pathology, other allied health, optometry, general practice and diagnostic imaging).

Select measure
◉ Age-standardised rate of services per 1,000 people
◯ Proportion of the population who received a service (per cent)

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
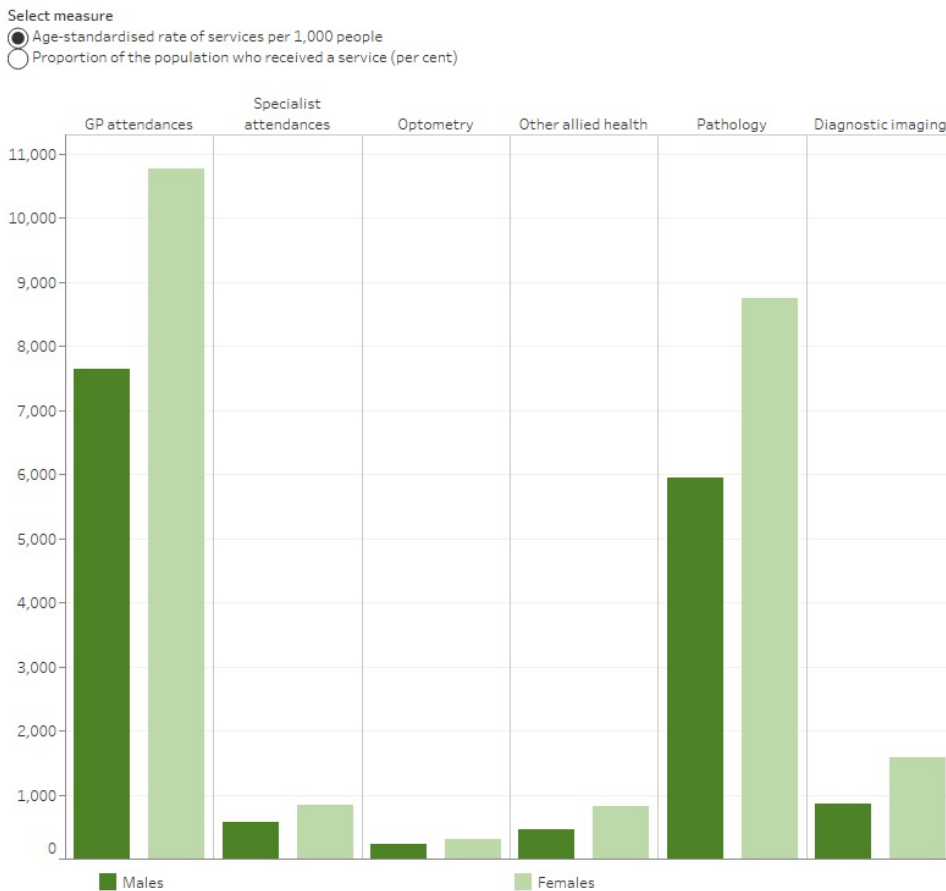
Table 6.1a and 6.1b shows the most widely accessed specialties for non-hospital specialist consultations by Afghan humanitarian entrants for males and females. Endocrinology and obstetrics and gynaecology were the most widely accessed specialties by females whereas cardiology, and gastroenterology and hepatology were the most widely used specialties by males.

Table 6.1a: Most widely accessed specialties for non-hospital specialist consultations by Afghan humanitarian entrants, by sex – males

Rank	Specialty	Count of services in 2021	Proportion of population with a service in 2021
1	Cardiology	374	2.1
2	Gastroenterology and Hepatology	333	1.6
3	Dermatology	321	1.8
4	Ophthalmology	244	1.6
5	General Medicine	216	1.4

Table 6.1b: Most widely accessed specialties for non-hospital specialist consultations in Afghan humanitarian entrants, by sex – females

Rank	Specialty	Count of services in 2021	Proportion of population with a service in 2021
1	Endocrinology	1,121	3.5
2	Obstetrics and Gynaecology	1,107	5.2
3	Psychiatry	788	2.4
4	Dermatology	588	2.7
5	Gastroenterology and Hepatology	551	2.7

Notes

1. The non-hospital specialist consultations were ranked by the number of services accessed.
2. Count of health service is the number of non-hospital specialist consultations for the given specialty accessed by humanitarian entrants in 2021
3. Proportion of the population with a health service is 2021 is calculated as the number of non-hospital specialist consultations for the given specialty divided by the total humanitarian entrant population in 2021 which was derived from the Medicare Consumer Directory (MCD).

Source: AIHW analysis of PLIDA, 2021.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Case study: Humanitarian entrants born in Afghanistan

## Long-term health conditions in humanitarian entrants born in Afghanistan

In 2021, Afghan humanitarian entrants self-reported a range of long-term conditions including arthritis, asthma, diabetes, and mental health condition (Figure 6.4).

Arthritis was more commonly reported among female Afghan humanitarian entrants. This is consistent with arthritis being more prevalent among females than males in the Australian population (AIHW 2023). A similar pattern was also observed in the rest of the Australian population in this report (see Long-term health conditions). However, the age-standardised rate of arthritis among female Afghan humanitarian entrants was almost 3 times as high as males compared with 1.5 times as high for females as males for the rest of the Australian population.

> The following data visualisation (Figure 6.4) presents a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 6.4: Rate of self-reported long-term health conditions for Afghan humanitarian entrants, by sex, 2021

The rate of self-reported long-term health conditions for Afghan humanitarian entrants varied by sex.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
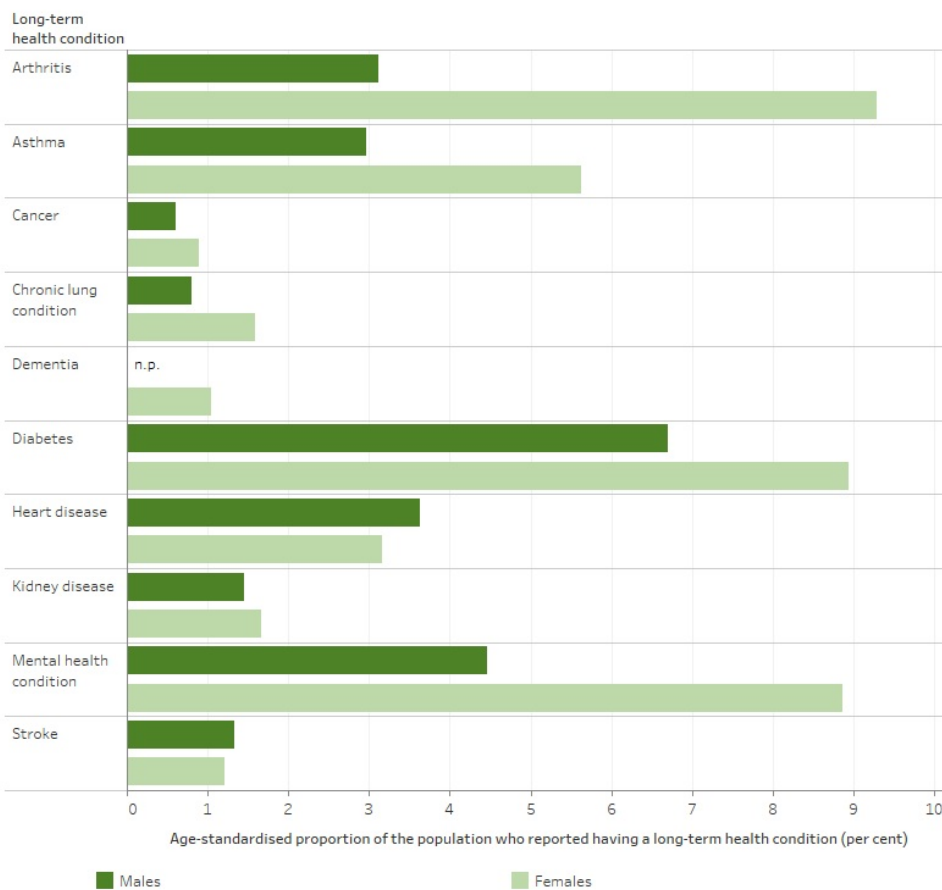
Note: Data were not presented and marked as 'n.p.' (not published) when suppression was applied to manage confidentiality and when the number of events was not sufficient to produce reliable estimates. For more information on how these data were calculated, see the Technical notes

References

AIHW (Australian Institute of Health and Welfare) (2023) *Chronic musculoskeletal conditions*, AIHW website, accessed 9 August 2023.

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Case study: Humanitarian entrants born in Afghanistan

## Mental health of humanitarian entrants born in Afghanistan

In 2021, 1,113 (6.6%) of Afghan humanitarian entrants self-reported a mental health condition. When standardised for age, the rate of self-reported mental health conditions among Afghan humanitarian entrants was lower than the rest of the Australian population (7.3% and 10.6% respectively).

Self-reported mental health conditions were more commonly reported in females than males among Afghan humanitarian entrants across all age groups (Figure 6.5). The rate was highest in the 50–59 and 60–69 age groups, with more than 1 in 5 female Afghan humanitarian entrants in these age groups reporting living with a mental health condition.

The following data visualisation (Figure 6.5) presents a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 6.5: Rate of self-reported mental health conditions in Afghan humanitarian entrants, by age and sex, 2021

There was a higher rate of self-reported mental health conditions in females than males among Afghan humanitarian entrants across all age groups.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
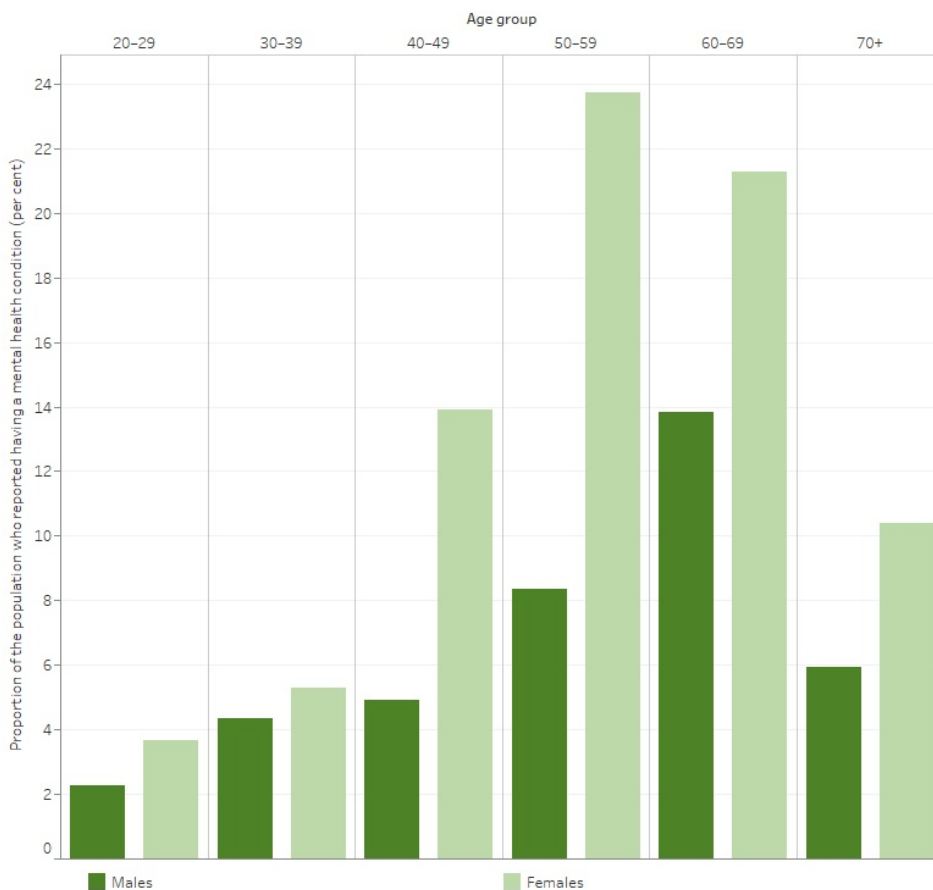
The higher rates of self-reported mental health conditions among females was consistent with studies on mental health in populations within Afghanistan and in populations resettled in Australia:

- In Afghanistan, women have been found to have significantly poorer mental health status than men, likely due to discrimination against women and restriction of their rights under Taliban rule (Cardozo et al. 2004).
- Female Afghan and Kurdish refugees in Australia have higher rates of psychological distress than males and these persist over time (Sulaiman-Hill and Thompson 2012). This might explain the increased rate observed among female Afghan humanitarian entrants in older age groups in this report.
- Social isolation due to the lack of extended family, perceived lack of community, and cultural differences in the role of spousal partners were identified as contributors to mental health issues in Afghan women in Southeast Melbourne (Rintoul 2010).

In 2021, the proportion of the population with at least one antidepressant prescription dispensed was also higher among female Afghan humanitarian entrants and in the older age groups (Figure 6.6). More than 1 in 3 female Afghan humanitarian entrants aged 50–59 and 60–69 had an antidepressant prescription dispensed in 2021, compared with less than 1 in 5 in the overall female humanitarian entrants in these age groups. Among Afghan humanitarian entrants aged 60–69 and over 70, more than 1 in 4 had an antidepressant prescription dispensed in 2021, which is similar to the whole of the humanitarian population in these age groups.

When interpreting these results, it is important to note that some antidepressants, such as amitriptyline (brand name ENTRIP, Endep), are more commonly used for the treatment of chronic pain and migraine prevention. However, a study has found that chronic pain can also be a symptom of mental health disorders such as post-traumatic stress disorder (PTSD) among refugees seeking psychological treatment for trauma (Morina et al. 2018).

The following data visualisation (Figure 6.6) presents a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 6.6: Proportion of the population with at least one antidepressant prescription dispensed in Afghan humanitarian entrants, by age and sex, 2021

The proportion of the population with at least one mental health prescription dispensed was higher among female Afghan humanitarian entrants and in the older age groups.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
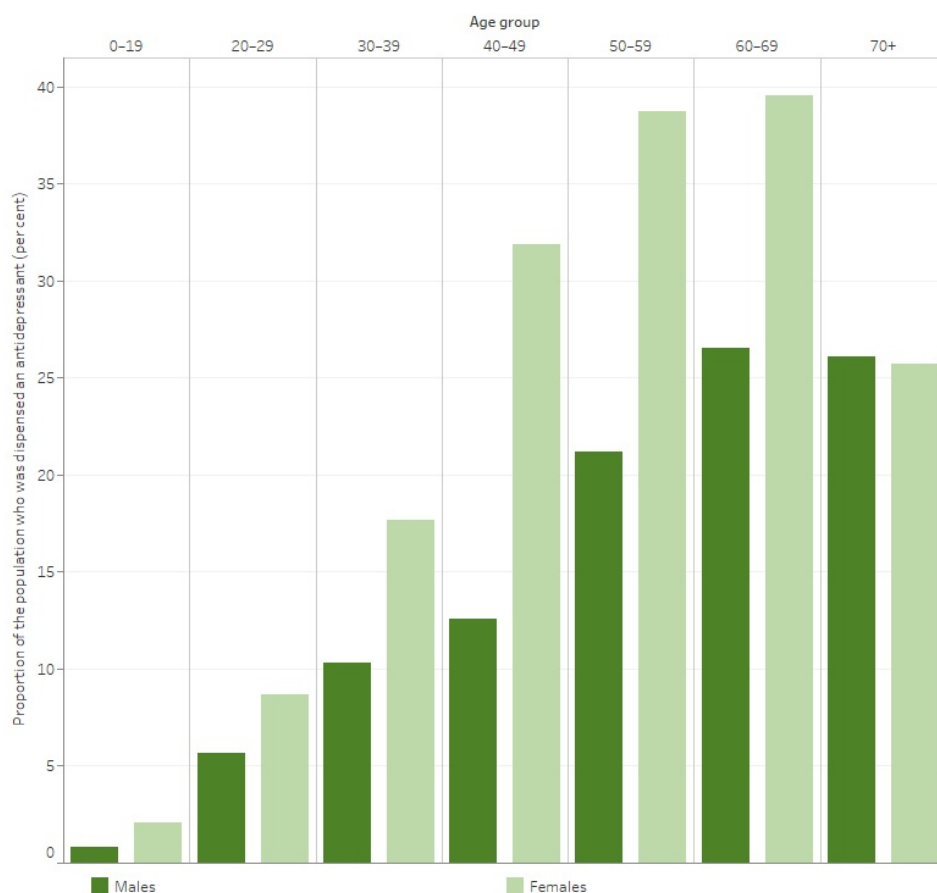
General Practice (GP) mental health treatment plans are the predominant way of accessing Medicare-subsidised mental health care in Australia. Further background can be found on Health service use – GP mental health treatment plans.

Among the Afghan humanitarian entrant population, a higher proportion of females than males had a GP mental health treatment plan (Figure 6.7). This is consistent with Australian research using the Building a New Life in Australia: The Longitudinal Study of Humanitarian entrants, which found that being female and older were positively associated with professional help-seeking behaviours among Afghan humanitarian entrants (Tomasi et al. 2022). Afghan males may also be less likely to seek mental health care due to the stigma associated with mental illness in Afghan culture (Nine et al. 2022).

Data presented in this section does not capture mental health care services accessed through other pathways such as the Program of Assistance for Survivors of Torture and Trauma or community and religious groups and the overall use of mental health services by Afghan humanitarian entrants.

The following data visualisation (Figure 6.7) presents a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 6.7: Proportion of Afghan humanitarian entrants with a GP mental health treatment plan, by age and sex, 2021

The proportion of the population with a GP mental health treatment plan was higher among females than males, peaking in the 50-59 year age group for females and 60-69 year age group for males.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
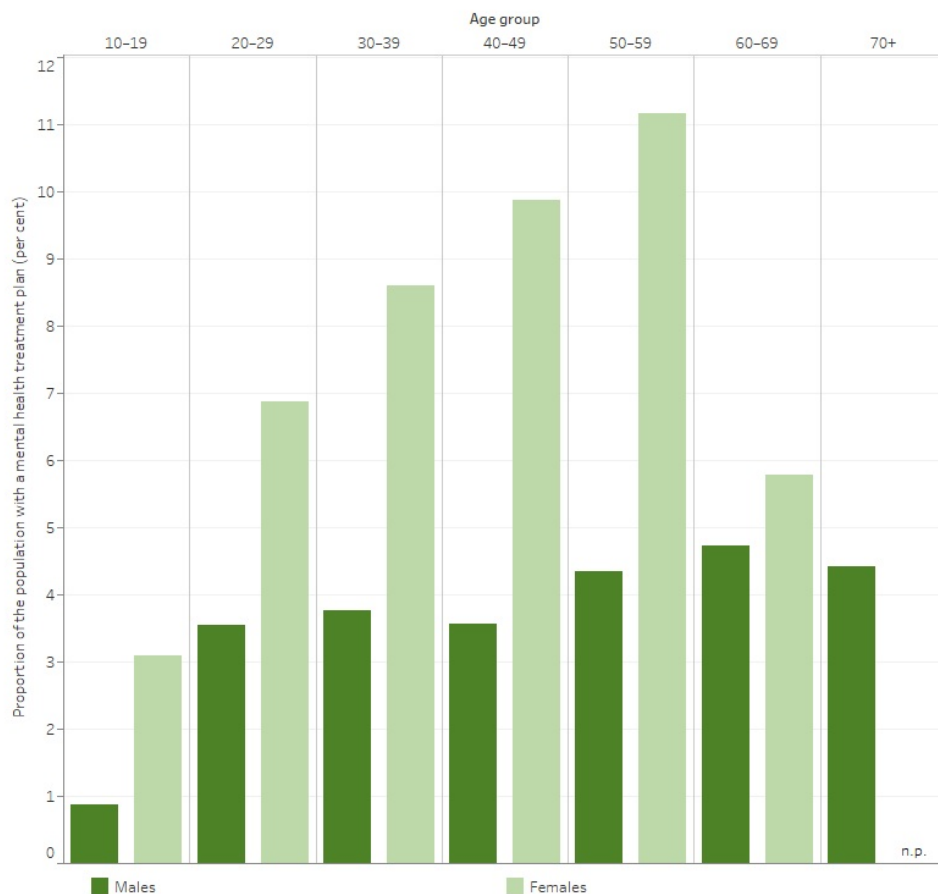
References

Cardozo BL, Bilukha OO, Crawford CA, Shaikh I, Wolfe MI, Gerber ML, Anderson M (2004) *Mental health, social functioning, and disability in postwar Afghanistan*, Journal of the American Medical Association, 292(5):575-84, doi: 10.1001/jama.292.5.575.

Morina N, Kuenburg A, Schnyder U, Bryant RA, Nickerson A, Schick M (2018) *The Association of Post-traumatic and Postmigration Stress with Pain and Other Somatic Symptoms: An Explorative Analysis in Traumatized Refugees and Asylum Seekers*, Pain Medicine, 19(1):50–59, doi: doi.org/10.1093/pm/pnx005.

Nine SB, Najm AF, Allan EB, Gronholm PC (2022) *Mental health stigma among community members in Afghanistan: A cross-sectional survey*, International Journal of Social Psychiatry, 68(7):1470-1485, doi:10.1177/00207640211036169.

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Rintoul A (2010) *Understanding the mental health and wellbeing of Afghan women in South East Melbourne*, Foundation House, Victoria.

Sulaiman-Hill CM, Thompson SC (2012) *Afghan and Kurdish refugees, 8-20 years after resettlement, still experience psychological distress and challenges to well being*, Australian and New Zealand Journal of Public Health, 36(2):126-34, doi: 10.1111/j.1753-6405.2011.00778.x.

Tomasi AM, Shameran SY, Renu N, Pilar R (2022) *Professional Mental Health Help-Seeking Amongst Afghan and Iraqi Refugees in Australia: Understanding Predictors Five Years Post Resettlement*, International Journal of Environmental Research and Public Health, 19(3): 1896, doi: 10.3390/ijerph19031896.

Case study: Humanitarian entrants born in Afghanistan

## Diabetes in humanitarian entrants born in Afghanistan

In 2021, 912 (5.4%) of Afghan humanitarian entrants self-reported a diabetes diagnosis. When standardised for age, the rate of self-reported mental health conditions among Afghan humanitarian entrants was higher than the rest of the Australian population (8.1% and 4.3% respectively).

The rate of self-reported diabetes increased with increasing age for both male and female Afghan humanitarian entrants (Figure 6.8). Diabetes was more commonly reported by females than males in all age groups except the 20–29 age group, where the number of females who self-reported a diabetes diagnosis was too small to publish. This was consistent with the patterns observed in the overall humanitarian entrant population and the rest of the Australian population.

The following data visualisation (Figure 6.8) presents a bar chart and data table, which can be accessed by using the tabs (top left-hand side).

Figure 6.8: Rate of self-reported diabetes in the Afghan refugee population by age and sex, 2021

There was a higher rate of self-reported diabetes in females than males among Afghan humanitarian entrants across all age groups.

Source: AIHW analysis of PLIDA, 2021.
https://www.aihw.gov.au
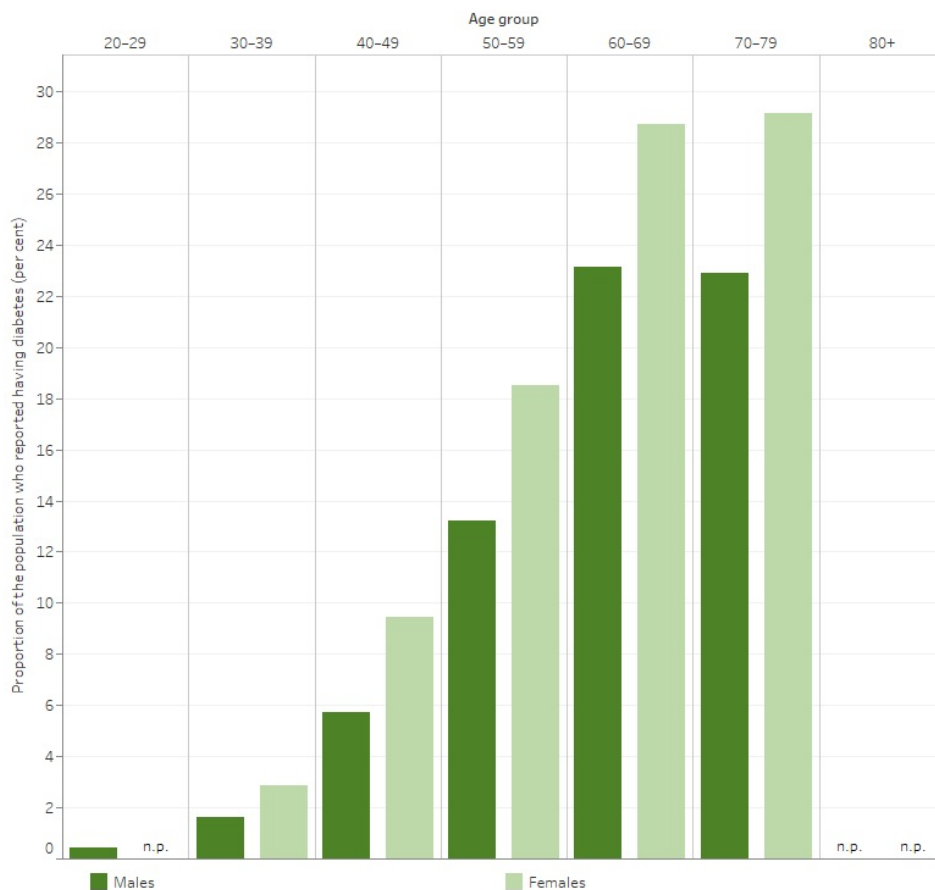
Understanding diabetes rates in this population is particularly important as once diagnosed, a more rapid deterioration in glycaemic control is seen in migrant South Asians with diabetes (Hanif et al 2021). Culturally appropriate diabetes education and care, particularly in relation to religious fasting which can increase the risk of complications is important in this population (Hanif et al 2021). Data about diabetes rates can help inform the development of culturally appropriate services and programs to help manage diabetes in this population group.

References

Hanif W, Ali SN, Bellary S, Patel V, Farooqi A, Karamat MA, Saeed M, Sivaprasad S, Patel K and Khunti K (2021), *Pharmacological management of South Asians with type 2 diabetes: Consensus recommendations from the South Asian Health Foundation*, *Diabetic Medicine*, 38: e14497, doi:10.1111/dme.14497.

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Case study: Humanitarian entrants born in Afghanistan

Mortality in humanitarian entrants born in Afghanistan

In the period 2007–2020, there were 156 deaths among Afghan humanitarian entrants – a rate of 81 deaths per 100,000 person years. Males accounted for 53% of all deaths and females accounted for 47% of deaths.

When standardised for age, the all-cause mortality rate among Afghan humanitarian entrants was lower than the rest of the Australian population (275 deaths per 100,000 person years and 550 per 100,000 person years respectively).

The leading cause of death in Afghan humanitarian entrants was land transport accidents (7.3 deaths per 100,000 person years) followed by coronary heart disease (6.2 deaths per 100,000 person years).

Identifying land transport accidents as a leading cause of death in this population highlights the importance of culturally sensitive driving programs such as Afghan Women's Driving Program, and the Southern Migrant and Refugee centre Driving Program.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

What's next?

This web report is the initial stage of the Australian Institute of Health and Welfare's (AIHW) Refugee and Humanitarian Entrant Health project funded by the Department of Home Affairs. For information on this project see Culturally and linguistically diverse peoples – Refugee and humanitarian entrant health.

As part of this initial stage further analysis is being undertaken to report on immunisation rates using the PLIDA (person-level integrated data asset) data (formerly known as MADIP).

In the second stage of this project, the AIHW is developing a new data set by linking permanent migrants' data from the Department of Home Affairs' Settlement Database with health and welfare data sets held by the AIHW. This stage will include data from hospital admissions, emergency department presentations and specialist homelessness services.

Data from the linked data set will be analysed to report on additional health outcomes such as reasons for hospitalisations, causes of injury and primary care type emergency department presentations. The use of homelessness services in the refugee and humanitarian population will also be investigated using this linked data set. It is anticipated that the results from this stage will provide further insights into the patterns of health service utilisation and the health concerns of the population that were not explored in the initial stage.

Technical notes

Technical notes

The Person-Level Integrated Data Asset (PLIDA) (formerly known as the Multi-Agency Data Integration Project (MADIP)) was used to provide information about humanitarian entrants and other permanent migrants in Australia who arrived in or after the year 2000.

PLIDA is a partnership among Australian Government agencies to develop a secure and enduring approach for combining information on healthcare, education, government payments, personal income tax, migration, and demographics (including Census) to create a comprehensive picture of Australian over time (ABS 2018).

For more information on PLIDA, see Australian Bureau of Statistics (ABS) – Data assets.

The key PLIDA data sets used in this analysis were:

- Person Linkage Spine (Spine – ABS)
- Settlement Database (SDB – Department of Home Affairs)
- Medicare Consumer Directory (MCD – Department of Health and Aged Care/Services Australia)
- Medicare Benefits Schedule (MBS – Department of Health and Aged Care)
- Pharmaceutical Benefits Scheme (PBS – Department of Health and Aged Care)
- 2021 Census of Population and Housing (Census – ABS)
- Causes of Death (COD – ABS)
- Deaths Registrations (Deaths – ABS)
- PLIDA Combined Demographics File (ABS).

Data included in this report were based on data extracts available in PLIDA at the time of analysis (2023). Due to this, there may be differences in the numbers published in this report and other reports which have used more up-to-date data.

This section describes the techniques used to identify the refugee and humanitarian entrant cohort and assess health indicators in this population.

Technical notes

The spine is the central component of the Person-Level Integrated Data Asset (PLIDA) which allows linkage between all other data sets. The Person Linkage Spine (Spine) is based on the combined population from the:

- Medicare Consumer Directory (MCD – a database of people enrolled in Medicare)
- Social Security and Related Information (DOMINO – Department of Social Services)
- Personal Income Tax (PIT – Australian Taxation Office).

In the 2021 PLIDA update, over 36.6 million people (in the person linkage spine) were identified to have been a resident in Australia at any point between January 2006 to November 2021. All people who were identified in the MCD contributed 89.6% of the total PLIDA population in 2021. Of the 32.8 million people identified through the MCD, most were linked to both DOMINO and PIT combined. However, people who were not in the MCD but appeared in PIT dataset contributed an additional 10.0%, and those only found in DOMINO accounted for less than 0.4% of the PLIDA population.

The Version 5 (V5) of the PLIDA person linkage spine was used for this analysis. The V5 spine was the most recent available at the time of analysis and is derived using data from the aforementioned data sets up to 30 June 2021.

Technical notes

The Settlement Database (SDB) contains migrants who entered Australia in or after 2000 on a permanent visa or a visa which is a pathway to a permanent visa. The cohort includes migrants who arrived until 2020, although a very small number of migrants who arrived in early 2021 were also included. Each record in the SDB has an associated visa subclass which identifies the specific visa granted. Visa subclasses were assigned to visa streams to identify whether the record was a permanent humanitarian migrant or another permanent migrant (skilled, family and other). See Table 1.1 for the visa subclass groupings for permanent humanitarian entrants and other permanent migrants used in this analysis. Where there were duplicated files identified in the SDB the file that was selected for inclusion in this analysis was the record with the latest grant date to ensure the most recent visa class is selected.

Table 1.1: Visa subclass groupings for deriving migrant cohorts

Visa Stream	Visa Subclasses
Humanitarian	200, 201, 202, 203, 204, 205, 208, 209, 210, 211, 212, 213, 215, 216, 217, 809, 815, 817, 851
Family	100, 101, 102, 103, 104, 110, 114, 115, 116, 117, 11 8, 143, 173, 300, 309, 310, 445, 801, 802, 804, 806, 808, 812, 814, 820, 826, 831, 835, 836, 837, 838, 859, 864, 884
Skilled	105, 106, 119, 120, 121, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 134, 135, 136, 137, 138, 139, 160, 161, 162, 163, 164, 165, 175, 176, 186, 187, 188, 189, 190, 475, 476, 485, 487, 489, 491, 494, 495, 496, 805, 816, 818, 840, 841, 842, 843, 844, 845, 846, 855, 856, 857, 858, 861, 862, 863, 880, 881, 882, 885, 886, 887, 888, 890, 891, 892, 893
Other	111, 150, 151, 152, 154, 803, 832, 833, 850, 866, APV

Note: Humanitarian visa subclass 851 may include a small number of Special Assistance visa and Resolution of Status (RoS) visa holders. These RoS visa holders do not include former holders of Temporary Protection visas (TPV) and Safe Haven Enterprise visas (SHEV).

The humanitarian entrant cohort for this analysis includes only those granted offshore humanitarian visas and excludes those were granted protection visas onshore.

The SDB is limited to permanent migrants who arrived on or after the year 2000, therefore the migration cohorts do not include any permanent migrants who arrived before 2000. This should be considered when interpreting the outcomes presented in this report. It is assumed that records that do not link to the SDB are not permanent migrants who arrived on or after 2000. Due to high linkage rates of the SDB to the spine it is expected this is a valid assumption.

The rest of the Australian population will also include permanent migrants who arrived in Australia prior to the year 2000 and children born in Australia to permanent visa holders.

The study cohort are all eligible for Medicare.

Technical notes

Initially, settlement data used in this analysis were linked at person level to the Person Linkage Spine (Spine) to identify permanent migrants (including humanitarian entrants) who arrived in Australia from 2000 onwards. Of the 3.7 million permanent migrants in the Settlement Database (SDB) data, who arrived in Australia from 2000 onwards, over 94% of them were linked to the Spine.

There were 240,476 refugee and humanitarian entrants in the SDB with an in-scope visa as the last visa granted and 235, 998 (98.1%) of the cohort had a linkage to the Spine (Table 1.2). The quality of linkage is high, with 95.4% of the linked humanitarian records having a linkage quality rating of 1, meaning that all personal identifiers match between the SDB and Spine records. This indicates that there is unlikely to be linkage errors where there are false matches (incorrect links) or missed matches (records from the same individual fail to link).

The linkage rate does not vary by sex (98.1% for both males and females) or by age at arrival (lowest rate of 97.1% in the 60–69 age group, highest rate of 98.3% in the 40–49 age group).

There was some variation in the linkage rate by year of arrival. The linkage rate for all years was above 97% except for 2021 where the linkage rate was 9.3%. This is due to the Person-Level Integrated Data Asset (PLIDA) (previously known as the Multi-Agency Data Integration Project (MADIP)) Spine using data sets up to 30 June 2021. As a consequence of this migrants who arrived in 2021 were not represented in the analysis cohorts.

Table 1.2 Linkage rates of the migrant cohorts to the PLIDA person linkage Spine

Population group	Number of records in the SDB	Linked to spine	Linkage rate
Refugee and humanitarian entrants	240,476	235,998	98.1%
Other migrants	3,649,686	3,429,425	94.0%
Total migrants	3,890,162	3,665,423	94.2%

Source: AIHW analysis of PLIDA, 2021.

To identify health outcomes and those who have a record in the mortality data, the combined settlement-Spine data was further linked to service use (MBS, PBS), mortality and 2021 Census data in the PLIDA. Any record that did not link to the PLIDA Spine, including for non-migrant records, was excluded from this analysis as the record could not be appropriately assigned to a cohort.

References

Person-Level Integrated Data Asset (PLIDA), 2021, PLIDA Modular Product, ABS DataLab. Findings based on use of PLIDA data.

Technical notes

Age

The age of each person in this analysis was calculated based on age at event (when the person died or when service/prescription was provided). Information on month and year of birth was used to first estimate single year ages of each person in the study groups, and then derived their broad age groups for reporting purposes.

Using this approach, in some instances a person's calculated age may be older than the actual age they were at time of the event. For instance, a person whose date of birth was 1/04/2005 and who used a service on 1/03/2015 will be in the 10-year age group 10–19 despite only being 9 at the time of event. It is the age the person is turning in the year of the event that is used.

For census outcomes the variable for age in 10-year age groups, which is already derived in the provided data, was used for reporting by age groups.

Country of birth

The country of birth variable in the Settlement Database (SDB) is a 3-letter character variable that is not standardised and therefore country of birth had to be sourced from other data sets. For deaths and Census there are county of birth variables in the data sets which were used. There is no country of birth variable in the Medicare Consumer Directory (MCD) where the other demographics variables for the Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Scheme (PBS) analysis were taken. The country of birth variable for the MBS and PBS analysis was taken from the Person-Level Integrated Data Asset (PLIDA) combined demographics file. This file combines the demographic information from various core data sources. The country of birth variables from the Social Security and Related Information (DOMINO) Centrelink administrative data (2006–2020), Census 2011/2016 and deaths (2007–2018) are examined and the most frequently reported country of birth for each spine id is recorded as the country of birth on the combined demographics file.

Technical notes

The Medicare Benefits Schedule (MBS) is part of Australia's public health insurance scheme. Through the MBS the Australian Government subsidises the costs of a broad range of health services. The MBS subsidies pay all or part of the costs of these services, dependent on factors such as patient eligibility, the type of service and choices by health practitioners regarding the fees they charge for their services.

MBS benefits are claimable only for services rendered by an appropriate health practitioner and which are listed on the Medicare Benefits Schedule. Services that are eligible for Medicare benefits are listed in the Medicare Benefits Schedule. Medicare benefits data only includes details of services for which benefits were paid by Services Australia. They do not include:

- services provided to public inpatients and public outpatients of hospitals;
- services provided in public Accident and Emergency Departments of hospitals;
- services that are funded directly under other Australian government programs (for example, health screening services); and
- services funded directly under state/territory government programs.

It should be noted that most consultations, diagnostic imaging and pathology services that occur in a hospital, are captured as non-hospital services in Medicare Benefits statistics unless hospital facilities are required for the services.

The MBS analysis was limited to records with a date of service between 1 January 2021 and 31 December 2021. The statistics are reported using date of service to reflect the period in which a service was provided.

MBS Broad type of service (BTOS) variable was used in calculating the total number of MBS services by BTOS (see Table 1.3). The Medicare item numbers included under each broad type of service can be found at <u>Medicare Australia – Statistics – Appendix 2: Mapping of Medicare items to Broad Type of Service</u>.

Table 1.3: MBS services were grouped based on Broad Type of Service (BTOS)

Broad Types of Service (BTOS)	Description	Terminology in this report
0101 0102 0103	Non referred attendances – GP Non referred attendances – enhanced primary care Non referred attendances – other	GP attendances
0200	Specialist Attendances	Specialist attendances
0150	Other Allied Health *includes diabetes education, audiology, exercise physiology, dietetics, mental health, occupational therapy, physiotherapy, podiatry, chiropractic, osteopathy, psychology, speech pathology*	Other allied health
0300	Obstetrics	Obstetrics
0400	Anaesthetics	Anaesthetics
0501 0502	Pathology collection items Pathology tests	Pathology
0600	Diagnostic Imaging	Diagnostic imaging
0700 0800	Operations Assistance at operations	Operations
0900	Optometry	Optometry
1000	Radiotherapy and therapeutic nuclear medicine	Radiotherapy therapeutic and nuclear medicine

| 1100 | Other MBS services
Includes:
• *diagnostic procedures and investigations (for example electrocardiograms, audiograms, bone densitometry testing and sleep apnoea testing)*
• *miscellaneous therapeutic procedures, including assisted reproductive services*
• *bulk-billing incentives for unreferred services other than diagnostic imaging (included with diagnostic imaging) and pathology (included with pathology).* | Other MBS services |

GP mental health treatment plans

The number of GP mental health treatment plans was investigated in this analysis. The variable for mental health GP treatment plan was derived from the following MBS item numbers: 00272, 00276, 00281, 00282, 02700, 02701, 02702, 02710, 02715, 2717, 92112, 92113, 92116, 92117, 92118, 92119, 92122, 92123, 92125, 92128, 92129, 92130, 92131, 92134, 92135, 93400, 93401, 93402, 93403, 93404, 93405, 93406, 93407, 93408, 93409, 93410, 93411, 93431, 93432, 93441, 93442, 92124.

Bulk-billing rates

The Medicare bill type code variable was used to define bulk-billed services. Bulk-billing rates were derived by the total number of services which had a bill type code of D (direct billed), over the total number of services. Direct billed claims are claims when the service provider accepts the Medicare benefit as full payment for the service. Claims that are charged to the patient and subsequently claimed on Medicare are not included as bulk-billed in this definition.

Specialty for non-hospital specialist consultations

Specialty type for non-hospital specialist consultations were derived from the Medicare registered specialty code variable on the MBS extract. Only services that were within the BTOS 0200, specialist attendances, were included in this analysis.

Technical notes

The Pharmaceutical Benefits Scheme (PBS) analysis was limited to records with a date of supply between 1 January 2021 and 31 December 2021.

This analysis was restricted to prescriptions for medications that were dispensed on the PBS/Repatriation Schedule of Pharmaceutical Benefits (RPBS).

Most of the listed medicines are dispensed by pharmacists and used by patients at home. Some medicines, because of their clinical use and other special features, need medical supervision (such as chemotherapy drugs) and are only accessible at specialised medical services, usually hospitals. Under the PBS and the RPBS, the Australian PBS data does not cover:

- Over-the-counter purchases (non-prescription medicines);
- Private prescriptions (for example, medicines not listed on the PBS, off-indication prescriptions, or overseas visitors who are not eligible for the PBS);
- Medicines supplied to admitted patients in public hospitals, although medicines supplied to patients upon discharge, outpatients and day-admitted patients in all jurisdictions are in scope, except New South Wales and the Australian Capital Territory, as those jurisdictions have no Pharmaceutical Reform Agreement in place.
- The Opiate Dependence Treatment Program prior to 1 July 2023.

The data provides information on drug types dispensed but does not provide information on whether the person took the medicine as prescribed. The type of drugs in the PBS data are identified by the PBS item number on the PBS schedule. The PBS item numbers were mapped to the Anatomical Therapeutic Classification (ATC) code. The ATC classification allows for the grouping of drugs into their site of action and therapeutic and chemical characteristics. For more information about the ATC classification systems, see the Anatomical Therapeutic Chemical (ATC) Classification.

For this analysis prescriptions were grouped at ATC level three (ATC3) (pharmacological subgroup). Medicines are classified according to the main therapeutic use of the main active ingredient. There is only one ATC code for each route of administration, however, many medicines are used and approved for multiple indications. This means that the diagnosis or prevalence of conditions cannot be inferred from rates of medicine use in the cohort.

The ATC3 codes analysed in this cohort were identified through initial analysis as the most dispensed in the humanitarian entrant cohort (Table 1.4).

Table 1.4: Top 10 most dispensed ATC3 groups in humanitarian entrants

ATC3 code	Description
C10A	Lipid modifying agents, plain
A10B	Blood glucose lowering drugs, excl. insulins
A02B	Drugs for peptic ulcer and gastro-oesophageal reflux disease (GORD)
N06A	Antidepressants
C09D	Angiotensin II receptor blockers (ARBS), combinations
J01C	Beta-lactam antibacterials, penicillins
C09C	Angiotensin II receptor blockers (ARBS), plain
M01A	Anti-inflammatory and antirheumatic products, non-steroids
N02A	Opioids
C07A	Beta blocking agents

Additionally, prescriptions for mental health drugs were investigated in this analysis. Mental health drugs were identified as those in the following ATC 3 groups: N05A, N05B, N05C, N06A, N06B.

Records of MBS and PBS transactions in 2021 that do not have corresponding spine information were excluded. This is because MBS and PBS transaction data are updated independently, each quarter, while the PLIDA spine is updated once, in the first half of each year. Hence, new enrolees in Medicare after the spine has been updated are not integrated into the spine.

Technical notes

The 2021 Census was conducted on 10 August 2021, however, people could complete the Census between July and September 2021. The scope of the Census is every person present in Australia on Census night residing in private and non-private dwellings, with the exception of:

- people in Australian external territories (minor islands such as Heard and McDonald Island)
- foreign diplomats and their families
- foreign crew members on ships who remain on the ship and do not undertake migration formalities
- people leaving an Australian port for an overseas destination before midnight on Census Night.

For more information about the 2021 Census see the ABS website about the Census.

The 2021 Census includes a new health topic to capture data about Australians reporting selected long-term health conditions (see Box 4.1). This allows for the analysis of long-term health conditions data at more detailed geographic and sub-population levels than ABS health surveys can support.

This report also presents data for those who had at least one long-term health condition (including any other long-term health conditions) and those who had 2, or 3 or more long-term health conditions.

'Age-standardised proportion' is the hypothetical percentage of people with a long-term health condition that would have been observed if population groups had the same age structure. The population standard used was the 2001 Australian Standard Population.

A limitation of the long-term health condition variables in the 2021 Census is that the data rely on the responses from a single question, unlike the ABS health surveys that have a detailed set of questions to capture the information on the conditions more accurately.

For more information on the purpose, collection method, advantages and limitations of the long-term health conditions in the Census see Comparing ABS long-term health conditions data sources.

Of the 210,959 humanitarian entrants in our cohort who were present in the country at the time of the census, 195,846 had a record on the Census (92.8%). The proportion in the country with a record on the Census was also high for other permanent migrants (92.5%). The response rate in the migrant groups to the long-term health condition question is comparable to the rest of the Australian population (96.5% for humanitarian entrants, 96.7% for other permanent migrants and 91.9% for the rest of the Australian population).

Technical notes

All deaths analysis in this report are based on the underlying cause of death, that is, the disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury. Causes of death are coded by the ABS to the International Statistical Classification of Diseases and Related Health Problems (ICD). Deaths where the underlying cause of death information was missing were excluded from this analysis.

For leading underlying cause of death analysis, information needs to be more specific than ICD chapters and blocks. There is no standard method for grouping causes, however, the AIHW follows the recommendations of the World Health Organization (WHO) (Becker et al. 2006) with minor modifications to suit the Australian context. This grouping is a mix of ICD chapters, blocks and specific diseases to maximise information, separate out ill-defined causes and highlight health priority areas.

Deaths data presented in this analysis are based on year of occurrence. These may differ from deaths data presented in other Australian Institute of Health and Welfare (AIHW) publications that are based on year of registration.

'Age-standardised mortality rate per 100,000 person-years' is the hypothetical number of deaths per 100,000 people in a population that would have been observed if the population groups had the same age structure. The population standard used was the 2001 Australian Standard Population.

The definition of potentially avoidable deaths (PADs) is outlined in the Metadata Online Registry (METEOR) specification: National Healthcare Agreement: PI 16-Potentially avoidable deaths, 2022. The rate of PADs in Australia is used as an indicator of the health system's effectiveness – they are classified using nationally agreed definitions. They do not indicate that these deaths have individually been assessed as avoidable.

Deaths due to suicide were identified by an underlying cause of death of X60-X84 intentional self-harm or Y87 sequelae of intentional self-harm, assault and events of undetermined intent.

Technical notes

Medicare Benefits Schedule and Pharmaceutical Benefits Scheme denominators

The denominator for the Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Scheme (PBS) outcomes were derived from the Medicare Consumer Directory (MCD). This was chosen as all persons on the MCD have Medicare access and therefore their services will be recorded in the MBS and PBS datasets. Additionally, the demographic information from MCD enrolments were used for deriving service use and medication use by demographics.

The MCD was limited to people who were alive in 2021. A limitation of using the MCD is we cannot identify people who have left the country prior to 2021. Therefore, the denominator may include people who were not in the country in 2021 and may be larger than the reported estimated residential population (ERP) at that time. This could lead to an underestimate of the service rates due to higher than true denominator. This would be the same for all denominators: the rest of the Australian population, humanitarians and other permanent migrants.

Census 2021 denominator

The denominator used in calculating rates of self-reported long-term health conditions from the census data was all census records which answered the long-term health conditions question (exclude non-responders) and for all migrants who answered the question that linked to a record on SDB.

Deaths denominator

As the deaths data used in this analysis covers the period 2007–2020, a person years denominator was used to provide a way of calculating deaths in the at-risk population over that period.

Person-years was derived in the Australian population from summing the ERP, which provides a measure of the residential population in each year, for the 2007–2020 time period. Person-years was derived in the migrant populations by summing the population in each year from the MCD for the 2007–2020 time period. Migrant population in each year was derived from year of birth, arrival year and year of death information. People with a date of birth prior to the year, who had arrived prior to the year, and had year of death either after the year or not reported were counted in each year. For the rest of the Australian population person-years denominator, the person-years from the MCD were subtracted from the summed ERP values.

Technical notes

Age-standardisation is a method of reducing the influence of age when comparing two or more populations with different age structures. In this report, the direct age-standardisation approach was used. Direct age standardisation applies the age-specific results to a 'standard population' in order to determine the proportion or rate that would have occurred if the populations under study had the same age distribution as the 'standard population'. The method provides the age-standard proportions or rates as single summary measures. The 2001 Australian Standard Population was used to calculate age-standardised proportions and age-standardised rates.

Results based on small populations, or a small number of events are unreliable and exhibit a large amount of random variation and are therefore not presented in this report. Age-standardised rates were not presented (marked n.p.), if the total number of events was less than 20 over all age groups or the denominator was less than 30 in any one age group, for any population.

Direct standardisation may not remove all confounding and produce precise age adjustment if the categories used are not sufficiently narrow. Conversely, age groups that are too fine can introduce excessive volatility into the age-standardised rates. Having no events in an age group can produce misleading results, since cells with zero events are assumed to have zero variance, resulting in an underestimation of the true variance. For many populations of interest, the number of events was zero at some specific ages, particularly younger ages, regardless of the health outcome. 10-year age groupings starting with the age group 0–9, and up to age 80 and over were used to calculate the age-standardised rates in this report.

Technical notes

Analyses were conducted through the Australian Bureau of Statistics (ABS) DataLab, which is a secure environment, allowing virtual access to files for the users to undertake real time analysis of data in the Person-Level Integrated Data Asset (PLIDA). Analytical outputs are required to be vetted by the ABS before being cleared outside the DataLab. In this report, some data are supressed and not presented (marked n.p.) based on the requirements of the ABS to manage confidentiality.

For more information on the ABS DataLab, and its 'Output rules' see DataLab input and output clearance.

Glossary

administrative data collection

A data set that results from the information collected for the purposes of delivering a service or paying the provider of the service. This type of collection is usually complete (all in-scope events are collected), but it may not be fully suitable for population-level analysis because the data are collected primarily for an administrative purpose.

age structure

The relative number of people in each age group in a population.

age-standardisation

A way to remove the influence of age when comparing populations with different age structures. This is usually necessary because the rates of many diseases vary strongly (usually increasing) with age. The age structures of the different populations are converted to the same 'standard' structure, and then the disease rates that would have occurred with that structure are calculated and compared.

age-standardised proportion

The age structures of the different populations are converted to the same 'standard' structure, and then the proportions that would have occurred with that structure are calculated and compared. See proportion.

age-standardised rates

Incidence or prevalence rates that enable comparisons to be made between populations that have different age structures. The age structures of the different populations are converted to the same 'standard' structure, and then the rates that would have occurred with that structure are calculated and compared. Rates can be expressed in many ways, for example:

- per 100,000 per population years
- per 100,000 population
- per 1,000 population.

allied health

A range of services provided by university qualified health practitioners with specialised expertise in preventing, diagnosing and treating a range of conditions and illnesses. The practitioners have autonomy of practice, a defined scope of practice, a regulatory mechanism and a national organisation with clearly defined entrance criteria. Examples include psychologists and physiotherapists. For more information on which services are included in the broad type of service grouping of other allied health see Technical notes.

Alzheimer's disease

A degenerative brain disease caused by nerve cell death resulting in shrinkage of the brain. A form of dementia.

anaesthetics

Services that include the administration of, and management of a patient under, anaesthesia, as well as regional or field nerve blocks. For more information on which services are included in the broad type of service grouping of Anaesthetics see Technical notes.

Anatomical Therapeutic Chemical (ATC) Classification System

An international structure of classifying active substances in medicines across 5 levels:

- Level 1: anatomical main group (the organ or system in the body on which the substance's therapeutic effect takes place)
- Level 2: pharmacological/ therapeutic subgroup
- Level 3: chemical/ pharmacological/ therapeutic
- Level 4: chemical/ pharmacological/ therapeutic
- Level 5: chemical substance (this takes into account the medicine's therapeutic use as well as the formulation and route of administration).

angiotensin II receptor blockers (ARBS), plain and combination

Medication used to treat high blood pressure (hypertension) by dilating veins and arteries, and reducing the work of the heart.

antidepressants

Medication used relieve symptoms of depression and anxiety, and other conditions such as sleep disorders.

anti-inflammatory and antirheumatic products – non-steroids

Medicines to treat arthritis and rheumatic conditions by reducing inflammation, joint swelling and stiffness.

anxiety disorders

A group of mental disorders marked by excessive feelings of apprehension, worry, nervousness and stress. Includes:

- generalised anxiety disorder
- obsessive-compulsive disorder
- panic disorder
- post-traumatic stress disorder
- various phobias.

arthritis
A group of disorders for which there is inflammation of the joints – which can then become stiff, painful, swollen or deformed. The 2 main types of arthritis are osteoarthritis and rheumatoid arthritis.

asthma
A common, chronic inflammatory disease of the air passages that presents as episodes of wheezing, breathlessness and chest tightness due to widespread narrowing of the airways and obstruction of airflow.

beta-lactam antibacterials, penicillins
Antibiotic medications used to treat bacterial infections.

beta blocking agents
Medicine to suppress certain signals that cause the heart to beat fast and hard.

broad type of service (BTOS)
A grouping of MBS services that relate to certain provider groups or services.

blood cholesterol
Fatty substance produced by the liver and carried by the blood to supply the rest of the body. Its natural function is to supply material for cell walls and for steroid hormones, but if levels in the blood become too high this can lead to atherosclerosis (build-up of fatty deposits in the blood vessels) and heart disease.

blood pressure
The force exerted by the blood on the walls of the arteries as it is pumped around the body by the heart. It is written, for example, as 134/70 mmHg, where the upper number is the systolic pressure (the maximum force against the arteries as the heart muscle contracts to pump the blood out) and the lower number is the diastolic pressure (the minimum force against the arteries as the heart relaxes and fills again with blood). Levels of blood pressure can vary greatly from person to person and from moment to moment in the same person. See also high blood pressure/ hypertension.

blood glucose lowering drugs, excl insulins
Medications used to treat diabetes by lowering the glucose level in the blood.

bulk billing
The process where a medical practitioner or other health practitioner sends the bill for eligible services directly to Medicare, so the patient pays nothing. Also known as direct billing.

cancer (malignant neoplasm)
Cancer, also called malignancy, is a term for diseases in which abnormal cells divide without control and can invade nearby tissues. Cancer cells can also spread to other parts of the body through the blood and lymph systems.

cardiovascular disease/ condition
Any disease of the cardiovascular system, namely the heart (cardio) or blood vessels (vascular). Includes angina, heart attack, stroke and peripheral vascular disease. Also known as circulatory disease.

cause of death
The causes of death entered on the Medical Certificate of Cause of Death are all diseases, morbid conditions or injuries that either resulted in or contributed to death, and the circumstances of the accident or violence that produced any such injuries. Causes of death are commonly reported by the underlying cause of death.

cerebrovascular disease
Any disorder of the blood vessels supplying the brain or its covering membranes. A notable and major form of cerebrovascular disease is stroke.

cholesterol
See blood cholesterol

chronic diseases/ conditions
A diverse group of diseases/ conditions, such as heart disease, cancer and arthritis, which tend to be long lasting and persistent in their symptoms or development. Although these features also apply to some communicable diseases, the term is usually confined to non-communicable diseases.

circulatory system
Includes the heart and blood vessels that distribute blood carrying oxygen and nutrients to cells in the body to support physiological functions.

communicable disease
An infectious disease or illness that may be passed directly or indirectly from one person to another.

crude rate
See rate.

crude proportion
See proportion.

data linkage/ linked data
The bringing together (linking) of information from two or more different data sources that are believed to relate to the same entity (for example, the same individual or the same institution). This linkage can yield more information about the entity and, in certain cases,

provide a time sequence – helping to 'tell a story', show 'pathways' and perhaps unravel cause and effect. The term is used synonymously with 'record linkage' and 'data integration'.

dementia
A term used to describe a group of similar conditions characterised by the gradual impairment of brain function. It is commonly associated with memory loss, but can affect speech, cognition (thought), behaviour and mobility. An individual's personality may also change, and health and functional ability decline as the condition progresses.

depression
A mood disorder with prolonged feelings of being sad, hopeless, low and inadequate, with a loss of interest or pleasure in activities and often with suicidal thoughts or self-blame. See also suicidal ideation.

diabetes (diabetes mellitus)
A chronic condition in which the body cannot properly use its main energy source, the sugar glucose. This is due to a relative or absolute deficiency in insulin, a hormone that is produced by the pancreas and helps glucose enter the body's cells from the bloodstream and then be processed by them. Diabetes is marked by an abnormal build-up of glucose in the blood, and it can have serious short- and long-term effects. For the 3 main types of diabetes see type 1 diabetes, type 2 diabetes and gestational diabetes.

diagnostic imaging
The production of diagnostic images, for example, computed tomography, magnetic resonance imaging, X-rays, ultrasound and nuclear medicine scans. For more information on which services are included in the broad type of service grouping of Diagnostic imaging see Technical notes.

drugs for peptic ulcer and gastro-oesophageal reflux disease (GORD)
Medication that reduces the amount of stomach acid that leaks into the oesophagus allowing ulcers to heal and preventing heartburn or gastrointestinal pain.

estimated resident population
The official Australian Bureau of Statistics estimate of the Australian population. The estimated resident population (ERP) is derived from the 5-yearly Census counts and is updated quarterly between each Census. It is based on the usual residence of the person. Rates are calculated per 1,000 or 100,000 mid-year (30 June) ERP.

general practice
General practice includes fully-qualified general practitioners (GPs). Physicians in training are normally excluded. For more information on which services are included in the broad type of service grouping of GP attendances see Technical notes.

general practitioner (GP)
A medical practitioner who provides primary comprehensive and continuing care to patients and their families in the community.

genito-urinary system
The sexual organs and urinary system.

gestational diabetes
A form of diabetes when higher than optimal blood glucose is first diagnosed during pregnancy (gestation). It may disappear after pregnancy but signals a high risk of diabetes occurring later on.

GP mental health treatment plan
A plan created by a general practitioner for the management of a patient's mental health disorder(s). Under a mental health treatment plan, a patient is entitled to Medicare rebates for up to 10 individual psychological appointments and up to 10 group allied mental health services each year.

health literacy
The ability of people to access, understand and apply information about health and the health care system so as to make decisions that relate to their health.

heart attack
Life-threatening emergency that occurs when a vessel supplying blood to the heart muscle is suddenly blocked completely by a blood clot. The medical term commonly used for a heart attack is myocardial infarction. See also cardiovascular disease.

hepatitis
Inflammation of the liver, which can be due to certain viral infections, alcohol excess or a range of other causes.

high blood pressure/ hypertension
High blood pressure can be defined as any of the following:
- systolic blood pressure greater than or equal to 140 mmHg
- diastolic blood pressure greater than or equal to 90 mmHg
- receiving medication for high blood pressure.

HIV
Human Immunodeficiency Virus, which causes acquired immune deficiency syndrome (AIDS). If HIV is untreated, the body's immune system is damaged and is unable to fight infections and cancer.

Human Immunodeficiency Virus
See HIV

humanitarian entrant
A person who has settled in Australia under the Department of Home Affairs' Refugee and Humanitarian Program. This program helps

refugees as well as people in humanitarian need who may not meet the definition of a refugee (Home Affairs 2023). Humanitarian entrants may have experienced traumatic events such as war and persecution in their home country, or they may have lived in crowded and impoverished refugee camps with inadequate access to food, water, shelter and other basic survival needs (Fino et al. 2020).

hypertension
See high blood pressure/ hypertension.

lipid modifying agents, plain
Medication used in the treatment of high levels of fats such as cholesterol in the blood.

long-term health condition
A health condition that has lasted, or is expected to last, for 6 months or more and includes health conditions that may recur from time to time, are controlled by medication and are in remission. Examples include:

- arthritis
- asthma
- cancer (including remission)
- dementia (including Alzheimer's disease)
- diabetes (excluding gestational diabetes)
- heart disease (including heart attack or angina) (see also cardiovascular disease)
- kidney disease
- lung conditions (including COPD or emphysema)
- mental health conditions (including depression or anxiety) (see also mental illness)
- stroke.

medical specialist
A doctor who has completed advanced education and clinical training in a specific area of medicine. See also specialists.

Medicare
A national, government-funded scheme that subsidises the cost of personal medical services for all Australians and aims to help them afford medical care. The Medicare Benefits Schedule (MBS) is the listing of the Medicare services subsidised by the Australian Government. The schedule is part of the wider Medicare Benefits Scheme (Medicare).

Medicare Benefits Schedule
The Medicare Benefits Schedule (MBS) is the listing of the Medicare services subsidised by the Australian Government. The schedule is part of the wider Medicare Benefits Scheme (Medicare).

Medicare Benefits Schedule data collection
The Medicare Benefits Schedule (MBS) data collection contains information on services that qualify for a benefit under the *Health Insurance Act 1973* and for which a claim has been processed. The database comprises information about MBS claims (including benefits paid), patients and service providers. MBS claims data is an administrative by-product of the Services Australia administration of the Medicare fee-for-service payment system.

mental health plan
See GP mental health treatment plan

mental illness (or mental health disorder)
A clinically diagnosable disorder that significantly interferes with an individual's cognitive, emotional or social abilities. The term covers a spectrum of disorders that vary in severity and duration, including:

- anxiety disorders
- affective disorders (such as depression)
- psychotic disorders
- substance use disorders.

morbidity
The ill health of an individual and levels of ill health in a population or group.

mortality
Number or rate of deaths in a population during a given time period.

mortality rate
Mortality rates are based on numbers of deaths registered in a year divided by the size of the corresponding population.

musculoskeletal
A term that relates to the muscles, joints and bones.

nervous system
includes the brain and all the nerves in the body that make consciousness, cognition, feeling and movement possible.

neoplasms
An abnormal mass of tissue that results when cells divide more than they should or do not die when they should. Neoplasms may be benign (not cancer), or malignant (cancer). Also called tumour.

obstetrics
The branch of medicine and surgery concerned with childbirth and midwifery.

opioids

Medication that acts on the nervous system primarily for pain relief.

optometry
The practice of primary eye care, including testing for visual acuity and prescribing treatments for eye disorders. For more information on which services are included in the broad type of service grouping of Optometry see Technical notes.

out-of-pocket costs
The total costs incurred by individuals for health care services over and above any refunds from the Medicare Benefits Schedule (MBS) or the Pharmaceutical Benefits Scheme (PBS)/ Repatriation Pharmaceutical Benefits Scheme (RPBS).

other permanent migrants
In this report, other permanent migrants are people who have settled in Australia on permanent visas which are not classified as off-shore humanitarian including family and partner visas, working and skilled visas, or other visas.

pathology
Diagnostic services that examine specimens, such as samples of blood or tissue. For more information on which services are included in the broad type of service grouping of Pathology see Technical notes.

perinatal
Describes something that pertains to, or that occurred in, the period shortly before or after birth (usually up to 28 days after).

Person-Level Integrated Data Asset (PLIDA)
A secure data asset combining information on healthcare, education, government payments, income and taxation, employment, and population demographics (including the Census) over time (ABS 2021).

Pharmaceutical Benefits Scheme (PBS)
A national, government-funded scheme that subsidises the cost of a wide range of pharmaceutical drugs for all Australians to help them afford standard medications. The Schedule of Pharmaceutical Benefits (schedule) lists all the medicinal products available under the PBS and explains the uses for which they can be subsidised.

Pharmaceutical Benefits Scheme (PBS) data collection
The PBS data collection contains information on prescription medicines that qualify for a benefit under the *National Health Act 1953* and for which a claim has been processed. The database comprises information about PBS prescriptions and payments, patients, prescribers and dispensing pharmacies. PBS data is an administrative by-product of the Services Australia administration of the PBS Online system.

post-traumatic stress disorder (PTSD)
The development of a set of reactions in people who have experienced a traumatic event that might have threatened their life or safety, or others around them. Examples of traumatic events can include war or torture, serious accidents, physical or sexual assault, or disasters. A person who has PTSD can experience feelings of helplessness, horror or intense fear.

potentially avoidable deaths
The number of deaths each year of people under 75 from conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care.

prescription
An authorisation issued by a medical profession for a patient to be issued a particular medication. For dementia-specific medications, typically a prescription (script) authorises a person to receive one month's supply of medication.

prevalence
The number or proportion (of cases, instances, and so forth) in a population at a given time.

proportion (percentage)
One number (numerator) divided by another number (denominator), multiplied by 100. In this study, proportion of people with a service or medication dispensed is the number of people with at least one service or medication dispensed divided by the number of people in the population. Proportion of people self-reporting a long-term health condition(s) is the number of people self-reporting a long-term health condition(s) divided by the number of people in the population.

psychological distress
Unpleasant feelings or emotions that affect a person's level of functioning and interfere with the activities of daily living. This distress can result in having negative views of the environment, others and oneself, and manifest as symptoms of mental illness, including anxiety and depression.

radiotherapy
Radiation directed at a localised area to kill or damage cancer cells. For more information on which services are included in the broad type of service grouping of Radiotherapy and therapeutic nuclear medicine see Technical notes.

rate
One number (numerator) divided by another number (denominator). The numerator is commonly the number of events in a specified time. The denominator is the population 'at risk' of the event. Rates (crude, age-specific and age-standardised) are generally multiplied by a number such as 1,000 to create whole numbers.

refugee
A person who has been forced to flee their country due to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion (UNHCR 1951).

respiratory system
relating to the lungs and airways which enable the absorption of oxygen and the discharge of carbon dioxide.

rest of the Australian population

The Australian population excluding humanitarian entrants and other permanent migrants.

specialist attendance

A specialist attendance usually requires a referral from a general practitioner. A specialist attendance is a referred patient-doctor encounter (with Medicare funding benefits), such as a visit, consultation and attendance (including a video conference) with a medical practitioner who has been recognised as a specialist or consultant physician for the purposes of Medicare benefits. For more information on which services are included in the broad type of service grouping of Specialist attendances see Technical notes.

specialists

Fully-qualified physicians who have specialised and work primarily in areas other than general practice. Physicians in training are normally excluded. See also medical specialists.

stroke

An event that occurs when an artery supplying blood to the brain suddenly becomes blocked or bleeds. A stroke often causes paralysis of parts of the body normally controlled by that area of the brain, or speech problems and other symptoms. It is a major form of cerebrovascular disease.

suicide

An action intended to deliberately end one's own life.

suicidal ideation

Serious thoughts about ending one's own life.

therapeutic nuclear medicine

The use of radioactive materials to cure or treat conditions such as cancer and bone pain, or to reduce an organ's function, such as an over-active thyroid (University Hospitals Dorset NHS Foundation Trust 2023). For more information on which services are included in the broad type of service grouping of Radiotherapy and nuclear medicine see Technical notes.

tumour

See neoplasms.

type 1 diabetes

A form of diabetes mostly arising among children or younger adults (but can be diagnosed at any age) and marked by a complete lack of insulin. Insulin replacement is needed for survival. It is a lifelong disease, for which the exact cause is unknown, but believed to be the result of an interaction of genetic and environmental factors. See also diabetes (diabetes mellitus).

type 2 diabetes

The most common form of diabetes is a condition in which the body becomes resistant to the normal effects of insulin and gradually loses the capacity to produce enough insulin in the pancreas. The condition has strong genetic and family-related (non-modifiable) risk factors and is also often associated with modifiable risk factors. See also diabetes (diabetes mellitus).

underlying cause of death

The disease or injury that initiated the train of events leading directly to death, or the circumstances of the accident or violence that produced the fatal injury. See also cause of death.

References

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Notes

Acknowledgements

Data

Related material

Chronic health conditions among culturally and linguistically diverse Australians, 2021. Cat. no: PHE 320.