

## Section 3

### Indicators of health and wellbeing, and education and child development for Brimbank

#### **In this section ...**

- Introduction
- The value of indicators
- Selection and presentation of indicators
- Data gaps and limitations
- Interpreting data about an area
- Age distribution of the population
- Comparison tables
- Contextual indicators at the PHA level
- Health and wellbeing, and education and child development indicators at the PHA level
- Summary

*This page intentionally left blank*

## Introduction

Information presented in this section describes a range of health and education outcomes, and the links between health and education, in the Brimbank community. In the absence of individual-level data, the approach taken to describe these links, or associations, is to compare the characteristics of the population living in geographic areas within Brimbank City (the Local Government Area LGA), referred to in this atlas as 'Brimbank', or 'the City'). Presenting data for the communities living in these small areas can assist in identifying inequalities in outcomes that exist between the communities.

The information, presented as a series of indicators, highlights these inequalities and draws attention to the influence of social, economic and environmental factors on health and wellbeing, and education child development outcomes. The ensuing picture is one of significant differences in outcomes across Brimbank's population, and in comparison with other areas for which the data are presented.

More detail as to the particular indicators that we were able to present, and to the selection of the set in this atlas, is provided under the heading 'Selection of Indicators', below.

## The value of indicators

One way to describe health and education outcomes, and the links between health and education, is through the use of indicators, both at a point in time, and by tracking their movement over time. Indicators are summary measures of chosen events (for example, the percentage of children under 15 years of age living in families where no parent has a job) derived from data collections that record all cases, or a representative sample, of the events in a population.

Describing geographic variations in indicators of outcomes, and of inequalities in those outcomes, provides information which can be used to understand the links between health and education. It can also be used to support progress towards reducing such inequalities.

## Selection and presentation of indicators

The indicators selected for inclusion in the atlas are listed in Tables 1 and 2, below; the tables provide a comparison between the value for each indicator in Brimbank LGA and the two Brimbank Statistical Local Areas (SLAs), namely Brimbank - Keilor and Brimbank - Sunshine, with the value for Melbourne (see box 'Areas mapped', overleaf, for a definition of 'Melbourne'); the Australian figure is also shown for comparison.

For some of these indicators, reliable data are available, which can be mapped to show variations between areas within Brimbank City and its SLAs. These indicators, which are underlined in Table 1 and Table 2, comprise the majority of the information presented in this section.

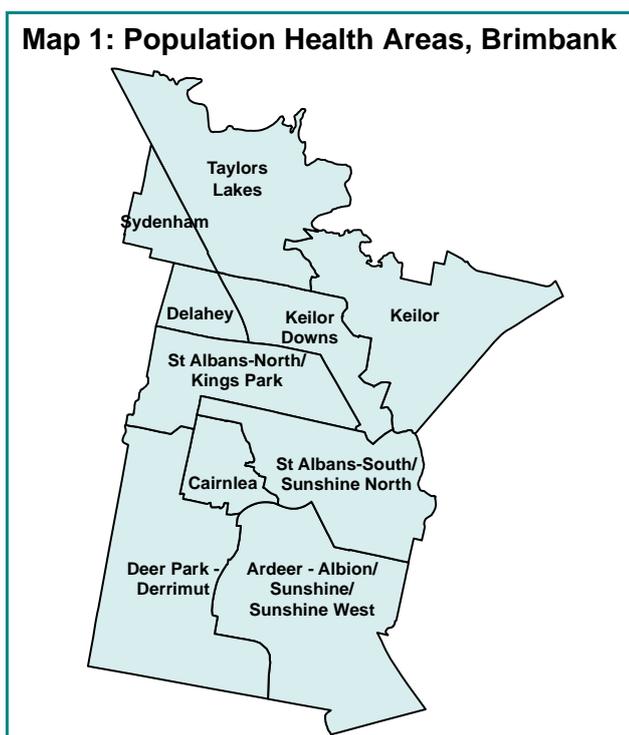
The indicators are shown in two groups – one which we have identified as largely being 'contextual' indicators (Table 1), and the other which comprises more directly indicators of health and wellbeing, and education and child development (Table 2).

We recognise that the designation of some indicators as 'contextual', and others as 'direct', is somewhat artificial, as some are both. For example, we have shown the indicators for 'children in families with mothers with low educational attainment', and 'learning or earning at ages 15 to 19 years' as contextual indicators. Clearly, there are strong links between these indicators and outcomes in both education and health. However, we believe that these two indicators, together with the others in this set, provide a sound framework within which to view more traditionally-recognised indicators of health and wellbeing, and education and child development outcomes.

Each of the indicators is introduced with a brief note as to its relevance to health and wellbeing, and education and child development. This statement is followed by a brief definition of the composition of the indicator and 'Key points', drawn from the data. The data are presented in tables, a map and a chart. One table shows details of the indicator: the number of people represented, this number as a percentage or rate, and the relationship between the percentage or rate in the area and the comparable figure for Australia. These

details are shown for the SLAs of Brimbank - Keilor and Brimbank - Sunshine, the LGA of Brimbank, Melbourne - West, Melbourne (see the box, 'Areas mapped' for a definition of these two areas), Victoria and Australia.

The map and the other table comprise the 14 areas with Brimbank City to which data are mapped, areas referred to as Population Health Areas, or PHAs (see Map 1 and the box, 'Areas mapped'). In the table, the relationship between the percentage or rate in the PHA and the comparable figure for Brimbank City is shown, thus highlighting variations within the City.



A graph is presented for the majority of indicators, showing where the two Brimbank City SLAs rank in comparison with other SLAs in Melbourne.

The description of the indicator concludes with details of any correlations, at the SLA or PHA level across Melbourne, with the other indicators presented in the atlas.

The key map pages on the last sheets in the atlas can be opened out to lie alongside the maps of the indicators, enabling identification of the suburbs and SLAs (second to last sheet) and the PHAs (last sheet) in Brimbank City.

Both indicator sets are included in an interactive version of the atlas which is available at <http://tinyurl.com/Brimbank-atlas-Mi>.

## Areas mapped

The data for Brimbank are mapped to Population Health Areas (PHAs). PHAs are aggregations of the Statistical Areas Level 2 (SA2) spatial area introduced by the Australian Bureau of Statistics (ABS) on 1 July 2011.<sup>1</sup> As SA2s are much smaller than the areas which they replaced, Statistical Local Areas (SLAs), it was not possible to obtain data for some important datasets, either because the number of cases would be too small to be reliable, or because the data custodians believe the data could reveal confidential information about the person for whom the event was recorded. Examples are low birthweight babies and child mortality. As a result, PHAs were developed for the publication of population health data across Australia: for Brimbank, the 14 SA2s have been aggregated into ten PHAs (Map 1).

As noted, the data are also provided for the areas of 'Melbourne' (the Greater Capital City Statistical Area of Melbourne, or Greater Melbourne) and 'Melbourne - West' (the Statistical Areas Level 4 (SA4, the western region of Melbourne)), as described by the ABS.<sup>1</sup>

Under the geographical classification used by the ABS prior to July 2011, there were two SLAs in Brimbank LGA - namely Brimbank - Keilor and Brimbank - Sunshine. Where available, data have been published for these and other SLAs across Melbourne.

The key maps at the end of the atlas show the boundaries for the SLAs and PHAs in Brimbank.

\*The only mismatch of any consequence in this instance is that the SA2 of Kings Park is split between the two SLAs, with 61% of the population of its area in Keilor, and 39% in Sunshine.

## Data gaps and limitations

Traditionally, data about health and wellbeing and education and child development tend to describe difficulties and problems in a community, such as low literacy levels, aspects of ill health, or lack of education.

This has resulted in the availability of richer datasets that focus on more negative data and far fewer that highlight a community's strengths and more positive attributes, such as resilience.<sup>2,3</sup>

As well as having needs and problems, communities such as Brimbank have social, cultural and material assets. Identifying and mobilising these through asset-mapping can help overcome the challenges they face. A growing body of evidence shows that when there is a focus on what communities have (their assets) as opposed to what they do not have (their needs), a community's efficacy in addressing its own needs increases as does its capacity to obtain external support.<sup>4</sup>

The asset-mapping approach values the capacity, skills, knowledge, relationships, experience and connections in a community. An asset can be any of the following:

- the practical skills, capacity and knowledge of local residents;
- the passions and interests of local residents that give them energy for change;
- the networks and connections – known as 'social capital' – in a community, including friendships and neighbourliness;
- the effectiveness of local community and voluntary associations;
- the resources of public, private and civil society organisations that are available to support a community; and
- the physical and economic resources of a place that enhance wellbeing.<sup>4</sup>

As there are limited available data which reflect the assets of Brimbank, the indicators in this Section tend to focus more on problems and challenges.

Furthermore, particular data that would be useful in better understanding the influences on health, wellbeing, education and child development outcomes are not available, such as nutritional intake and food security; exposure to pollutants; prevalence of learning disabilities in school-aged children; and so forth. There are also important data about the population that are missing, such as detailed information about refugees, carers, homelessness or the extent of bullying, racism or discrimination experienced by various minority groups in the population.

Another limitation is that, as it is the intention that similar atlases be produced for other communities across Australia, the indicators included are those for which data are available, or likely to be available, at the small area level nationally. Unfortunately, this limits the data that could be potentially included in the atlas for Brimbank, as there are many rich datasets

not available nationally, which describe the characteristics of the Victorian population at a sub-state level.

## Interpreting data about an area

Readers should note that the areas referred to represent the location of the usual address (at the PHA, SLA or LGA level) of the person about whom the event (e.g., infant deaths, education participation) is recorded.

Throughout the atlas, the geographic distribution at the PHA level generally highlights areas with socioeconomically disadvantaged populations, or poorer outcomes, using the darker shades.

However, just as there are differences between PHAs, there are variations, and sometimes substantial variations, within a PHA. As such, the figures for a PHA represent the average of the different population groups within the PHA. This observation is even more relevant to the larger areas, the SLAs and the LGA.

## Correlation analysis

A correlation analysis has been undertaken to illustrate the extent of association at the SLA level in Melbourne between the indicators in this atlas for which data were available by SLA.

The results of the strongest correlations are discussed under each indicator; the tables in Appendix B include correlations at the SLA level both for data which have been mapped at the PHA level, and for other indicators in Tables 1 and 2 that were not mapped.

As a general rule, correlation coefficients of plus or minus 0.71 or above are of substantial statistical significance, because this higher value represents at least fifty per cent shared variation ( $r^2$  greater than or equal to 0.5): these are referred to in this atlas as being 'very strong' correlations, while those of 0.50 to 0.70 are of meaningful statistical significance, and are referred to as being 'strong' correlations.

## Terminology

In discussing the extent to which percentages or rates vary from the Australian or other figures, the following terms are used:

- "Notable", referring to a rate ratio from 1.10 to <1.20 (a difference of from 10% to <20%), or from 0.90 to <0.80 (a difference of from -10% to <-20%);
- "Marked", referring to a rate ratio from 1.20 to <1.50 (a difference of from 20% to <50%),

or from 0.80 to <0.50 (a difference of from -20% to <-50%);

- “Substantial”, referring to a rate ratio of 1.50 or above (a difference of 50% or more), or of 0.50 and below (a difference of greater than 50%).

### Age distribution of the population

As the demographic profile of the Brimbank City population is well covered in the Council’s own publications (e.g., The Diverse Communities of Brimbank<sup>5</sup>), the following discussion is limited to a comparison of the population’s age profile at various geographic levels.

The age profile in Brimbank City in 2013 had many similarities to the profile in Melbourne (Figure 3).

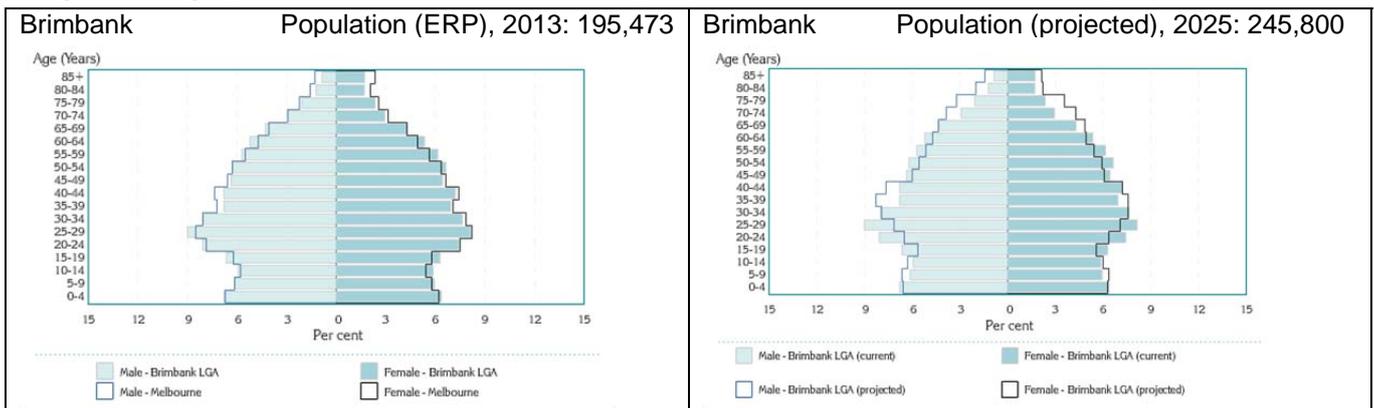
However, differences start to be seen when the two SLAs are viewed separately (Figure 4). For example, the relatively larger population at

younger ages in Brimbank - Keilor is more evident, with higher proportions of the population aged from 10 to 19 years (to 24 years for males) and from 45 to 69 years (males and females); and relatively fewer adults from 25 to 44 years, and fewer people at older ages.

The profile of the population in Brimbank - Sunshine is more similar to that in Melbourne, although with relatively more children at ages 0 to 4 years; and more people from 25 to 39 years. There were, however, relatively fewer people in the majority of age groups at 40 years and above.

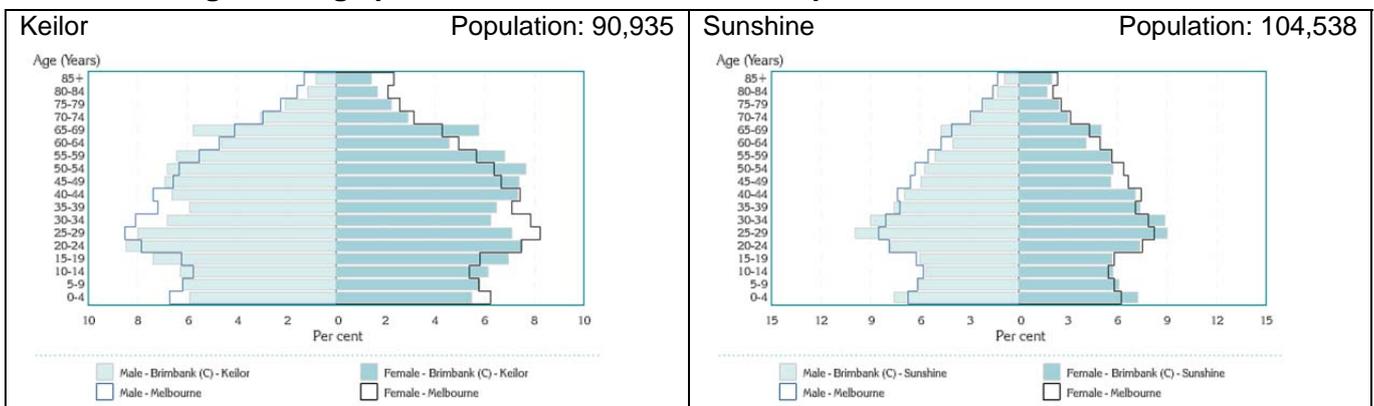
The other graph in Figure 3 shows that the population in Brimbank is projected to become more stable by 2025, as the population ages, and birth rates stabilise. Over this 12-year period, the population will grow steadily, by an average of 2.1% per annum, or by 26.0% from 2013 to 2025.

**Figure 3: Age profile in Brimbank LGA compared with Melbourne, 2013; and projected to 2025**



Source: 2013 Estimated Resident Population, 2011; 2025 populations are customised projections prepared for the Australian Government Department of Social Services by the Australian Bureau of Statistics.

**Figure 4: Age profiles in Brimbank SLAs compared with Melbourne, 2013**

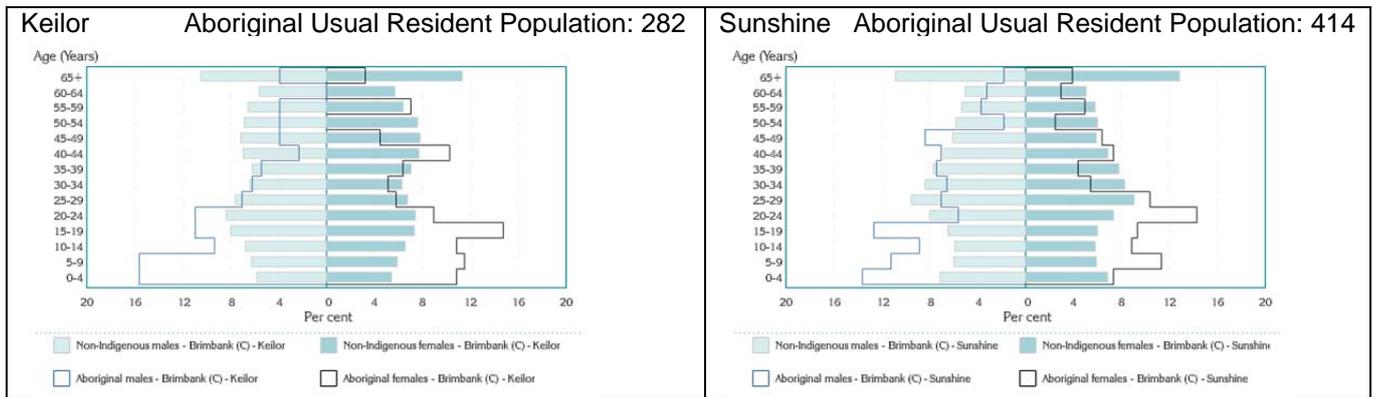


Source: 2013 Estimated Resident Population

Despite the small numbers overall and in some age groups, it is clear that the Aboriginal populations in both the Keilor and Sunshine SLAs in 2011 had markedly higher proportions

of their population at younger ages, and lower proportions at older ages (Figure 5). This is in keeping with the pattern seen elsewhere in Australia.

**Figure 5: Age profiles in Brimbank SLAs by Indigenous status, 2011**



Source: 2011 Census Community Profiles, Basic Community profile for Brimbank (C) - Keilor and - Sunshine, accessed 8 April at

[http://www.censusdata.abs.gov.au/census\\_services/getproduct/census/2011/communityprofile/205101181?opendocument&navpos=220](http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/communityprofile/205101181?opendocument&navpos=220)

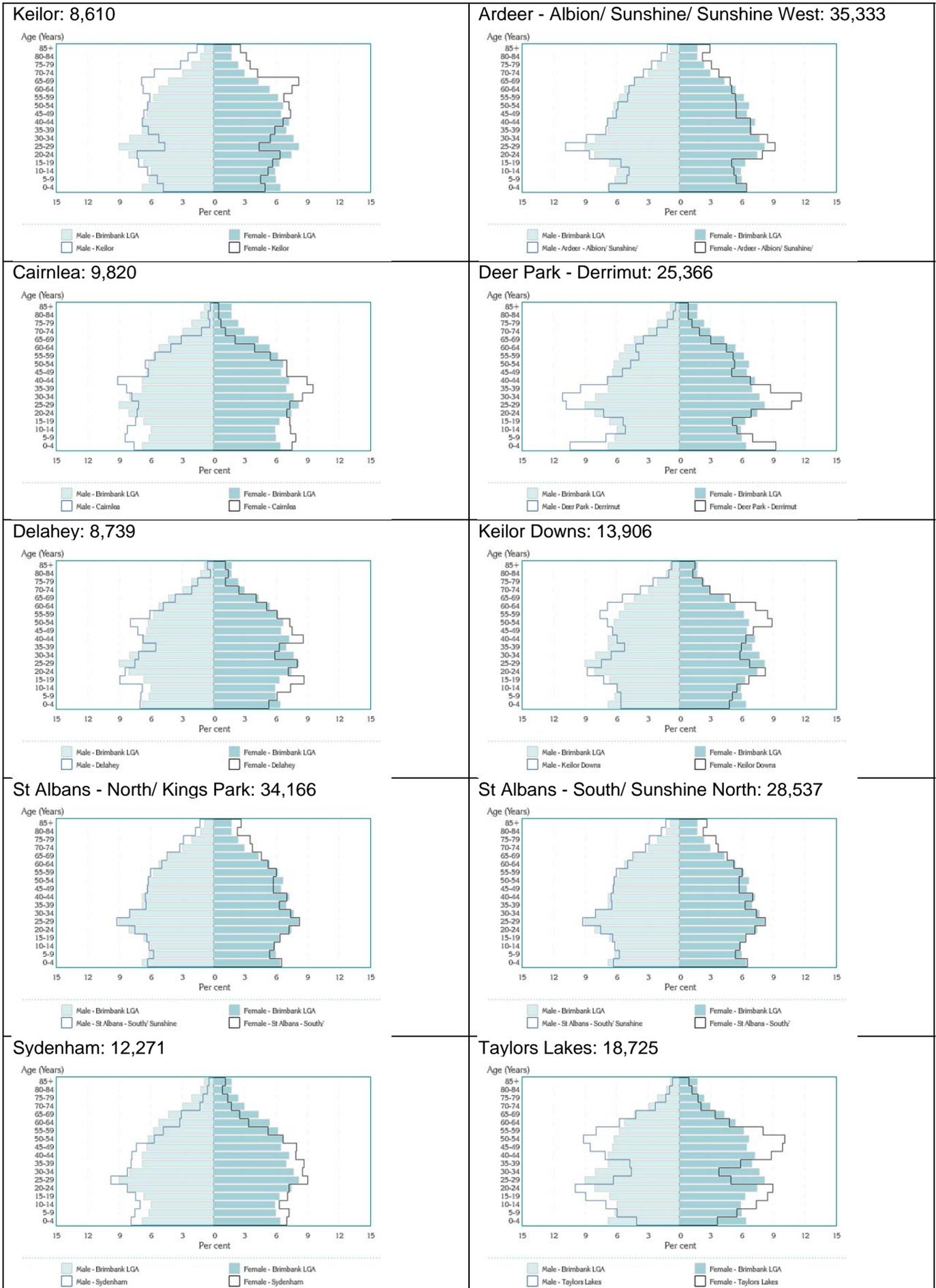
At the PHA level, Ardeer - Albion/ Sunshine/ Sunshine West, St Albans - North/ Kings Park and St Albans - South/ Sunshine North have age profiles that are most similar to each other and to the overall Brimbank City profile (Figure 6). In Sydenham, there are relatively more people under 50, and fewer from 50 years and over, than in the City overall. Cairnlea and Delahey also have relatively more children and young people, and more adults - in Cairnlea, from 35 years to 44 years for males, and 30 to 49 years for females; and, in Delahey, from 45 to 59 years for males and from 40 to 54 years for females.

Keilor and Keilor Downs PHAs have relatively fewer children, and more adults from 45 years of age; in Keilor, the markedly higher proportions continue through to the 85 years and over age group.

In Taylors Lakes, the profile shows higher proportions of established families, with teenagers to young adults living at home.

In Deer Park - Derrimut, the families are younger, with markedly higher proportions of children in the 0 to 4 year age group, when compared with Brimbank City overall.

**Figure 6: Age profiles in Brimbank PHAs compared with Brimbank LGA, 2013**



Source: PHA populations compiled in PHIDU from ABS ERP populations by Statistical Areas Level 2; Brimbank population from 2013 Estimated Resident Population.

## Comparison tables

The following tables provide, in summary form, the data for the Brimbank SLAs and LGA that we could also obtain for areas across Australia. Table 1 comprises the contextual indicators and Table 2 comprises the health and wellbeing, and education and child development indicators. Each of the tables shows the percentage or rate for each indicator, and is shaded to demonstrate the extent to which the percentage or rate in each SLA or the LGA differs from that in Melbourne. Areas shaded in green indicate a good outcome, and those shaded in grey indicate a poorer outcome; note that some indicators have not been shaded. Defining indicators as representing 'good' or 'poor' outcomes is, in a number of instances, somewhat arbitrary. For example, we have said that having a relatively high proportion of people in occupations of managers or professionals represents a 'good' outcome, whereas having relatively high proportions of people working as labourers is a 'poor' outcome. This allocation was made in the context of having sufficient resources to ensure access to adequate housing, transport etc., as well as the degree of control over one's life that we know leads to better health outcomes.

We acknowledge that while for most indicators the table delivers a clear message, in some instances the comparisons are not necessarily clear. For example, we have shaded '% managers or professionals' as a 'good outcome', and, as proportions in Brimbank are 10% or more below the Melbourne figure, the cells are shown as white. Thus, the absence of managers and professionals is not immediately clear.

Indicators that have been mapped at the PHA level later in this section have been underlined in these tables.

There are a number of other important indicators of the health and wellbeing of the population in Brimbank that are not available at the small area level across Australia. Some of these, drawn from the report, *The Diverse Communities of Brimbank*<sup>5</sup>, are shown overleaf in Table 3.

The contextual indicators, for which Brimbank had substantially poorer outcomes, when compared with Melbourne, are the extent to which:

- children under 15 years of age lived in jobless families, or whose mothers had low educational attainment; and
- people reported having poor proficiency in English were unemployed, or were working as labourers, lived in a household without access to the Internet at home, relied on government support as their main source of income for the last two years, or were aged 15 years and over, and were living with disability (Table 1).

These adverse outcomes were generally more evident in Sunshine than in Keilor.

The indicators for health, wellbeing, education, and child development, suggest generally poorer outcomes for the population of Brimbank, although only hospitalisations for ambulatory care-sensitive conditions (ACSCs) at ages 0 to 14 years; the estimated prevalence of diabetes mellitus and circulatory system diseases; and the infant death rate are at levels of 50% or more above the average rates for Melbourne (Table 2).

However, such poor outcomes are evident for both SLAs. In Keilor, rates of 50% or more above the Melbourne average are evident for hospitalisations for ACSCs at ages 0 to 14 years (for all conditions, for asthma, and for dental conditions), and at ages 15 years and over (for type 2 diabetes; the estimated prevalence of diabetes mellitus; and infant deaths. In Sunshine, similarly adverse outcomes were found for people who reported their health as fair or poor (rather than excellent, very good, or good), the estimated prevalence of diabetes mellitus and for NAPLAN test results for reading and numeracy, for children in Years 3 and 9.

None of the indicators showed there was a substantially better outcome for the population of Brimbank or the SLAs of Keilor and Sunshine, when compared with Melbourne. However, for several indicators, the outcome was within ten per cent of the Melbourne average: these results are shaded in light green in the following tables. The most elevated rate was found for participation in vocational education and training of people living in Sunshine, a rate which was 22% above the Melbourne average.

**Table 1: Contextual indicators, Brimbank and comparators**  
*All indicators expressed as percentages, other than the IRSD (expressed as an index)*

| Indicator  | Brimbank |          |      | Melbourne | Australia |
|--|----------|----------|------|-----------|-----------|
|  | Keilor   | Sunshine | LGA  |           |           |
| <b>Summary measures of socioeconomic disadvantage</b>  |          |          |      |           |           |
| <u>IRSD</u>  | 961      | 894      | 926  | 1018      | 1002      |
| <u>Children under 15 years of age in jobless families</u>                                    | 17.4     | 26.1     | 22.0 | 11.8      | 13.9      |
| <u>Children under 15 years of age whose mothers had low educational attainment</u>           | 19.2     | 25.5     | 22.6 | 14.5      | 22.2      |
| <u>Learning or earning at ages 15 to 24 years</u>  | 74.7     | 70.2     | 72.5 | 77.5      | 73.1      |
| <b>Birthplace and language proficiency (indicators not all shaded)</b>                       |          |          |      |           |           |
| <u>Recent arrivals from countries in which English is not the predominant language</u>       | 5.1      | 8.9      | 7.1  | 5.1       | 3.3       |
| <u>Longer term residents from countries in which English is not the predominant language</u> | 31.6     | 36.3     | 34.1 | 18.3      | 11.7      |
| <u>English proficiency reported as being poor</u>  | 8.5      | 13.5     | 11.1 | 4.4       | 2.6       |
| <b>Five main countries of birth (excluding Australia) (indicators not shaded)</b>            |          |          |      |           |           |
| Vietnam  | 5.9      | 13.4     | 9.8  | 1.7       | 0.9       |
| India  | 4.3      | 4.2      | 4.2  | 2.7       | 1.4       |
| Malta  | 2.8      | 3.1      | 2.9  | 0.5       | 0.2       |
| Philippines  | 2.2      | 3.4      | 2.9  | 0.8       | 0.8       |
| Italy  | 2.4      | 1.6      | 2.0  | 1.7       | 0.9       |
| <b>Five main (non-English) languages spoken at home (indicators not shaded)</b>              |          |          |      |           |           |
| Vietnamese   | 8.8      | 19.1     | 14.2 | 2.1       | 1.1       |
| Maltese  | 3.1      | 3.4      | 3.3  | 0.4       | 0.2       |
| Greek  | 3.4      | 2.9      | 3.2  | 2.8       | 1.2       |
| Italian  | 4.1      | 2.3      | 3.2  | 2.8       | 1.4       |
| Macedonian   | 3.7      | 2.1      | 2.9  | 0.7       | 0.3       |
| <b>Aboriginal and Torres Strait Islander peoples</b>   |          |          |      |           |           |
|  | 0.3      | 0.4      | 0.4  | 0.5       | 2.5       |
| <b>Labour force</b>  |          |          |      |           |           |
| <u>Unemployed (Census)</u>   | 7.0      | 9.5      | 8.3  | 5.5       | 5.6       |
| <u>Unemployed youth (Census)</u>   | 12.4     | 16.2     | 14.2 | 12.3      | 12.2      |
| <u>Female labour force participation (Census)</u>  | 52.4     | 46.3     | 49.2 | 56.8      | 56.1      |
| <u>People working as managers or as professionals</u>  | 22.6     | 20.4     | 21.5 | 36.6      | 34.2      |
| <u>People working as labourers</u>   | 12.1     | 16.0     | 14.0 | 8.0       | 9.4       |
| <b>Housing and transport</b>   |          |          |      |           |           |
| <u>Social housing</u>  | 2.3      | 2.6      | 2.4  | 3.0       | 4.7       |
| <u>Low income households under financial stress from rent or mortgage</u>                    | 21.0     | 24.7     | 23.0 | 17.2      | 17.3      |
| <u>No motor vehicle at dwelling on Census night</u>  | 4.0      | 6.4      | 5.3  | 5.5       | 5.4       |
| <b>Internet access at home</b>   |          |          |      |           |           |
| <u>No Internet access</u>  | 16.0     | 19.5     | 17.9 | 11.4      | 12.8      |
| <u>Broadband access (for households with Internet access)</u>                                | 70.6     | 64.6     | 67.5 | 74.6      | 71.3      |
| <b>Community strengths</b>   |          |          |      |           |           |
| <u>Voluntary work through an organisation</u>  | 9.7      | 8.4      | 9.0  | 15.8      | 17.8      |
| <u>Can get support in times of crisis from outside of household*</u>                         | 90.0     | 88.3     | 89.2 | 92.2      | 92.1      |
| <u>Provide support to relatives living outside the household*</u>                            | 29.0     | 28.2     | 28.6 | 29.0      | 30.8      |
| <u>Feeling very safe/safe walking alone in local area after dark*</u>                        | 43.3     | 41.9     | 42.6 | 46.0      | 47.3      |
| <b>Personal and financial stressors:</b>   |          |          |      |           |           |
| <u>Government support as main source of income in last 2 yrs*</u>                            | 35.9     | 44.5     | 40.4 | 26.7      | 27.6      |
| <b>Access to services: financial and transport barriers:</b>                                 |          |          |      |           |           |
| <u>Delayed medical consultation because could not afford it*</u>                             | 14.4     | 15.6     | 15.0 | 13.9      | 14.2      |
| <u>Delayed purchasing prescribed medication due to cost*</u>                                 | 13.0     | 14.2     | 13.6 | 10.7      | 11.0      |
| <u>Have difficulty accessing services*</u>   | 25.5     | 25.7     | 25.6 | 25.9      | 29.7      |
| <b>People living with disability, who are living in the community:</b>                       |          |          |      |           |           |
| <u>0 to 14 years</u>   | 2.0      | 2.2      | 2.1  | 1.9       | 2.0       |
| <u>15 to 64 years</u>  | 3.2      | 3.4      | 3.3  | 2.2       | 2.5       |
| <u>65 years and over</u>   | 22.2     | 23.8     | 23.1 | 14.8      | 13.2      |
| <u>Total</u>   | 5.0      | 5.6      | 5.3  | 3.8       | 3.9       |

\*Indicates data are modelled estimates: see Appendix C for details.

Notes: Key to shading is on opposite page.

Shading for the IRSD has been **reversed**, with scores of 50% or more **below** the Melbourne average (greater disadvantage) shaded in darker shades.

Indicators underlined have been mapped at the PHA level.

Indicators for recent and longer term arrivals and for countries of birth and languages have not been shaded.

Source: See Appendix A.

**Table 2: Health and wellbeing, and education and child development indicators, Brimbank and comparators**

*Hospitalisations expressed as a rate per 1,000 population, infant deaths per 1,000 births and premature mortality per 100,000 population; all other indicators expressed as percentages*

| Indicator  | Brimbank |          |       | Melbourne | Australia |
|--|----------|----------|-------|-----------|-----------|
|  | Keilor   | Sunshine | LGA   |           |           |
| <b>Health and wellbeing</b>  |          |          |       |           |           |
| Mothers and babies   |          |          |       |           |           |
| - <u>Low birthweight babies</u>  | 8.1      | 7.1      | 7.5   | 6.8       | 6.6       |
| - <u>Women smoking during pregnancy</u>  | 9.2      | 9        | 9     | 9.4       | 13.7      |
| - Childhood immunisation at five years of age                                    | 91.9     | 90.0     | 90.9  | 91.2      | 90.0      |
| Hospitalisations for ambulatory care-sensitive conditions                        |          |          |       |           |           |
| - 0-14 years: total  | 28.4     | 20.6     | 24.1  | 18.6      | ..        |
| - 0-14 years: asthma   | 12.2     | 7.8      | 9.7   | 5.8       | ..        |
| - 0-14 years: dental conditions  | 7.7      | 4.7      | 6.1   | 4.5       | ..        |
| - 15 years and over: total   | 38.2     | 23.4     | 30.3  | 27.8      | ..        |
| - 15 years and over: type 2 diabetes   | 14.4     | 7.9      | 10.9  | 8.4       | ..        |
| - 15 years and over: angina  | 1.4      | 0.9      | 1.2   | 1.1       | ..        |
| - 15 years and over: COPD  | 3.0      | 2.4      | 2.7   | 2.7       | ..        |
| Health status  |          |          |       |           |           |
| - <u>Self-assessed health status reported as 'fair' or 'poor'</u> *              | 18.9     | 21.6     | 20.3  | 13.9      | 14.6      |
| - <u>Prevalence of diabetes mellitus*</u>  | 7.9      | 9.6      | 8.8   | 5         | 5.4       |
| - <u>Prevalence of circulatory system diseases*</u>                              | 16.6     | 16.7     | 16.6  | 16.4      | 17.3      |
| - Infant death rate  | 5.0      | 5.7      | 5.4   | 3.3       | 3.9       |
| - Child mortality  | ..       | 18.9     | 14.5  | 15.8      | 19.1      |
| - Premature mortality (deaths before 75 years of age)                            |          |          |       |           |           |
| -- Males   | 260.5    | 318.8    | 290.3 | 263.9     | 299.1     |
| -- Females   | 162.9    | 194.9    | 179.3 | 163.1     | 183.2     |
| -- External causes   | 24.3     | 28.2     | 26.3  | 24.2      | 30.1      |
| Health risks   |          |          |       |           |           |
| - Prevalence of high or very high psychological distress: males*                 | 8.2      | 12.8     | 10.6  | 10.1      | 8.8       |
| - Prevalence of high or very high psychological distress: females*               | 15.8     | 16.3     | 16    | 12.3      | 12.7      |
| - Smoking: males*  | 23.7     | 27.1     | 25.5  | 19.8      | 20.3      |
| - Smoking: females*  | 14.3     | 14.6     | 14.5  | 14.3      | 15.7      |
| - Obesity: males*  | 25.9     | 25.7     | 25.8  | 23.7      | 27.5      |
| - Obesity: females*  | 32.0     | 33.2     | 32.6  | 25.3      | 27.5      |
| <b>Education and child development</b>   |          |          |       |           |           |
| <u>Participation in preschool</u>  | 39.9     | 34.6     | 36.9  | 47.5      | 43.9      |
| Participation in vocational education and training                               | 6.5      | 9.5      | 8.0   | 7.8       | 7.8       |
| Young people aged 16 years participating in full-time secondary school education | 81.5     | 79.0     | 80.3  | 82.9      | 79.1      |
| School leavers admitted to university  | 41.3     | 40.6     | 41.0  | 40.4      | 31.3      |
| <u>Early school leavers</u>  | 32.0     | 34.9     | 33.5  | 27.0      | 34.3      |
| NAPLAN: children with results below the national minimum standard in             |          |          |       |           |           |
| - reading outcomes in Year 3   | 6.4      | 7.2      | 6.8   | 4.7       | ..        |
| - reading in Year 9  | 7.0      | 11.2     | 9.0   | 7.1       | ..        |
| - numeracy outcomes in Year 3  | 6.2      | 7.6      | 7.0   | 4.7       | ..        |
| - numeracy outcomes in Year 9  | 4.7      | 7.0      | 5.8   | 4.2       | ..        |
| Highest level of education:  |          |          |       |           |           |
| - Bachelor Degree or higher  | 12.8     | 12.8     | 12.8  | 23.0      | 18.8      |
| - Advanced Diploma or lower  | 22.4     | 19.1     | 20.7  | 23.5      | 26.1      |
| AED: children who are developmentally  |          |          |       |           |           |
| - on track in the Physical health and wellbeing domain                           | 78.0     | 80.0     | 79.1  | 81.7      | 81.2      |
| - on track in the Language and cognitive skills (school-based) domain            | 78.2     | 76.7     | 77.4  | 84.5      | 82.6      |
| - vulnerable on one or more domains  | 26.6     | 28.5     | 27.7  | 19.3      | 22.0      |

Note: Indicators underlined have been mapped at the PHA level.

\*Indicates data are modelled estimates: see Appendix C for details.

Source: See Appendix A.

| Good outcome  |                                     | Poor outcome  |                                     |
|---|-------------------------------------|---|-------------------------------------|
|  | 50% or more above Melbourne average |  | 50% or more above Melbourne average |
|  | 30-49% above Melbourne average      |  | 30-49% above Melbourne average      |
|  | 10-29% above Melbourne average      |  | 10-29% above Melbourne average      |
|  | within +/- 10% of Melbourne average |  | within +/- 10% of Melbourne average |
|  | 10% or more below Melbourne average |  | 10% or more below Melbourne average |

A selection of indicators of the health and wellbeing of the population in Brimbank, from the report *The Diverse Communities of Brimbank*<sup>5</sup> is shown below.

**Table 3: Selected indicators for Brimbank City, compared with Melbourne and Victoria**

| Topic/ indicator   | Brimbank | North West Metropolitan | Victoria |
|--|----------|-------------------------|----------|
| <b>Alcohol-related harms (rate per 10,000 population)<sup>1</sup>:</b>                         |          |                         |          |
| Alcohol related hospitalisations – 2009/10   | 37.71    | 43.00                   | 55.33    |
| <b>Breastfeeding (per cent)<sup>2</sup>:</b>   |          |                         |          |
| Fully or partially breastfed infant on discharge - 2011/12                                     | 87.1     | ..                      | 88.7     |
| Fully or partially breastfed infant at 6 months of age - 2011/12                               | 41.3     | ..                      | 47.8     |
| <b>Child wellbeing services (per cent)<sup>3</sup>:</b>  |          |                         |          |
| Attendance at final Maternal & Child Health visit for 3.5 year old children - 2012             | 38.9     | ..                      | 64.4     |
| <b>Family violence (rate per 100,000 population)<sup>4</sup>:</b>                              |          |                         |          |
| Recorded family violence incidents - 2012/13   | 1,004    | 1,052                   | 1071     |
| <b>Crime (rate per 100,000 population)<sup>4</sup>:</b>  |          |                         |          |
| Person-related   | 1,231.6  | 1,163.3                 | 1026.7   |
| Property-related   | 6,500.0  | 6,005.5                 | 4640.7   |
| <b>Nutrition (per cent):</b>   |          |                         |          |
| Proportion of people eating recommended daily serves of fruit & vegetables <sup>5</sup>        | 2.2      | ..                      | 5.2      |
| Food insecurity (Running out of food in last 12 months & not able to afford more) <sup>6</sup> | 4.9      | 5.8                     | 5.6      |

Note: North West Metropolitan Region is the State Government region and differs from the Melbourne - West area referred to later in this Section.

**Sources for Table 3:**

- Matthew S, Jayasekara H, Lloyd B. The Victorian Alcohol Statistical Series: Alcohol-related harms and use across Victorian Local Government Areas 2000/01 - 2009/10. Available at: [http://docs.health.vic.gov.au/docs/doc/1060B05228B45EB1CA257B09000865EC/\\$FILE/Alcohol%20Statistics%20Series%20Manuscript%2013%20June%202011%20submission%20-%20Final%20version%20Nov%202012.pdf](http://docs.health.vic.gov.au/docs/doc/1060B05228B45EB1CA257B09000865EC/$FILE/Alcohol%20Statistics%20Series%20Manuscript%2013%20June%202011%20submission%20-%20Final%20version%20Nov%202012.pdf). Accessed 23 January, 2014.
- Department of Education and Early Childhood Development. Victorian Child and Adolescent Monitoring System (VCAMS) - Indicator 2.1 Proportion of infants who were breastfed. Available at: <http://www.education.vic.gov.au/childhood/providers/support/pages/mchannualreportarchive.aspx>. Accessed 10 January, 2014.
- Department of Education and Early Childhood Development. Victorian Child and Adolescent Monitoring System (VCAMS) - Indicator 30.5 Proportion of children attending the 3.5 Year Age and Stage visit. Available at: <http://www.education.vic.gov.au/childhood/providers/support/pages/mchannualreportarchive.aspx>. Accessed 10 January, 2014.
- Victoria Police. Victoria Police Crime Statistics. Available at: [http://www.police.vic.gov.au/content.asp?Document\\_ID=782](http://www.police.vic.gov.au/content.asp?Document_ID=782) Accessed 7 September, 2013.
- Department of Health Victoria. *Victorian Population Health Survey 2011-12: selected preliminary survey findings* 2013.
- Community Indicators Victoria. Create a Live Report - Food Security Indicator, Brimbank LGA. Available at: <http://www.communityindicators.net.au/node/add/report>. Accessed 28 January, 2014.

## Data sources, references and notes

- Australian Bureau of Statistics (ABS). Australian Statistical Geography Standard (ASGS). [Website]. At [http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+\(ASGS\)](http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+(ASGS)) (accessed 17 April 2014).
- Cameron J, Gibson K. *Shifting focus: alternative pathways for communities and economies - a resource kit*. Melbourne: Latrobe City and Monash University, 2001.
- Kretzmann J, McKnight J. Introduction. In: Kretzmann J, McKnight J, *Building communities from the inside out: a path toward finding and mobilizing a community's assets*. Illinois, USA: Institute for Policy Research, 1993.
- Foot J, Hopkins T. *A glass half-full: how an asset approach can improve community health and well-being*. London UK: Improvement and Development Agency (IDeA), 2009.
- Brimbank City Council (BCC). *The diverse communities of Brimbank*. Melbourne: BCC, 2010.

## Contextual indicators at the Population Health Area level

|  |    |
|--|----|
| <b>Socioeconomic status</b>  |    |
| Summary measure of socioeconomic disadvantage  | 58 |
| Children under 15 years of age in jobless families                                       | 60 |
| Children in families with mothers with low educational attainment                        | 62 |
| Learning or earning at ages 15 to 19 years   | 64 |
| <b>Birthplace</b>  |    |
| Recent arrivals from countries in which English is not the predominant language          | 66 |
| Longer term residents born in countries in which English is not the predominant language | 68 |
| People with poor English proficiency   | 70 |
| <b>Indigenous status</b>   |    |
| Aboriginal and Torres Strait Islander peoples  | 72 |
| <b>Labour force</b>  |    |
| Unemployed   | 74 |
| Unemployed youth   | 76 |
| Female labour force participation  | 78 |
| People working as managers or as professionals   | 80 |
| People working as labourers  | 82 |
| <b>Housing and transport</b>   |    |
| Social housing   | 84 |
| Low income households under financial stress from rent or mortgage payments              | 86 |
| No motor vehicle   | 88 |
| <b>Internet access at home</b>   |    |
| No access  | 90 |
| <b>Community strengths</b>   |    |
| Voluntary work through an organisation   | 92 |
| People living with disability, by age  | 94 |

## Summary measure of socioeconomic disadvantage

The ABS Index of Relative Socio-economic Disadvantage (IRSD) is a powerful indicator of the socioeconomic disadvantage faced by numerous sub-population groups across Australia. It is based on the social and economic characteristics of the population in each area, and is a useful summary measure, reflecting the patterns of disadvantage seen in many individual indicators of social inequality.<sup>1</sup>

**Indicator definition:** The IRSD is one of four socioeconomic indexes for areas compiled by the ABS, using data from the 2011 Census about the population living in an area, and their characteristics. The index has a base of 1000 for Australia: scores above 1000 indicate relative lack of disadvantage and those below indicate relatively greater disadvantage.

### Key points

- The IRSD score for Brimbank shows that it is among the ten most disadvantaged capital city LGAs in Australia.
- The most disadvantaged areas are located in the central and southern parts of the City, with high levels of disadvantage in and around St Albans.

### Geographic variation

The IRSD score calculated for Brimbank at the 2011 Census shows it being relatively disadvantaged when compared with Australia overall, and more disadvantaged when compared with Melbourne (Table 4). The index score of 926 places it in the ten most disadvantaged capital city LGAs in Australia.

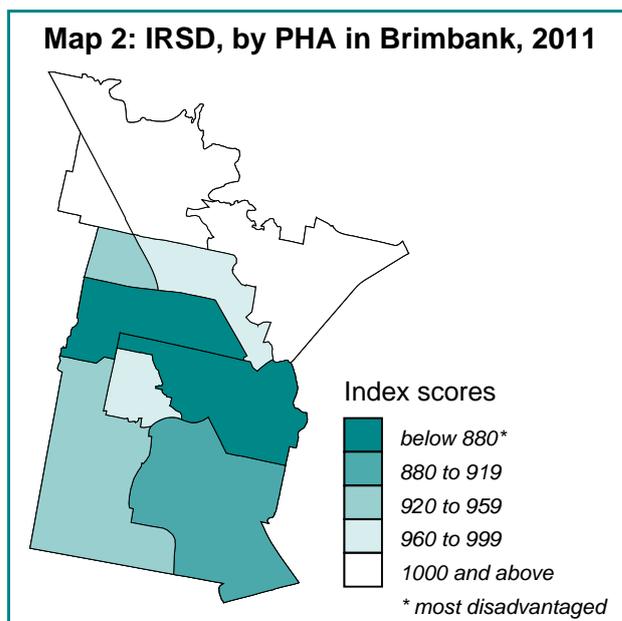
Within Brimbank, the SLA of Sunshine has a lower score (894) than in Keilor (961), a score which places it in the twenty most disadvantaged capital city SLAs. Staff of the Brimbank Council pointed out that the SA2s of St Albans - North, with an IRSD score of just 845, and Kings Park (with an overall IRSD of 854) do not really fit with the socioeconomic profile of the Keilor SLA. We have estimated that, had these areas been included in the Sunshine SLA, the difference in the relative scores would have been even greater, at around 883 in Sunshine and 1023 in Keilor. This is another example of the averaging of measures across areas.

**Table 4: IRSD, Brimbank and comparators, 2011**

| Region                     | Index score |
|----------------------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>961</b>  |
| <b>Brimbank - Sunshine</b> | <b>894</b>  |
| <b>Brimbank City</b>       | <b>926</b>  |
| Melbourne - West           | 979         |
| Melbourne                  | 1020        |
| Country Victoria           | 978         |
| Victoria                   | 1010        |
| <b>Australia</b>           | <b>1000</b> |

The IRSD paints a picture of the distribution of the population at the PHA level across Brimbank that will be seen repeatedly throughout this atlas (Map 2 and Table 5). The most disadvantaged communities under this measure are in the central and southern parts of Brimbank, with very low scores in St Albans - South/ Sunshine North (839) and St Albans - North/ Kings Park (849); the next lowest was in Ardeer - Albion/ Sunshine/ Sunshine West (882). Index scores of above the Australian average were calculated for Taylors Lakes (1056), Keilor (1056) and Sydenham (1010).

**Map 2: IRSD, by PHA in Brimbank, 2011**



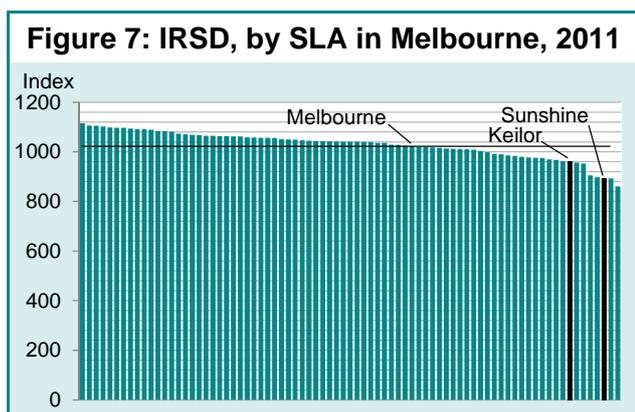
**Table 5: IRSD, by PHA in Brimbank, 2011**

| PHA                                      | Index score |
|--|-------------|
| Keilor                                   | 1055        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 882         |
| Cairnlea                                 | 980         |
| Deer Park - Derrimut                     | 948         |
| Delahey                                  | 936         |
| Keilor Downs                             | 985         |
| St Albans - North/ Kings Park            | 849         |
| St Albans - South/ Sunshine North        | 839         |
| Sydenham                                 | 1010        |
| Taylors Lakes                            | 1056        |
| <b>Brimbank City</b>                     | <b>926</b>  |

The IRSD scores in St Albans - South/ Sunshine North and St Albans - North/ Kings Park are among the lowest of the capital city scores at the PHA level across Australia, with St Albans - South/ Sunshine North ranked seventeenth (of 648 metropolitan PHAs) and St Albans - North/ Kings Park ranked twenty-second.

### Regional comparisons

When compared with other areas in Melbourne, both of the Brimbank City SLAs had index scores in 2011 that were among the most disadvantaged of the Melbourne SLAs, with only Hume - Broadmeadows (with an index score of 860) and Greater Dandenong Balance (893) with lower scores than Brimbank - Sunshine (Figure 7).



### Correlations

There are very strong inverse correlations at the SLA level across Melbourne between this indicator and many indicators of socioeconomic disadvantage (as measured by the IRSD).

High rates of children assessed as being developmentally vulnerable on one or more domains of the AEDC were also very strongly correlated at the SLA level across Melbourne

with greater relative socioeconomic disadvantage under this measure.

In contrast, there are very strong correlations between high scores under the IRSD (i.e. relative lack of disadvantage) and good outcomes for the education and child development indicators of preschool participation and children assessed as being developmentally on track in the physical health and wellbeing, and the language and cognitive skills domains of the AEDC.

For the domain of health and wellbeing, there are very strong associations between low scores under the IRSD (i.e. greater relative disadvantage) and the indicators for self-assessed fair or poor health, high or very high psychological distress for females, and the estimated prevalence of diabetes mellitus, and male smokers. There is a strong inverse correlation with hospitalisations for ambulatory care-sensitive conditions, indicating relatively poorer access to adequate and timely primary health care by these disadvantaged communities.

Proportions for these indicators are similarly elevated in the Brimbank SLAs.

### Understanding correlations with the IRSD

The IRSD is constructed such that the lower the score the greater the level of disadvantage; hence, an inverse (negative) correlation between the IRSD and another indicator indicates an association with disadvantage and a positive correlation indicates an association with a relative lack of disadvantage.

To simplify the commentary in the text, rather than referencing correlations as being with the IRSD, and writing 'an inverse correlation', we have generally referenced correlations as being with 'socioeconomic disadvantage'; thus, an inverse correlation with the IRSD can be referenced as that indicator being (positively) correlated with socioeconomic disadvantage.

### Data sources, references and notes

1. Australian Bureau of Statistics (ABS). Socio-Economic Indexes for Areas (SEIFA), 2011. (Technical paper: ABS Cat. no. 2033.0.55.001). Canberra: ABS, 2013.

## Children in jobless families

*Families where no parent is employed (“jobless families”) not only experience substantial economic disadvantage but may also have reduced social opportunities that affect their wellbeing and health.*

*Children who live without an employed parent may be at higher risk of experiencing financial hardship and other disadvantage in the short to medium term. They may not have a role model of employment to follow, and so the joblessness of the parent(s) may mean that such children are more likely to have outcomes such as welfare dependency in the long term.<sup>1</sup> In some families, the reason the parent is without a job may be to care for children or to undertake study to try to improve the future economic prospects of the household. However, most of the children living without an employed parent live in lone-parent households with limited resources.<sup>2</sup>*

**Indicator definition:** children under 15 years of age in families where no parent is in employment, as a percentage of all families with children under 15 years of age (see the notes in Appendix A).

### Key points

- Some 7,200 children under 15 years of age in Brimbank were estimated to be living in families where no parent was employed.
- In some areas in the City, up to one third of children were living in jobless families, with implications for the level of resources available in the community, and for the provision of services by government and other agencies.

## Geographic variation

More than one in five children aged less than 15 years in Brimbank at the 2011 Census were living in jobless families (Table 3). This is substantially higher than the Australian average, as shown by the rate ratio of 1.58 (i.e., there are 58% more children in this population group in Brimbank than across Australia as a whole).

Of the SLAs, Sunshine has the highest proportion (26.1%) of children in these families; although lower, the proportion in Keilor (17.4%) was still above the average across Melbourne, of 11.8%.

As a result, some 7,200 children in Brimbank less than 15 years of age were estimated to be living in families where no parent was in employment.

**Table 6: Children in jobless families, Brimbank and comparators, 2011**

| Region                     | No.            | %           | RR#         |
|----------------------------|----------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>2,704</b>   | <b>17.4</b> | <b>1.26</b> |
| <b>Brimbank - Sunshine</b> | <b>4,499</b>   | <b>26.1</b> | <b>1.88</b> |
| <b>Brimbank City</b>       | <b>7,203</b>   | <b>22.0</b> | <b>1.58</b> |
| Melbourne - West           | 19,634         | 16.1        | 1.16        |
| Melbourne                  | 81,703         | 11.8        | 0.85        |
| Country Victoria           | 38,060         | 14.8        | 1.06        |
| Victoria                   | 119,798        | 12.7        | 0.91        |
| <b>Australia</b>           | <b>541,792</b> | <b>13.9</b> | <b>1.00</b> |

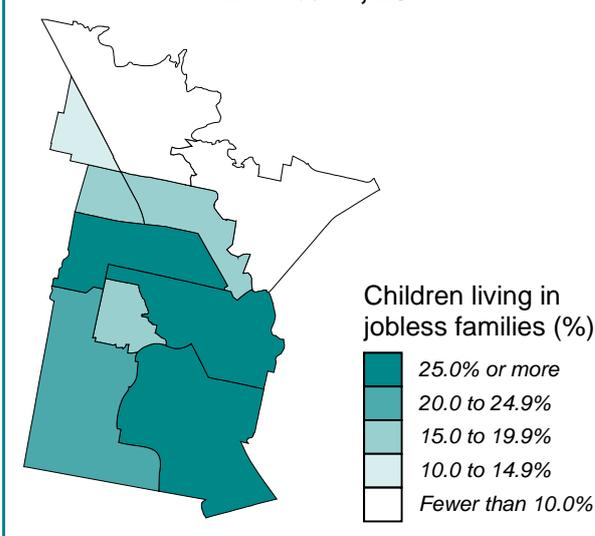
# RR is the ratio of the percentage in the area to the percentage for Australia

Very high proportions of children in these families were recorded in the PHAs of

St Albans - North/ Kings Park (33.4%), St Albans - South/ Sunshine North (30.8%) and Ardeer - Albion/ Sunshine/ Sunshine West (29.4%) (Map 3 and Table 7).

The concentration of children in these families across much of Brimbank represents a major challenge for the community, with the majority of families likely to have limited economic resources, and for government and other agencies, in providing services and support.

**Map 3: Children in jobless families, by PHA in Brimbank, 2011**



In contrast, Taylors Lakes and Keilor had the lowest percentages of children less than 15 years of age in Brimbank living in jobless families, of 5.9% and 6.9%, respectively.

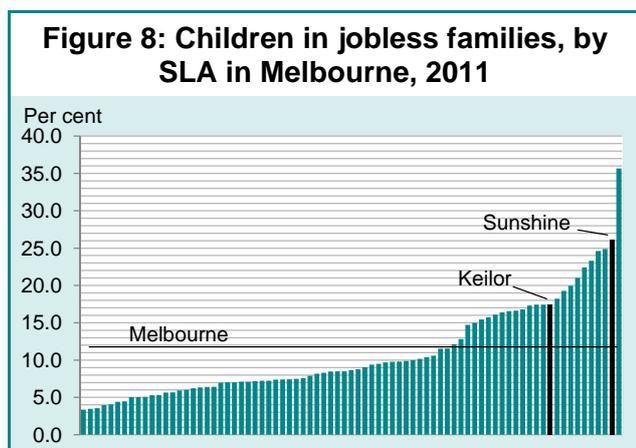
**Table 7: Children in jobless families, by PHA in Brimbank, 2011**

| PHA                                      | No.          | %           | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 90           | 6.9         | 0.31        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 1,522        | 29.4        | 1.34        |
| Cairnlea                                 | 342          | 16.3        | 0.74        |
| Deer Park - Derrimut                     | 913          | 20.1        | 0.91        |
| Delahey                                  | 315          | 18.3        | 0.83        |
| Keilor Downs                             | 350          | 16.5        | 0.75        |
| St Albans - North/ Kings Park            | 1,847        | 33.4        | 1.52        |
| St Albans - South/ Sunshine North        | 1,374        | 30.8        | 1.40        |
| Sydenham                                 | 250          | 10.2        | 0.46        |
| Taylors Lakes                            | 196          | 5.9         | 0.27        |
| <b>Brimbank City</b>                     | <b>7,203</b> | <b>22.0</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

### Regional comparisons

When compared with other areas in Melbourne, both of the Brimbank City SLAs were in the highest 20% of SLAs for this population group; only Hume - Broadmeadows (35.7%) had a higher proportion than that in Sunshine (26.1%) (Figure 8).



### Correlations

There are very strong correlations at the SLA level across Melbourne between this indicator and many other indicators of socioeconomic disadvantage. These were most evident with high proportions of low income households with financial stress from rent or mortgage payments, unemployment, and children in families where the mother has low educational attainment. A very strong inverse correlation indicated that there was a low proportion of the population involved in learning or earning at ages 15 to 24 years.

Very strong inverse correlations showed that children in these families had relatively lower levels of preschool participation; and that

relatively fewer children were developmentally on track in the physical health and wellbeing, or in the language and cognitive skills domains of the AEDC. Not surprisingly, given these findings, relatively more children were developmentally vulnerable on one or more domains of the AEDC.

For the health and wellbeing indicators, there were very strong correlations with this indicator and those for self-assessed fair or poor health, high or very high psychological distress, the estimated prevalence of diabetes mellitus, and male smokers. Strong correlations were found for hospitalisations for ambulatory care-sensitive conditions for children and adults, the latter indicating relatively poorer access to adequate and timely primary health care.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Hancock K, Edwards B, Zubrick S. Echoes of disadvantage across the generations? The influence of long-term joblessness and separation of grandparents on grandchildren. Melbourne, Victoria: Australian Institute of Family Studies, 2013.
2. Australian Bureau of Statistics (ABS). Labour Force, Australia: labour force status and other characteristics of families, June 2011. (ABS Cat. no. 6224.0.55.001). Canberra: ABS, 2011.

## Children in families with mothers with low educational attainment

*Strong relationships between education and health outcomes exist in many countries, favouring the survival and health of children born to educated parents, especially mothers; but the pathways are culturally and historically complex and vary between and within countries.<sup>1-3</sup> A lack of successful educational experiences of parents may lead to low aspirations for their children; and may be related to parents' attitudes, their ability to manage the complex relationships which surround a child's health and education, and their capacity to control areas of their own lives.<sup>4-7</sup>*

**Indicator definition:** Children aged less than 15 years living in families where the female parent's highest level of schooling was year 10 or below, or where the female parent did not attend school, as a proportion of all children aged less than 15 years.

### Key points

- Over 7,800 children under 15 years of age in Brimbank were living in families with mothers with low educational attainment.
- In some areas in the City, almost one third of children under 15 years of age were living in families where mothers had low educational attainment.

### Geographic variation

More than one in five children in Brimbank aged less than 15 years were living in families with mothers with low educational attainment at the 2011 Census (Table 8). Although substantially higher than the Melbourne average (15.2%), it is, however, consistent with the Australian average (23.5%).

Sunshine SLA had a markedly higher proportion of these families than Keilor SLA, with 27.3% and 20.3%, respectively.

As a result, over 7,800 children under 15 years of age in Brimbank were living in families with mothers with low educational attainment.

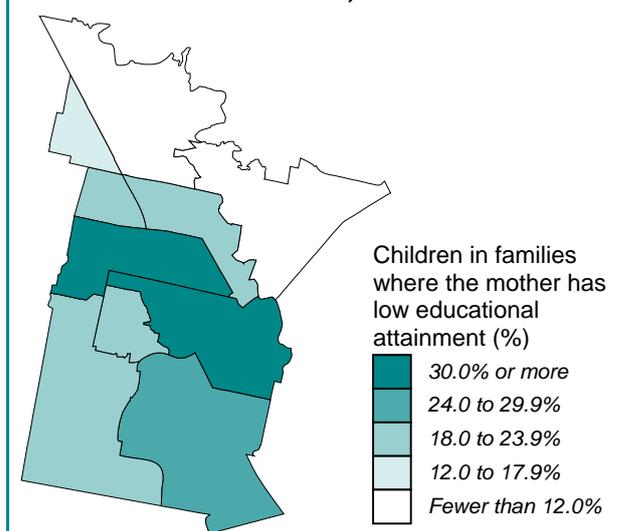
**Table 8: Children in families with mothers with low educational attainment, Brimbank and comparators, 2011**

| Region               | No.            | %           | RR#         |
|----------------------|----------------|-------------|-------------|
| Brimbank - Keilor    | 3,142          | 20.3        | 0.86        |
| Brimbank - Sunshine  | 4,707          | 27.3        | 1.16        |
| <b>Brimbank City</b> | <b>7,849</b>   | <b>24.0</b> | <b>1.02</b> |
| Melbourne - West     | 23,785         | 19.5        | 0.83        |
| Melbourne            | 106,878        | 15.2        | 0.65        |
| Country Victoria     | 54,445         | 22.3        | 0.95        |
| Victoria             | 161,323        | 17.0        | 0.72        |
| <b>Australia</b>     | <b>918,436</b> | <b>23.5</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

High proportions of children living in these families were recorded in the PHAs of St Albans - North/ Kings Park (32.9%) and St Albans - South / Sunshine North (32.7%), followed by Ardeer - Albion/ Sunshine/ Sunshine West (28.7%) (Map 4 and Table 9).

**Map 4: Children in families with mothers with low educational attainment, by PHA in Brimbank, 2011**



**Table 9: Children in families with mothers with low educational attainment, by PHA in Brimbank, 2011**

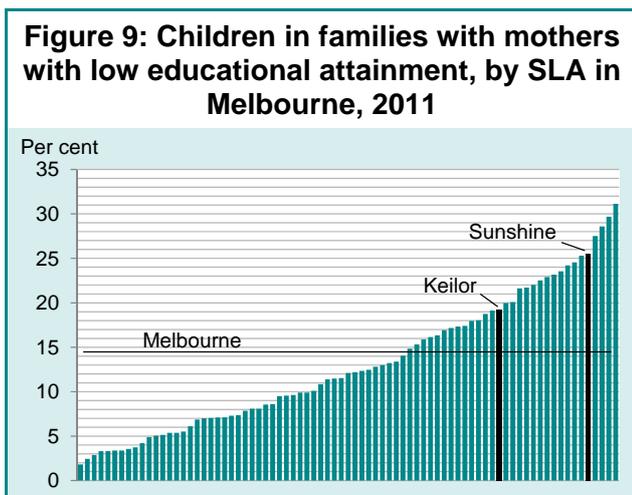
| PHA                                      | No.          | %           | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 115          | 8.8         | 0.37        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 1,482        | 28.7        | 1.19        |
| Cairnlea                                 | 403          | 19.2        | 0.80        |
| Deer Park - Derrimut                     | 1,055        | 23.2        | 0.97        |
| Delahey                                  | 406          | 23.6        | 0.99        |
| Keilor Downs                             | 390          | 18.4        | 0.77        |
| St Albans - North/ Kings Park            | 1,820        | 32.9        | 1.37        |
| St Albans - South/ Sunshine North        | 1,459        | 32.7        | 1.36        |
| Sydenham                                 | 340          | 13.9        | 0.58        |
| Taylors Lakes                            | 379          | 11.4        | 0.48        |
| <b>Brimbank City</b>                     | <b>7,849</b> | <b>24.0</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

In contrast, the proportions of this population group living in the PHAs of Keilor (8.8%), Taylors Lake (11.4%) and Sydenham (13.9%) were less than half of those with the highest proportions, highlighting the substantial regional variations in this indicator.

## Regional comparisons

Sunshine had the fifth highest proportion of children aged less than 15 years living in these families, with 27.3%; and Keilor (20.3%) was ranked just inside of the twenty SLAs with the highest proportions among the 79 Melbourne SLAs (Figure 9).



## Correlations

There are very strong correlations at the SLA level across Melbourne between areas with high proportions of children aged less than 15 years living in families with mothers with low educational attainment and the indicators for children living in jobless families, Internet access at home, mothers smoking in pregnancy, adult smokers, adult obesity, and people working as labourers. Conversely, there were inverse correlations with high proportions of young people involved in learning or earning, and of high proportions of the workforce having the occupations of managers or professionals.

Very strong associations were also found with the education and child development indicators describing low levels of participation in preschool, and relatively few children were developmentally on track in the physical health and wellbeing, or the language and cognitive skills domains of the AEDC. In areas with high proportions of children in these families, there were relatively high rates of children who were developmentally vulnerable on one or more domains of the AEDC.

There were very strong correlations with this indicator and those for women smoking in pregnancy, self-assessed fair or poor health, adult smoking and obesity.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Cleland JG. Maternal education and child survival: further evidence and explanations. In: Caldwell J et al. (Eds.), *What we know about the health transition* (Vol. 1). Canberra: Health Transition Centre, Australian National University, 1990.
2. Ewald D, Boughton B. Maternal education and child health: an exploratory investigation in a Central Australian Aboriginal Community. (Occasional paper series, no. 7). Casuarina, NT: Cooperative Research Centre for Aboriginal and Tropical Health, 2002.
3. Hobcraft J. Women's education, child welfare and child survival: a review of the evidence. *Health Transition Review* 1993; 3(2): 159-173.
4. Graetz B. Socio-economic status in education research and policy. In: Ainley J et al. (Eds.), *Socio-economic status and school education*. Canberra: Department of Education, Employment and Training (DEET) and Australian Council for Educational Research (ACER), 1995.
5. Williams T, Long M, Carpenter P, Hayden M. Year 12 in the 1980's: report of a study supported by the Commonwealth EIP program. Canberra: AGPS, 1993.
6. Considine G, Zappala G. Factors influencing the educational performance of students from disadvantaged backgrounds. In: Eardley T, Bradbury B (Eds.), *Competing visions: refereed Proceedings of the National Social Policy Conference 2001*. (SPRC Report 1/02). Sydney: Social Policy Research Centre, University of New South Wales, 2002.
7. Ryan C, Sartbayeva S. *Young Australians and social inclusion*. Canberra: Social Policy Evaluation, Analysis, and Research (SPEAR) Centre, Australian National University, 2011.

## Learning or earning at ages 15 to 24 years

*Young people who fail to engage in school, work or further education and training run a significant risk of school failure, unemployment, risky health behaviours, mental health problems, social exclusion, and economic and social disadvantage over the longer term.<sup>1,2</sup> In Victoria, there are an estimated 81,900 unemployed young people aged 15 to 24, and 14,000 who have not worked at all in 12 months.<sup>3</sup> The experience of unemployment harms a young person's financial and psychological wellbeing, and these effects are felt more severely by those who experience long-term unemployment.<sup>3</sup> Furthermore, those who experience unemployment while young are more likely to be unemployed, have poorer health and have lower educational attainment when they are older, than those who are not affected by unemployment while young.<sup>3</sup>*

**Indicator definition:** Young people aged 15 to 24 years fully engaged in school, work or further education/ training. 'Fully engaged' includes people who reported at the 2011 Census that they were in full-time work or in full-time education, or in part-time work combined with part-time education. The remaining youth population, those who are 'not fully engaged' includes people who were working part-time (but not studying), unemployed (regardless of whether studying part-time), studying part-time (and not working) and not in the labour force (except those who were full-time students).<sup>4</sup>

### Key points

- Despite a relatively high proportion of the youth population of Brimbank being fully engaged in education or work, almost 20,000 young people were not learning or earning.
- There is a marked regional variation within Brimbank in the extent to which young people were fully engaged in education or work at the 2011 Census.

### Geographic variation

Almost three in every four young people aged 15 to 24 years in Brimbank were fully engaged in education or work at the 2011 Census. This is consistent with the Australian figure (73.1%), although below the average across Melbourne, of 77.5%.

The proportion in the SLA of Keilor was higher than in Sunshine, with 74.7% and 70.2%, respectively.

Despite the high proportion fully engaged in education or work, it is of concern that some 18% of young people in Brimbank were not so engaged (Table 10).

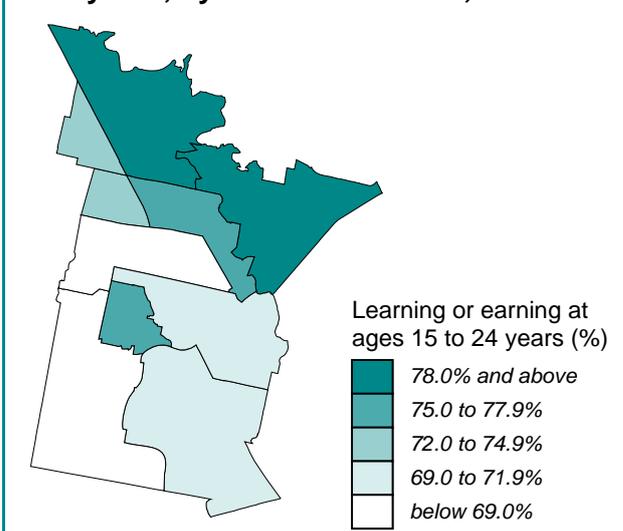
**Table 10: Learning or earning at ages 15 to 24 years, Brimbank and comparators, 2011**

| Region              | No.              | %           | RR#         |
|---------------------|------------------|-------------|-------------|
| Brimbank - Keilor   | 10,174           | 74.7        | 1.02        |
| Brimbank - Sunshine | 9,434            | 70.2        | 0.96        |
| Brimbank City       | 19,608           | 72.5        | 0.99        |
| Melbourne - West    | 60,735           | 72.2        | 0.99        |
| Melbourne           | 428,474          | 77.5        | 1.06        |
| Country Victoria    | 120,353          | 72.5        | 0.99        |
| Victoria            | 549,476          | 76.3        | 1.04        |
| <b>Australia</b>    | <b>2,094,525</b> | <b>73.1</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

The extent of involvement of this group in education or work varies markedly across Brimbank, from 82.1% in Taylors Lakes, to a low 66.5% in Deer Park - Derrimut (Map 5 and Table 11). Keilor (80.8%) and Keilor Downs (75.7%) in the north, and Cairnlea (77.5%) in central Brimbank, also have relatively high rates of engagement. St Albans - North/ Kings Park (68.0%) and Ardeer - Albion/ Sunshine/ Sunshine West (69.1%) had the second and third lowest rates.

**Map 5: Learning or earning at ages 15 to 24 years, by PHA in Brimbank, 2011**



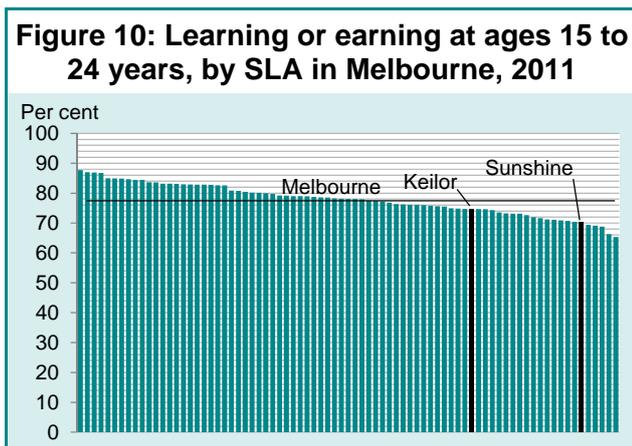
**Table 11: Learning or earning at ages 15 to 24 years, by PHA in Brimbank, 2011**

| PHA                                      | No.           | %           | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 886           | 80.8        | 1.12        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 3,179         | 69.1        | 0.95        |
| Cairnlea                                 | 1,005         | 77.5        | 1.07        |
| Deer Park - Derrimut                     | 2,015         | 66.5        | 0.92        |
| Delahey                                  | 1,006         | 73.0        | 1.01        |
| Keilor Downs                             | 1,679         | 75.7        | 1.05        |
| St Albans - North/ Kings Park            | 3,133         | 68.0        | 0.94        |
| St Albans - South/ Sunshine North        | 2,712         | 71.6        | 0.99        |
| Sydenham                                 | 1,274         | 73.1        | 1.01        |
| Taylors Lakes                            | 2,706         | 82.1        | 1.13        |
| <b>Brimbank City</b>                     | <b>19,595</b> | <b>72.4</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

### Regional comparisons

Both of the Brimbank City SLAs had relatively fewer young people engaged in learning or earning than across Melbourne as a whole, with the level in Sunshine (70.2%) among the lowest of the SLAs (Figure 10).



### Correlations

There are very strong inverse correlations at the SLA level across Melbourne between this indicator and a number of the indicators of socioeconomic disadvantage. Thus, areas with relatively high proportions of their young people learning or earning had relatively fewer children living in jobless families, or in families where the mother has low educational attainment, or in households without Internet access at home.

Very strong correlations were also found between this indicator and those for education and child development, indicating relatively higher levels of participation in preschool, relatively more young people participating in full-time secondary education at age 16 years, and more children assessed as being

developmentally on track in the language and cognitive skills domain of the AEDC.

For the health and wellbeing indicators, a very strong inverse correlation was found with this indicator and those for self-assessed fair or poor health, and male smokers. There were also strong inverse correlations with the indicators for high or very high psychological distress, and hospitalisations for ambulatory care-sensitive conditions, the latter indicating relatively better access to adequate and timely primary health care and thus the avoidance of admission to hospital.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. KPMG. Education provision for young people at risk of disengaging or disengaged from school. (Report for the Department of Education and Early Childhood Development, Victoria). Melbourne: KPMG, 2009.
2. Taylor J. Stories of early school leaving: pointers for policy and practice. Fitzroy: Brotherhood of St Laurence, 2009.
3. Brotherhood of St Laurence (BSL). On the treadmill: young and long-term unemployed in Australia. Melbourne: BSL, 2014.
4. Australian Bureau of Statistics (ABS). Australian social trends, March 2010. (ABS Cat. no. 4102.0). Canberra: ABS, 2010. At <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features40Mar+2010> (accessed 17 April 2014).

## Recent arrivals from countries in which English is not the predominant language

People born in countries in which English is not the predominant language and who have lived in Australia for less than five years (also referred to as recent arrivals) can face a number of difficulties. For many who arrive without proficiency in English, the combination of economic struggle with adjustment to a new language and a new cultural milieu can be expected to give rise to considerable stresses. Although a relatively small group, they also pose special challenges for deliverers of health, education, welfare and other community services.<sup>1</sup> Despite common experiences including those relating to migration and dislocation, this population is far from a homogeneous group. There is great diversity in language, culture, religion, socioeconomic status, education and age structure.<sup>2</sup> The most rapidly growing non-English speaking groups are from Asia (including from countries such as China, India, Viet Nam and Malaysia), and from Africa.<sup>2</sup> In Victoria, 23% of people spoke a language other than English at home in 2011, reflecting the degree to which different ethnic groups and nationalities are retaining their languages.<sup>2</sup>

**Indicator definition:** Comprises people born in countries in which English is not the predominant language (referred to below as NES (non-English speaking) countries), who arrived in Australia from 2007 to 2011, expressed as a proportion of the population.

### Key points

- Brimbank has a high proportion of its population who were born in countries in which English is not the predominant language, and who have arrived in Australia since the beginning of 2007.
- People in this group have come from a diverse range of countries to settle in Australia.

### Geographic variation

People born in countries in which English is not the predominant language, and who have arrived in Australia since the beginning of 2007, comprised 7.1% of the Brimbank population in 2011 (Table 12). This is more than twice the Australian average, as shown by the rate ratio of 2.16; it is also substantially above the level for Melbourne.

In the SLA of Sunshine, the difference is even greater, with close to one in every eleven people in this population group (8.9% of the population, 2.71 times the level in Australia).

**Table 12: People born in NES countries (and resident for less than five years), Brimbank and comparators, 2011**

| Region                     | No.            | %          | RR#         |
|----------------------------|----------------|------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>4,468</b>   | <b>5.1</b> | <b>1.55</b> |
| <b>Brimbank - Sunshine</b> | <b>8,517</b>   | <b>8.9</b> | <b>2.71</b> |
| <b>Brimbank City</b>       | <b>12,985</b>  | <b>7.1</b> | <b>2.16</b> |
| Melbourne - West           | 36,873         | 6.0        | 1.82        |
| Melbourne                  | 202,608        | 5.1        | 1.54        |
| Country Victoria           | 13,063         | 1.0        | 0.30        |
| Victoria                   | 216,247        | 4.0        | 1.23        |
| <b>Australia</b>           | <b>705,593</b> | <b>3.3</b> | <b>1.00</b> |

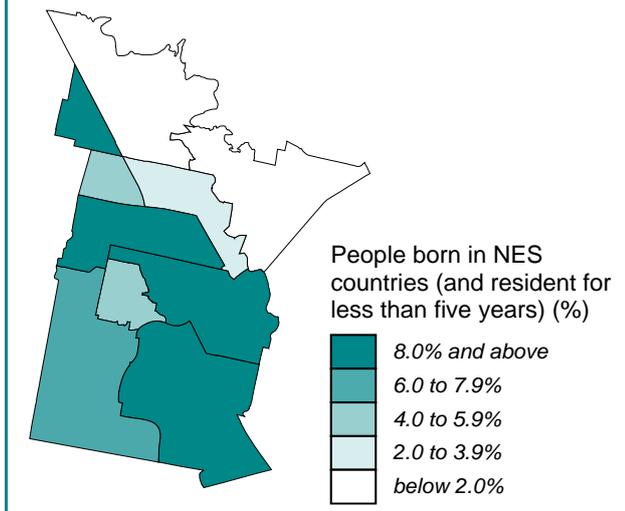
#RR is the ratio of the percentage in the area to the percentage for Australia

Although the proportion of the population in this group in Keilor (5.1%) was well above the average across Australia of 3.3%, it was the same as in Melbourne. It is of note that the population with these characteristics in Melbourne (5.1%) is markedly greater than the 'all capital cities' proportion (4.1%).

For people in this population group living in Sunshine, the main countries of birth were Vietnam (13.4%), India (4.2%), Philippines (3.4%), Malta (3.1%) and Italy (1.6%). Similarly, in Keilor, the birthplaces of this population group were Vietnam (5.9%), India (4.3%), Malta (2.8%), Italy (2.4%) and Macedonia (2.3%).

The distribution of this population group at the PHA level across Brimbank varies markedly, from just 0.7% in Keilor and 1.3% in Taylors Lakes, to 9.7% in St Albans - South/ Sunshine North and 10.8% in Ardeer - Albion/ Sunshine/ Sunshine West (Map 6 and Table 13). Sydenham (8.3%), St Albans - North/ Kings Park (8.2%) and Deer Park - Derrimut (7.8%) also had proportions above the Melbourne average.

**Map 6: People born in NES countries (and resident for less than five years), by PHA in Brimbank, 2011**



**Table 13: People born in NES countries (and resident for less than five years), by PHA in Brimbank, 2011**

| PHA                                      | No.           | %          | RR#         |
|--|---------------|------------|-------------|
| Keilor                                   | 56            | 0.7        | 0.09        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 3,539         | 10.8       | 1.52        |
| Cairnlea                                 | 401           | 4.5        | 0.64        |
| Deer Park - Derrimut                     | 1,725         | 7.8        | 1.10        |
| Delahey                                  | 372           | 4.4        | 0.62        |
| Keilor Downs                             | 417           | 3.1        | 0.44        |
| St Albans - North/ Kings Park            | 2,658         | 8.2        | 1.16        |
| St Albans - South/ Sunshine              |               |            |             |
| North                                    | 2,602         | 9.7        | 1.37        |
| Sydenham                                 | 961           | 8.3        | 1.17        |
| Taylors Lakes                            | 238           | 1.3        | 0.19        |
| <b>Brimbank City</b>                     | <b>12,969</b> | <b>7.1</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

### Regional comparisons

Figure 11 highlights the high proportions of this population group living in a relatively small number of SLAs, in particular in areas with high proportions of students from countries in which English is not the predominant language. The most evident examples are the Melbourne SLAs of

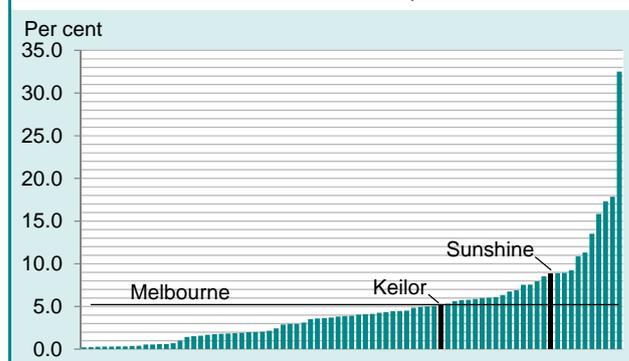
- Inner, where this population group represents 32.5% of the population, of whom the 2,251 students, under 30 years of age studying at a university or other tertiary institution, represent 44.5% of all people in this population group;
- Southbank-Docklands, where this population group represents 17.3%, of whom the 989 students under 30 years of age studying at a university or other tertiary

institution, represent 33.4% of all people in this population group; and

- Remainder, where this population group represents 15.8% of the population, of whom the 5,373 students, under 30 years of age studying at a university or other tertiary institution, represent 55.6% of all people in this population group.

Several other areas have substantial numbers of these students; although relatively smaller, the data for Brimbank City show there to be 664 students in Sunshine and 266 students in Keilor.

**Figure 11: People born in NES countries (and resident for less than five years), by SLA in Melbourne, 2011**



### Correlations

There are very strong correlations at the SLA level across Melbourne between this indicator and the level of unemployment and of dwellings without access to a motor vehicle. Strong correlations were also found between this indicator and longer term residents born in NES countries, people born overseas reporting poor proficiency in English and low income households under financial stress from rent or mortgage payments. There was also a strong correlation with the estimated prevalence of high or very high psychological distress.

Strong inverse correlations were found between this indicator and those for children living with disability, and for people with their highest level of education being an Advanced Diploma, Diploma or Certificate.

Similar outcomes are also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

See *Data sources* on page 69, overleaf.

## Longer term residents born in countries in which English is not the predominant language

People in this category were born in countries in which English is not the predominant language and arrived in Australia five or more years ago. In the post-war period (in particular from the 1950s), the majority of immigrants from non-English speaking countries came from Europe; more recently, the proportion of these immigrants from Europe has declined. In Victoria, culturally diverse older people may be excluded from social and economic participation because of social isolation, varying levels of English, low levels of literacy even in languages other than English, lack of information in languages other than English, no driver's license and lack of confidence using public transport.<sup>3</sup> Victorian non-English speaking seniors also tend to have low levels of health literacy and internet literacy, and are at a higher risk of poor health outcomes such as advanced dementia and depression.<sup>3</sup>

**Indicator definition:** Comprises people born in countries in which English is not the predominant language (referred to below as NES (non-English speaking) countries), who arrived in Australia before 2007, expressed as a proportion of the population.

### Key points

- Longer term residents, who were born in countries in which English is not the predominant language, make up over one third of Brimbank's population.
- Residents in this group are spread widely across the City, comprising between 20% and 40% of the population at the PHA level.

### Geographic variation

Melbourne and Brimbank have even higher proportions of these longer term residents than were seen in the previous indicator for those arrived in recent years, both overall and when compared with Australia (Table 14). In Brimbank, 34.1%, or just over one third of the population, were in this population group at the 2011 Census, almost three times the Australian proportion. This population group also comprises nearly twice the level in Melbourne (18.3%), although it is of note that the Melbourne proportion is markedly greater than the 'all capital cities' average (15.9%).

**Table 14: People born in NES countries (and resident for five years or more), Brimbank and comparators, 2011**

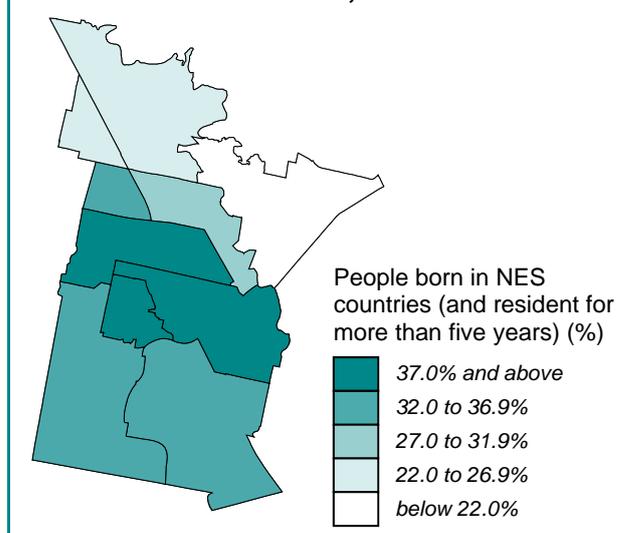
| Region                     | No.              | %           | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>27,422</b>    | <b>31.6</b> | <b>2.69</b> |
| <b>Brimbank - Sunshine</b> | <b>34,801</b>    | <b>36.3</b> | <b>3.09</b> |
| <b>Brimbank City</b>       | <b>62,223</b>    | <b>34.1</b> | <b>2.91</b> |
| Melbourne - West           | 142,035          | 23.1        | 1.96        |
| Melbourne                  | 730,124          | 18.3        | 1.56        |
| Country Victoria           | 57,372           | 4.3         | 0.36        |
| Victoria                   | 788,083          | 14.7        | 1.25        |
| <b>Australia</b>           | <b>2,524,300</b> | <b>11.7</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

Both SLAs within Brimbank have high proportions, with 36.3% in Sunshine and 31.6% in Keilor; these SLAs are ranked seventh and 15th highest, respectively on this indicator at the SLA level across Australia.

All of the PHAs in Brimbank had at least one fifth of their population born in countries in which English is not the predominant language, and who arrived in Australia before 2007 (Map 7 and Table 15).

**Map 7: People born in NES countries (and resident for five years or more), by PHA in Brimbank, 2011**



The highest proportions, of one third or more of the population, were in St Albans - South/ Sunshine North (41.7%), Cairnlea (41.6%), St Albans - North/ Kings Park (39.9%), Delahey (36.8%) and Ardeer - Albion/ Sunshine/ Sunshine West (33.0%). Keilor had the lowest proportion (21.1%).

As noted above, the overall high numbers of this population group, and their widespread nature throughout the City, present challenges for the delivery of a range of services at the local level.

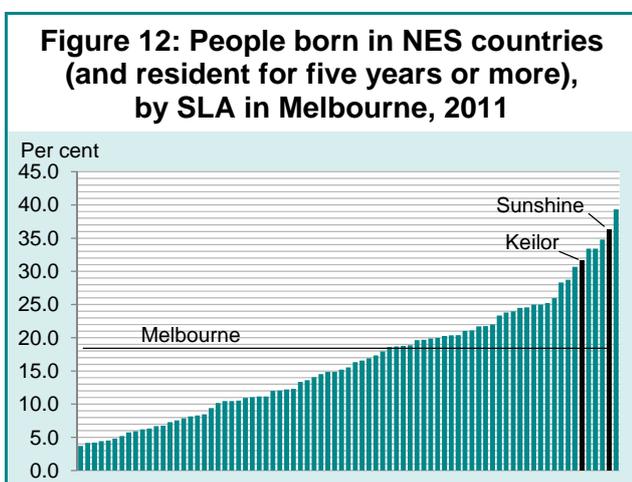
**Table 15: People born in NES countries (and resident for five years or more), by PHA in Brimbank, 2011**

| PHA                                      | No.           | %           | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 1,751         | 21.1        | 0.62        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 10,820        | 33.0        | 0.97        |
| Cairnlea                                 | 3,674         | 41.6        | 1.22        |
| Deer Park - Derrimut                     | 7,126         | 32.1        | 0.94        |
| Delahey                                  | 3,103         | 36.8        | 1.08        |
| Keilor Downs                             | 4,277         | 31.8        | 0.93        |
| St Albans - North/ Kings Park            | 12,932        | 39.9        | 1.17        |
| St Albans - South/ Sunshine North        | 11,203        | 41.7        | 1.23        |
| Sydenham                                 | 2,818         | 24.4        | 0.72        |
| Taylors Lakes                            | 4,532         | 25.3        | 0.74        |
| <b>Brimbank City</b>                     | <b>62,236</b> | <b>34.1</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

## Regional comparisons

When compared with other areas in Melbourne, both of the Brimbank City SLAs had among the highest proportions of this population group in 2011, with only Greater Dandenong Balance (39.3%), in the south-east of Melbourne, having a higher proportion (Figure 12).



## Correlations

As is to be expected, there was a very strong correlation at the SLA level across Melbourne between this indicator and areas having high proportions of the population born overseas reporting poor proficiency in English. Strong correlations were also found with recent arrivals from NES countries, the level of unemployment, and low income households under financial stress from rent or mortgage payments.

Strong inverse correlations were found with female labour force participation, voluntary work and people having as their highest level of education, an Advanced Diploma, Diploma or Certificate.

In the area of health and wellbeing, there was a very strong correlation between this indicator and the estimated prevalence of diabetes mellitus, and a strong correlation with self-assessed fair or poor health.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Institute of Health and Welfare (AIHW). Australia's welfare, 2011. (AIHW Cat. no. AUS 142). Canberra: AIHW, 2011.
2. Australian Bureau of Statistics (ABS). Cultural diversity in Australia - reflecting a nation: stories from the 2011 Census, 2012-2013. (ABS Cat. no. 2071.0). Canberra: ABS, 2012.
3. Ethnic Communities' Council of Victoria (ECCV). Submission to the Inquiry into opportunities for participation of Victorian seniors to the Family and Community Development Committee. Carlton, Victoria: ECCV, 2011.

## People born overseas reporting poor proficiency in English

*For migrants born in predominantly non-English speaking countries, the rate at which they adapt to live in the host country is directly related to the rate at which they achieve proficiency in English. Their proficiency in English has profound implications for the ease with which they are able to access labour markets, develop social networks, become aware of and utilise services, and participate in many aspects of Australian society. Those people who are not proficient in spoken English are less likely to be in full-time employment and more likely not to be in the labour force.<sup>1</sup>*

*In 2011, almost half (49%) of longer-standing migrants and 67% of recent arrivals spoke a language other than English at home.<sup>2</sup> This probably reflects the main countries of birth for these two groups and also the amount of time spent in Australia. However, this does not provide an indication of their ability to speak English. Over half (51%) of longer-standing migrants reported speaking English very well, while 2.6% reported not speaking English at all. For recent arrivals, 43% reported speaking English very well and the proportion who reported not speaking English at all was 3.1%.<sup>2</sup>*

**Indicator definition:** Comprises people born overseas who reported speaking English 'not well' or 'not at all', expressed as a proportion of the population aged five years and over.

### Key points

- Brimbank has a high proportion of its population who reported at the 2011 Census that they spoke English 'not well' or 'not at all' – it is the fifth ranked LGA for this indicator across Australia and Sunshine is ranked equal fourth among Melbourne's SLAs.
- The data indicate a range of services is required to meet the particular needs of these communities.

### Geographic variation

Just over one in ten people in Brimbank reported speaking English 'not well' or 'not at all' at the 2011 Census (Table 16). This was a substantially larger proportion of the population (aged five years and over) than across Australia as a whole (11.1% in Brimbank and 2.6% in Australia).

**Table 16: People born overseas reporting poor proficiency in English, Brimbank and comparators, 2011**

| Region                     | No.            | %           | RR#         |
|----------------------------|----------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>6,992</b>   | <b>8.5</b>  | <b>3.32</b> |
| <b>Brimbank - Sunshine</b> | <b>12,043</b>  | <b>13.5</b> | <b>5.28</b> |
| <b>Brimbank City</b>       | <b>19,035</b>  | <b>11.1</b> | <b>4.34</b> |
| Melbourne - West           | 36,029         | 6.4         | 2.48        |
| Melbourne                  | 162,826        | 4.4         | 1.70        |
| Country Victoria           | 8,524          | 0.7         | 0.26        |
| Victoria                   | 171,580        | 3.4         | 1.34        |
| <b>Australia</b>           | <b>513,583</b> | <b>2.6</b>  | <b>1.00</b> |

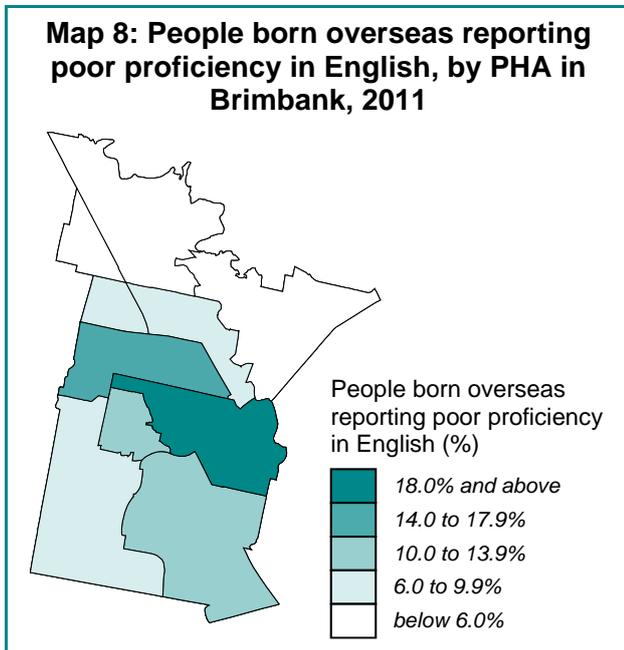
#RR is the ratio of the percentage in the area to the percentage for Australia

As is the case for many of these social indicators, the proportion in the Sunshine SLA (13.5%) is higher than that in Keilor (8.5%); and it has the equal fourth highest proportion of this population group of all SLAs in Australia.

Melbourne has a larger proportion of its population in this group, at 4.4%, than in Australia overall (and more than the 'all capital cities' average, of 3.6%). However, the proportion in Brimbank is over two and a half times that in Melbourne; this is a larger difference than in the proportions of the population born in countries in which English is not the predominant language. It is also indicative of the need for a range of services to meet the particular needs of these communities.

As is to be expected, the areas within Brimbank with the highest proportions of their populations reporting poor proficiency in English are generally those noted in the previous two indicators, relating to people born overseas. The highest proportions, both of which are substantially above the Brimbank City average, are in St Albans - South/ Sunshine North (19.3%) and St Albans - North/ Kings Park (15.1%), with proportions of 12.8% and 12.1% in Ardeer - Albion/ Sunshine/ Sunshine West and Cairnlea, respectively (Map 8 and Table 17).

However, Sydenham, with a relatively high proportion of its population who had arrived in the five years before the 2011 Census (8.3%, 17% above the Brimbank average), had a relatively low proportion reporting poor proficiency in English (73% below the Brimbank average).



**Table 17: People born overseas reporting poor proficiency in English, by PHA in Brimbank, 2011**

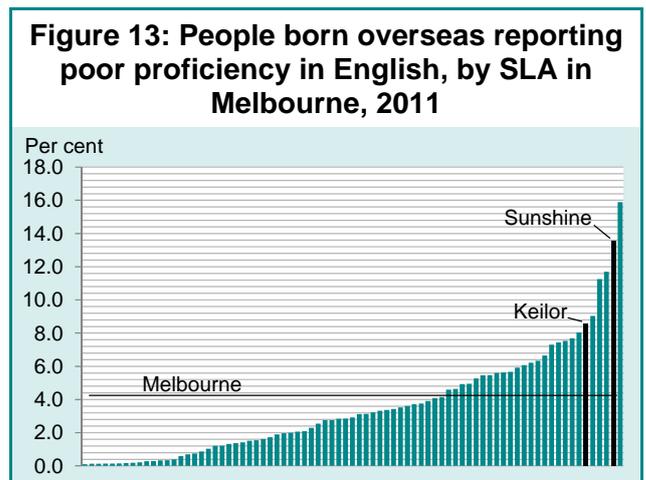
| PHA                                      | No.           | %           | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 229           | 2.9         | 0.26        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 3,941         | 12.8        | 1.15        |
| Cairnlea                                 | 984           | 12.1        | 1.09        |
| Deer Park - Derrimut                     | 1,655         | 8.2         | 0.74        |
| Delahey                                  | 781           | 9.9         | 0.89        |
| Keilor Downs                             | 978           | 7.7         | 0.69        |
| St Albans - North/ Kings Park            | 4,577         | 15.1        | 1.35        |
| St Albans - South/ Sunshine North        | 4,853         | 19.3        | 1.73        |
| Sydenham                                 | 442           | 4.1         | 0.37        |
| Taylors Lakes                            | 602           | 3.5         | 0.32        |
| <b>Brimbank City</b>                     | <b>19,042</b> | <b>11.2</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

## Regional comparisons

As was the case for people born in countries for which English is not the predominant language, and who arrived in Australia before 2007, the proportions of people reporting poor proficiency in English for the Brimbank SLA was among the top six Melbourne SLAs.

Again, Sunshine, with 13.5% of its population in this group, had the second highest proportion after Greater Dandenong Balance (15.9%) (Figure 13).



## Correlations

There are very strong correlations at the SLA level across Melbourne between high proportions of people born overseas reporting poor proficiency in English and high proportions of longer term residents born in NES countries, as well as with high levels of unemployment. A very strong correlation was also present for this indicator and the estimated prevalence of diabetes mellitus.

A strong correlation between this indicator and that for children assessed as being developmentally vulnerable on one or more AEDC domains highlights that children in these areas in their first year of school face a number of challenges. Adding to this point, there was also a strong inverse correlation between this indicator and the highest level of education in the adult population being an Advanced Diploma, Diploma or Certificate, indicating a relatively low level of post-school education.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). Perspectives on migrants, 2007. (ABS Cat. no. 3416.0). Canberra: ABS, 2008.
2. Australian Bureau of Statistics (ABS). Cultural diversity in Australia - reflecting a nation: stories from the 2011 Census, 2012-2013. (ABS Cat. no. 2071.0). Canberra: ABS, 2012.

## Aboriginal and Torres Strait Islander peoples

In 2011, the estimated resident Aboriginal and Torres Strait Islander population in Victoria was 47,333 (or 0.9% of the total Victorian population).<sup>1</sup> The Aboriginal and Torres Strait Islander population is considerably younger than the non-Indigenous population. In 2011, the median age for this population in Victoria was 21.7 years, almost 16 years less than the median age for the non-Indigenous population, of 37.3 years.<sup>1</sup> More than one in three (35.8%) Aboriginal people and Torres Strait Islanders in Victoria were aged less than 15 years, while just 5.0% were aged 65 years and over.<sup>1</sup> As a group, Aboriginal and Torres Strait Islander peoples are disadvantaged across all domains of wellbeing compared to their non-Indigenous counterparts.<sup>2</sup>

**Indicator definition:** The estimates of the Aboriginal and Torres Strait Islander population presented below are the 2011 Census of Population and Housing counts of the Usual Resident Population.

### Key points

- There are relatively few Aboriginal and Torres Strait Islander peoples in Brimbank, where they represent less than one fifth of the proportion of the population for Australia.
- Aside from Keilor Downs, the larger numbers are in Sunshine SLA.

### Geographic variation

The Aboriginal and Torres Strait Islander population (referred to as 'Aboriginal' in the following text) in Brimbank is relatively small (0.4%), being less than one fifth of the proportion across Australia (2.5%) (Table 18). However, it is consistent with the proportion in Melbourne, of 0.5%, but substantially lower than the 'all capitals' average, of 1.3%.

The SLA of Sunshine has the larger population, with 414 Aboriginal people, compared with 282 in Keilor.

Overall, Melbourne -West has a higher proportion of Aboriginal people, at 0.6%, than in Brimbank.

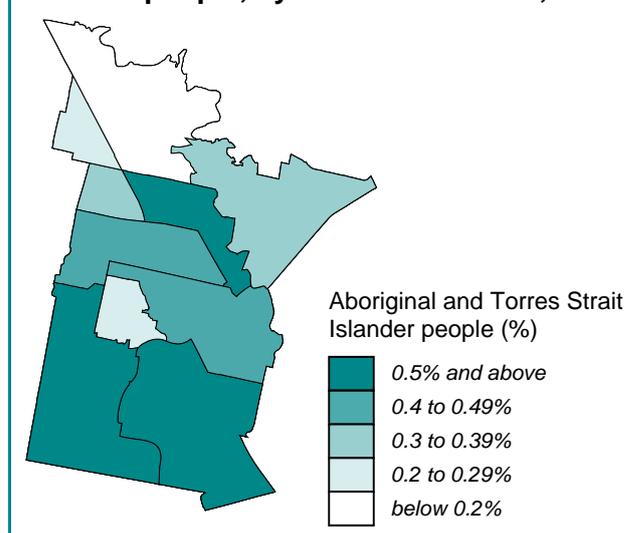
The largest numbers of Aboriginal people in Brimbank are in the PHAs of Ardeer - Albion/ Sunshine/ Sunshine West (170 Aboriginal people), St Albans - North/ Kings Park and St Albans - South/ Sunshine North (144 and 1401, respectively) and Deer Park - Derrimut (105), with a further 67 in Keilor Downs (Map 9 and Table 19).

**Table 18: Aboriginal and Torres Strait Islander peoples, Brimbank and comparators, 2011**

| Region                     | No.            | %          | RR#         |
|----------------------------|----------------|------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>282</b>     | <b>0.3</b> | <b>0.12</b> |
| <b>Brimbank - Sunshine</b> | <b>414</b>     | <b>0.4</b> | <b>0.16</b> |
| <b>Brimbank City</b>       | <b>696</b>     | <b>0.4</b> | <b>0.16</b> |
| Melbourne - West           | 3,486          | 0.6        | 0.22        |
| Melbourne                  | 18,022         | 0.5        | 0.18        |
| Country Victoria           | 19,684         | 1.5        | 0.57        |
| Victoria                   | 37,991         | 0.7        | 0.28        |
| <b>Australia</b>           | <b>548,371</b> | <b>2.5</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

**Map 9: Aboriginal and Torres Strait Islander people, by PHA in Brimbank, 2011**



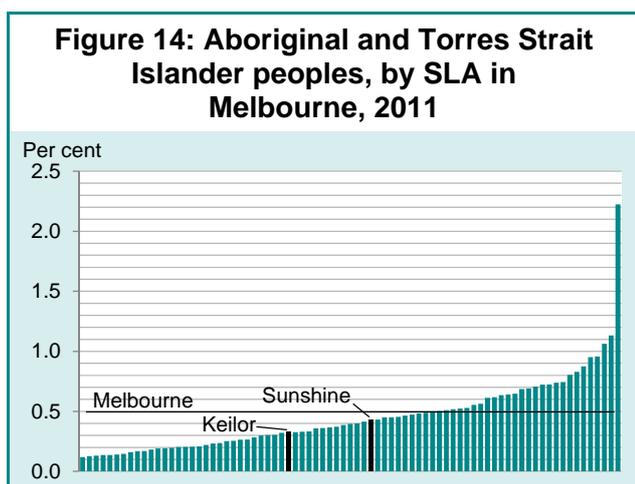
**Table 19: Aboriginal and Torres Strait Islander peoples, by PHA in Brimbank, 2011**

| PHA                                      | No.        | %          | RR#         |
|--|------------|------------|-------------|
| Keilor                                   | 27         | 0.3        | 0.83        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 170        | 0.5        | 1.33        |
| Cairnlea                                 | 15         | 0.2        | 0.44        |
| Deer Park - Derrimut                     | 105        | 0.5        | 1.21        |
| Delahey                                  | 29         | 0.3        | 0.88        |
| Keilor Downs                             | 67         | 0.5        | 1.28        |
| St Albans - North/ Kings Park            | 144        | 0.4        | 1.14        |
| St Albans - South/ Sunshine              |            |            |             |
| North                                    | 101        | 0.4        | 0.97        |
| Sydenham                                 | 28         | 0.2        | 0.62        |
| Taylors Lakes                            | 26         | 0.1        | 0.37        |
| <b>Brimbank City</b>                     | <b>712</b> | <b>0.4</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

### Regional comparisons

Both of the Brimbank City SLAs had relatively low numbers of Aboriginal people in their populations in 2011 when compared with other SLAs in Melbourne (Figure 14).



### Correlations

There are strong correlations at the SLA level across Melbourne between this indicator and high proportions of children in families where the mother has low educational attainment, of people working as labourers, and of children living with disability. Strong inverse correlations were also found with learning or earning and people working as managers or professionals, indicating that there were relatively fewer people with these characteristics.

A strong correlation was found with the education and child development indicator of people who left school early (i.e., people who completed Year 10 or below or did not go to school); similarly, relatively fewer young people in these areas were participating in full-

time secondary education, and relatively fewer people had a highest level of education of Bachelor Degree, or higher.

In the health and wellbeing area, a very strong correlation was found for this indicator and female smokers, and a strong correlation was found for women smoking in pregnancy, male smokers, and adult obesity.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Australian Institute of Health and Welfare (AIHW). The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples: an overview, 2011. (AIHW Cat. no. IHW 42). Canberra: AIHW, 2011.
2. Australian Bureau of Statistics (ABS). Estimates of Aboriginal and Torres Strait Islander Australians, June 2011. (ABS Cat. no. 3238.0.55.001). Canberra: ABS, 2013.

## Unemployment

*Those people who do not have access to secure and satisfying work are less likely to have an adequate income; and unemployment and underemployment are generally associated with reduced life opportunities and poorer health and wellbeing. Although the relationship between unemployment and health and wellbeing is complex and varies for different population groups, there is consistent evidence from research that unemployment is associated with adverse health outcomes; and unemployment has a direct effect on physical and mental health over and above the effects of socioeconomic status, poverty, risk factors, or prior ill-health.<sup>1,2</sup>*

**Indicator definition:** Comprises the number of people who reported in the 2011 Census of Population and Housing that they were unemployed, expressed as a proportion of the labour force. The Census data differ from those produced from Australia's official measure of unemployment, the monthly labour force statistics, which are not available for the small areas mapped in this atlas. See the box on page 77 for further information, and some updated statistics.

### Key points

- Unemployment is at a substantially higher level in Brimbank when compared to the level across Australia, or for Melbourne.
- The unemployment rates are high by Australian standards in all but two PHAs.

### Geographic variation

The level of unemployment in Brimbank under this measure (8.3%) is substantially higher than in Australia overall (5.6%), as shown by the rate ratio of 1.47 (Table 20). It is also substantially higher than the rate in Melbourne (5.5%), and markedly higher than in Melbourne - West (6.8%).

The unemployment rate of 9.5% in Sunshine is 69% above the Australian rate; although lower, the rate of 7.0% in Keilor is still high by Australian standards.

At the PHA level, unemployment rates are relatively high across Brimbank, and are above the Australian and Melbourne rates in all but Keilor (3.9%) and Taylors Lakes (4.7%) (Map 10 and Table 21).

Very high unemployment rates were recorded in St Albans - South/ Sunshine North (11.4%), St Albans - North/ Kings Park (10.9%), Ardeer - Albion/ Sunshine/ Sunshine West (9.7%), Deer Park - Derrimut (8.2%), Delahey (7.9%) and Cairnlea (7.3%).

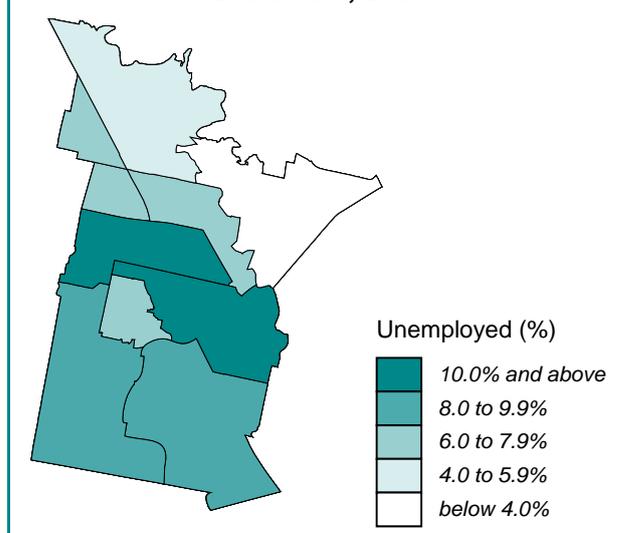
**Table 20: Unemployment, Brimbank and comparators, 2011**

| Region                     | No.            | %          | RR#         |
|----------------------------|----------------|------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>2,929</b>   | <b>7.0</b> | <b>1.25</b> |
| <b>Brimbank - Sunshine</b> | <b>3,972</b>   | <b>9.5</b> | <b>1.69</b> |
| <b>Brimbank City</b>       | <b>6,901</b>   | <b>8.3</b> | <b>1.47</b> |
| Melbourne - West           | 20,506         | 6.8        | 1.21        |
| Melbourne                  | 111,455        | 5.5        | 0.97        |
| Country Victoria           | 32,693         | 5.2        | 0.92        |
| Victoria                   | 144,844        | 5.4        | 0.96        |
| <b>Australia</b>           | <b>600,134</b> | <b>5.6</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

Separate data show that 8,475 people in Brimbank were receiving an unemployment benefit in June 2012; this represented 6.4% of the population aged 15 to 64 years. The figures for Sunshine were 5,139 and 7.4%, and for Keilor, they were 3,336 and 5.3%.

**Map 10: Unemployment, by PHA in Brimbank, 2011**



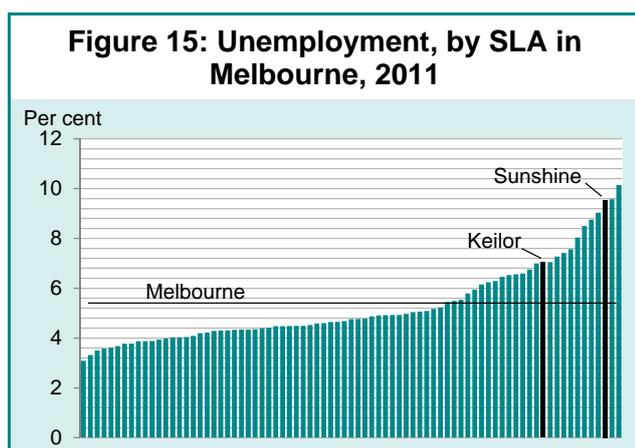
**Table 21: Unemployment, by PHA in Brimbank, 2011**

| PHA                                      | No.          | %          | RR#         |
|--|--------------|------------|-------------|
| Keilor                                   | 167          | 3.9        | 0.47        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 1,371        | 9.7        | 1.17        |
| Cairnlea                                 | 318          | 7.3        | 0.88        |
| Deer Park - Derrimut                     | 860          | 8.2        | 0.99        |
| Delahey                                  | 312          | 7.9        | 0.95        |
| Keilor Downs                             | 436          | 6.4        | 0.77        |
| St Albans - North/ Kings Park            | 1,414        | 10.9       | 1.32        |
| St Albans - South/ Sunshine North        | 1,204        | 11.4       | 1.38        |
| Sydenham                                 | 355          | 6.0        | 0.72        |
| Taylors Lakes                            | 464          | 4.7        | 0.56        |
| <b>Brimbank City</b>                     | <b>6,901</b> | <b>8.3</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

## Regional comparisons

The Brimbank City SLAs had among the highest unemployment rates in Melbourne in 2011. The rate of 9.5% in Sunshine was only exceeded in nearby Hume - Broadmeadows (9.6%), and in Melbourne - Inner (10.1%).



## Correlations

There are very strong correlations at the SLA level across Melbourne between high levels of unemployment and a number of indicators of socioeconomic disadvantage: these are unemployed youth, children living in jobless

families, people from non-English speaking countries who recently arrived and those reporting poor proficiency in English, and low income households under financial stress from rent or mortgage payments.

Strong inverse correlations were found with the education and child development indicators, with relatively low levels of participation of children in preschool and of young people in secondary education. Relatively few children were developmentally on track in the physical health and wellbeing, or the language and cognitive skills domains of the AEDC; and relatively more children in these areas were developmentally vulnerable on one or more domains.

A very strong correlation was apparent for this indicator and self-assessed fair or poor health, the estimated prevalence of diabetes mellitus, and for high or very high psychological distress. Strong correlations were also found between unemployment and high rates of hospitalisations of children for ambulatory care-sensitive conditions, indicating relatively poorer access to adequate and timely primary health care for children.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Mathers CD, Schofield DJ. The health consequences of unemployment: the evidence. *Medical Journal of Australia* 1998; 168(4): 178-182.
2. Dollard MF, Winefield AH. Mental health: overemployment, underemployment, unemployment and healthy jobs. *Australian e-Journal for the Advancement of Mental Health* 2002: 1(3).

**Table 22: Unemployment rate comparisons and updates**

| Area             | ABS Census<br>Aug 2011 | DoE: SALM* |      |      | ABS: LFS** |         |         |
|------------------|------------------------|------------|------|------|------------|---------|---------|
|                  |                        | 2011       |      | 2013 | 2011       | 2013    | 2013-14 |
|                  |                        | June       | Sept | Dec  | Aug-Oct    | Aug-Oct | Dec-Feb |
| Keilor           | 5.6                    | 5.6        | 5.9  | 6.4  | ..         | ..      | ..      |
| Sunshine         | 9.7                    | 9.7        | 10.4 | 11.3 | ..         | ..      | ..      |
| Brimbank         | 7.5                    | 7.5        | 8.0  | 8.8  | ..         | ..      | ..      |
| Melbourne - West | 6.8                    | ..         | ..   | ..   | 7.8        | 6.8     | 6.9     |
| Melbourne        | 5.5                    | ..         | ..   | ..   | 5.3        | 6.1     | 6.9     |
| Victoria         | 5.4                    | ..         | ..   | ..   | 5.2        | 5.8     | 6.7     |
| Australia        | 5.6                    | ..         | ..   | ..   | 5.1        | 5.6     | 6.3     |

\*Small Area Labour Market estimates produced by Department of Education: accessed 28 March 2014 at <http://employment.gov.au/small-area-labour-markets-publication>

\*\*ABS Labour Force Survey, Australia, Detailed - Electronic Delivery, Feb 201: accessed 28 March 2014 at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/6291.0.55.001Feb%202014?OpenDocument>

## Unemployed youth

*Unemployment and its accompanying health effects are not distributed evenly through the population. Unemployment rates in Victoria are highest among young people: the rate in the 20 to 24 year age group being over twice that for people 25 years and over, and for those aged 15 to 19 years, over three times.<sup>1</sup> The experience of unemployment harms a young person's financial and psychological wellbeing, and these effects are felt more severely by those who experience long-term unemployment.<sup>2</sup> Furthermore, those who experience unemployment while young are more likely to be unemployed, have poor health and have lower educational attainment when they are older, than those who are not affected by unemployment while young.<sup>2</sup>*

**Indicator definition:** Comprises the number of people aged 15 to 24 years who reported in the 2011 Census of Population and Housing that they were unemployed, as a proportion of the labour force of that age. The Census data differ from those produced from Australia's official measure of unemployment, the monthly labour force statistics, which are not available for the small areas mapped in this atlas. See the box (opposite) for further information.

### Key points

- Youth unemployment in Brimbank is high, and Sunshine is above the national average rate.
- High rates are evident across much of the City.

### Geographic variation

In 2011, the youth unemployment rate in Brimbank, calculated from Census data, was 16% above the rate in Australia (a rate ratio of 1.16), and similarly above the rate in Melbourne (Table 23).

Youth unemployment in Sunshine (16.2%) was one third higher than the Australian rate of 12.2%, whereas the rate in Keilor (of 12.4%) was consistent with the national rate.

**Table 23: Youth unemployment, Brimbank and comparators, 2011**

| Region                     | No.            | %           | RR#         |
|----------------------------|----------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>967</b>     | <b>12.4</b> | <b>1.02</b> |
| <b>Brimbank - Sunshine</b> | <b>1,100</b>   | <b>16.2</b> | <b>1.33</b> |
| <b>Brimbank City</b>       | <b>2,067</b>   | <b>14.2</b> | <b>1.16</b> |
| Melbourne - West           | 6,569          | 13.7        | 1.13        |
| Melbourne                  | 39,896         | 12.3        | 1.01        |
| Country Victoria           | 11,557         | 11.2        | 0.92        |
| Victoria                   | 51,649         | 12.1        | 0.99        |
| <b>Australia</b>           | <b>213,806</b> | <b>12.2</b> | <b>1.00</b> |

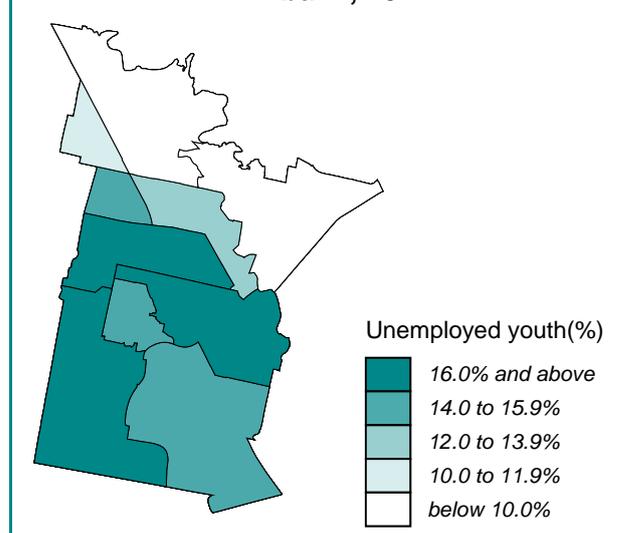
#RR is the ratio of the percentage in the area to the percentage for Australia

Data from the ABS Labour Force Survey (see the reference in Table 22, above) suggest that the unemployment rate in Melbourne - West remained relatively stable (at 13.1%, averaged over the three months from December 2013 to February 2014), while the rates in Melbourne (14.7%) and Victoria (14.4%) increased.

Separate data show that 1,774 young people in Brimbank were receiving an unemployment benefit in June 2012; this is well below the number reporting in the Census as being unemployed.

Only Keilor, Sydenham and Keilor Downs have youth unemployment rates below the Australian or Melbourne averages. The PHAs of St Albans - South/ Sunshine North (17.7%), St Albans - North/ Kings Park (16.1%) and Deer Park - Derrimut (16.7%) have the highest rates, with slightly lower rates in Ardeer - Albion/ Sunshine/ Sunshine West (15.5%), Cairnlea (15.1%) and Delahey (14.5%) (Map 11 and Table 24).

**Map 11: Youth unemployment, by PHA in Brimbank, 2011**



**Table 24: Youth unemployment, by PHA in Brimbank, 2011**

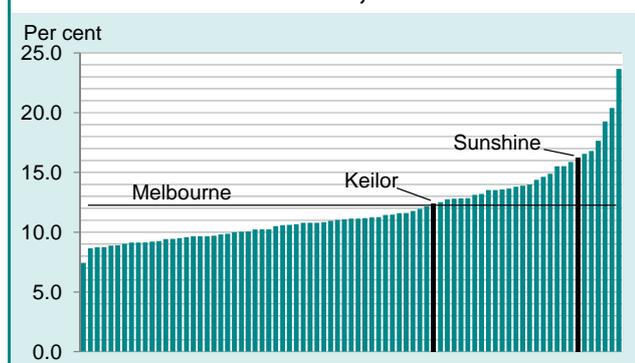
| PHA                                      | No.          | %           | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 66           | 9.8         | 0.69        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 369          | 15.5        | 1.09        |
| Cairnlea                                 | 100          | 15.1        | 1.07        |
| Deer Park - Derrimut                     | 272          | 16.7        | 1.18        |
| Delahey                                  | 106          | 14.5        | 1.02        |
| Keilor Downs                             | 166          | 12.5        | 0.88        |
| St Albans - North/ Kings Park            | 365          | 16.1        | 1.14        |
| St Albans - South/ Sunshine North        | 306          | 17.7        | 1.25        |
| Sydenham                                 | 120          | 11.5        | 0.81        |
| Taylors Lakes                            | 192          | 9.0         | 0.64        |
| <b>Brimbank City</b>                     | <b>2,062</b> | <b>14.1</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

## Regional comparisons

There is a wide variation in youth unemployment rates at the SLA level across Melbourne, with the rate in Sunshine (16.2%) among the highest, as was the case for unemployment at all ages (Figure 16). The rate in Keilor is lower (12.4%), and consistent with the Melbourne rate, but is still more than twice the lowest rates.

**Figure 16: Youth unemployment, by SLA in Melbourne, 2011**



## Correlations

There are very strong correlations at the SLA level across Melbourne between this indicator and unemployment (all ages), recent arrivals from NES countries and low income households under financial stress from rent or mortgage payments.

Strong inverse correlations were found with the education and child development indicators describing low levels of participation in preschool, and there being relatively fewer

people with their highest level of education being an Advanced Diploma, Diploma or Certificate. Similarly, relatively more children in these areas were assessed as being developmentally vulnerable on one or more AEDC domains.

In the health and wellbeing area, strong correlations were present between high levels of youth unemployment and self-assessed fair or poor health and the estimated prevalence of diabetes mellitus. Strong correlations were also found with hospitalisations for ambulatory care-sensitive conditions of children, indicating relatively poorer access to adequate and timely primary health care, and for high or very high psychological distress.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). Labour Force, Australia, detailed. (ABS Cat. no. 6291.0.55.001). Electronic Delivery, January 2014.
2. Brotherhood of St Laurence (BSL). On the treadmill: young and long-term unemployed in Australia. Melbourne: BSL, 2014.

## Comparison of estimates of unemployment, and updates

As noted above, estimates of unemployment from the Census differ from those produced from Australia's official measure of unemployment, the monthly labour force statistics. Each quarter, the Department of Education produces estimates of the labour force at the SLA level. As can be seen from Table 22, the estimated unemployment rate for June 2011 was the same as the ABS Census figure. Later estimates, for December 2013, put the unemployment rate in Keilor at 6.4% (up from 5.6% in 2011) and, in Sunshine, at 11.3% (up from 9.7%).

ABS estimates at the regional (SA4) level from the Labour Force Survey are somewhat variable from month to month, but the three-month averages shown above suggest that the unemployment rate in Melbourne - West has remained relatively stable, while the rates in Melbourne and Victoria have increased.

## Female labour force participation

The marked increase in female participation in paid work in Victoria, especially in part-time work, has been one of the most significant trends in Australian society over the last three decades, with participation increasing by over 30%.<sup>1</sup> Over the same period, male participation has declined by over ten per cent.<sup>1</sup> Women are both remaining in the work force longer (partly by delaying childbirth), and re-entering the workforce after childbirth, because of increased economic pressures on families and changes in social perceptions of the role of women. Labour force participation by women with infants and young children is also dependent upon them being able to access appropriate, affordable child care arrangements.<sup>2</sup>

**Indicator definition:** Comprises the number of females who reported in the 2011 Census of Population and Housing that they were employed, or unemployed and looking for work, expressed as a proportion of the labour force. The Census data differ from those produced from Australia's official measure of employment participation, the monthly labour force statistics, which are not available for the small areas mapped in this atlas.

### Key points

- Female labour force participation is below the national average in both Keilor and Sunshine.
- Participation rates vary widely within Brimbank, from 40% to 63%.

### Geographic variation

Participation of females living in Brimbank in the labour force is 12% below the Australian rate (a rate ratio of 0.88) (Table 25). It is also below the rates in Melbourne and Melbourne - West.

The differences in the socioeconomic make-up of the Sunshine and Keilor SLAs are reflected in the higher female labour force participation rate in Keilor (52.4%, compared with 46.3%).

**Table 25: Female labour force participation, Brimbank and comparators, 2011**

| Region                     | No.              | %           | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>18,672</b>    | <b>52.4</b> | <b>0.93</b> |
| <b>Brimbank - Sunshine</b> | <b>17,818</b>    | <b>46.3</b> | <b>0.82</b> |
| <b>Brimbank City</b>       | <b>36,590</b>    | <b>49.2</b> | <b>0.88</b> |
| Melbourne - West           | 135,990          | 55.4        | 0.99        |
| Melbourne                  | 950,920          | 56.8        | 1.01        |
| Country Victoria           | 295,784          | 53.0        | 0.94        |
| Victoria                   | 1,248,044        | 55.8        | 0.99        |
| <b>Australia</b>           | <b>4,971,658</b> | <b>56.2</b> | <b>1.00</b> |

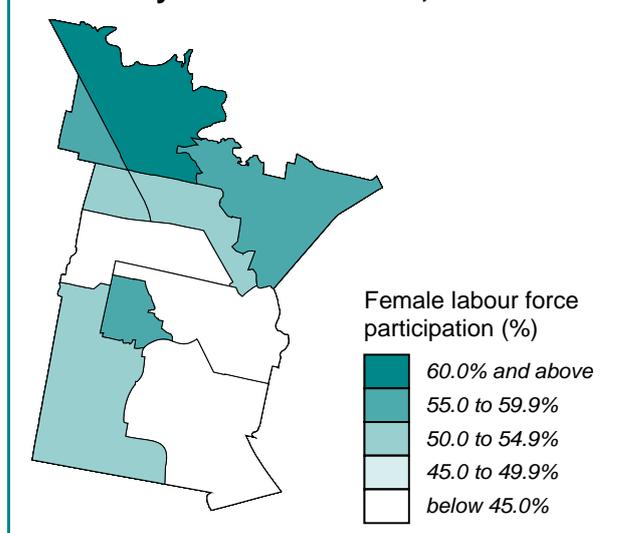
#RR is the ratio of the percentage in the area to the percentage for Australia

There are substantial differences in female labour force participation rates at the PHA level within Brimbank, again reflecting the varying socioeconomic pattern at the community level (Map 12 and Table 26).

The highest rate is in Taylors Lakes, with almost two thirds (63.3%) of the female population aged 15 years and over in the labour force. Other areas with participation rates of 50% or higher, were Sydenham (59.0%), Cairnlea (58.1%), Keilor (55.7%),

Keilor Downs (54.1%), Deer Park - Derrimut (53.0%) and Delahey (52.6%).

**Map 12: Female labour force participation, by PHA in Brimbank, 2011**



The lowest female labour force participation rates were recorded in St Albans - South/Sunshine North (40.1%), St Albans - North/Kings Park (41.5%) and Ardeer - Albion/Sunshine/ Sunshine West (44.2%).

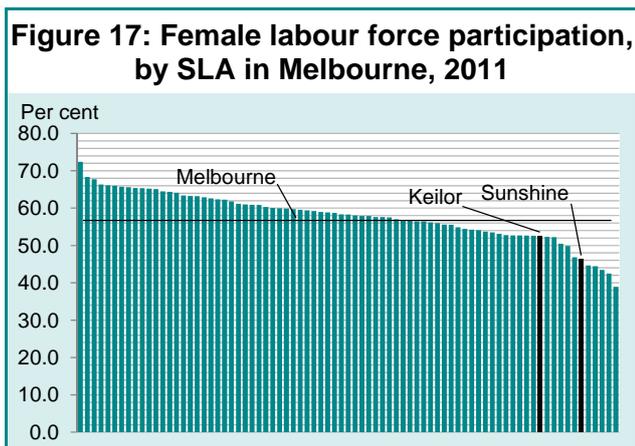
**Table 26: Female labour force participation, by PHA in Brimbank, 2011**

| PHA                                      | No.           | %           | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 1,982         | 55.7        | 1.13        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 5,917         | 44.2        | 0.90        |
| Cairnlea                                 | 1,949         | 58.1        | 1.18        |
| Deer Park - Derrimut                     | 4,572         | 53.0        | 1.08        |
| Delahey                                  | 1,798         | 52.6        | 1.07        |
| Keilor Downs                             | 3,104         | 54.1        | 1.10        |
| St Albans - North/ Kings Park            | 5,495         | 41.5        | 0.84        |
| St Albans - South/ Sunshine North        | 4,513         | 40.1        | 0.82        |
| Sydenham                                 | 2,665         | 59.0        | 1.20        |
| Taylors Lakes                            | 4,604         | 63.3        | 1.29        |
| <b>Brimbank City</b>                     | <b>36,599</b> | <b>49.2</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

### Regional comparisons

In 2011, both of the Brimbank City SLAs had a female labour force participation rate well below the Melbourne average, with a very low rate, of 46.3%, in Sunshine, and a rate of 52.4% in Keilor (Figure 17).



### Correlations

There are very strong inverse correlations at the SLA level across Melbourne between this indicator and low income households under financial stress from rent or mortgage payments (indicating that there are few of these households in areas of high female labour force participation), and of people aged 15 years and over living with disability.

A strong correlation was found between female labour force participation and children assessed as being developmentally on track in the language and cognitive skills domain of the AEDC; conversely, there were relatively fewer children who were assessed as being developmentally vulnerable on one or more domains (a strong inverse correlation).

With respect to health and wellbeing, there were strong inverse correlations between female labour force participation and self-assessed fair or poor health, high or very high psychological distress among females, and the estimated prevalence of diabetes mellitus.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Australian Bureau of Statistics (ABS). Labour Force, Australia, detailed. (ABS Cat. no. 6291.0.55.001). Electronic Delivery, January 2014.
2. Department of Treasury and Finance, Victorian Government (DTF). Addressing impacts of population ageing on labour force participation. Melbourne: DTF, 2005.

## People working as managers or professionals

Occupation remains an important determinant of wealth, social standing and wellbeing for most people in Australian society. The occupations described here include, among others, chief executives, and hospitality, retail, service and farm managers (including farmers); and professionals, including in the arts, education, health, welfare, engineering, business and legal occupations.<sup>1</sup> Their prevalence in a community, therefore, forms a useful general indicator of high socioeconomic status.

**Indicator definition:** Comprises people whose reported occupation in the 2011 Census of Population and Housing was classified as being a Manager or a Professional under the ABS Standard Classification of Occupations, expressed as a proportion of employed persons aged 15 years and over.<sup>1</sup>

### Key points

- Relatively few people in Brimbank (when compared with Australia) have the occupations of managers or professionals.
- None of the PHAs had a proportion above the national figure, and some were at half that level.

## Geographic variation

Just over one fifth of employed people in Brimbank were classified as managers or as professionals, at the 2011 Census (Table 27). This was less than two thirds of the level across Australia or Melbourne, and was also below the level in Melbourne - West.

The proportion in these occupations was slightly higher in Keilor (22.6%) than in Sunshine (20.4%).

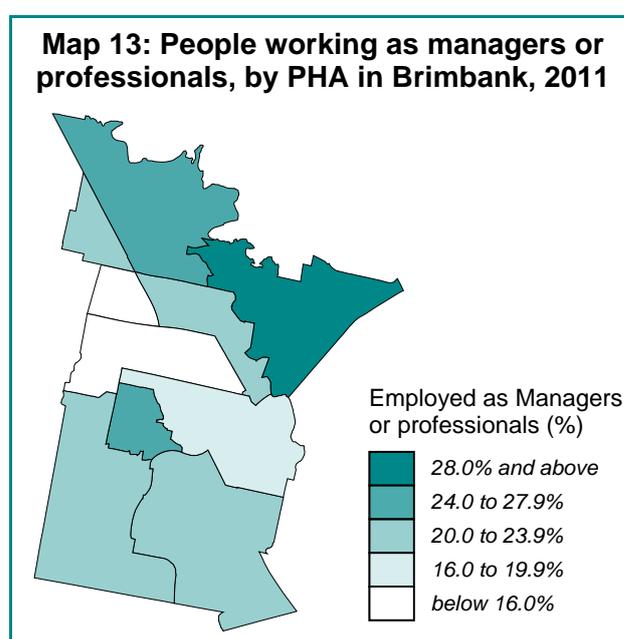
**Table 27: People working as managers or professionals, Brimbank and comparators, 2011**

| Region                     | No.              | %           | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>8,747</b>     | <b>22.6</b> | <b>0.66</b> |
| <b>Brimbank - Sunshine</b> | <b>7,694</b>     | <b>20.4</b> | <b>0.60</b> |
| <b>Brimbank City</b>       | <b>16,441</b>    | <b>21.5</b> | <b>0.63</b> |
| Melbourne - West           | 78,095           | 27.7        | 0.81        |
| Melbourne                  | 705,411          | 36.6        | 1.07        |
| Country Victoria           | 191,540          | 27.8        | 0.81        |
| Victoria                   | 897,711          | 35.5        | 1.04        |
| <b>Australia</b>           | <b>3,439,412</b> | <b>34.2</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

Within Brimbank, the highest proportion of the workforce employed as a manager, or as a professional was in Keilor (33.6%); this was still below the average proportion for Australia (Map 13 and Table 28). The next highest proportions were in Taylors Lakes (27.6%) and Cairnlea (25.8%). Very few people in St Albans - North/ Kings Park and Delahey had these occupations (15.0% and 15.7%, respectively).

**Map 13: People working as managers or professionals, by PHA in Brimbank, 2011**



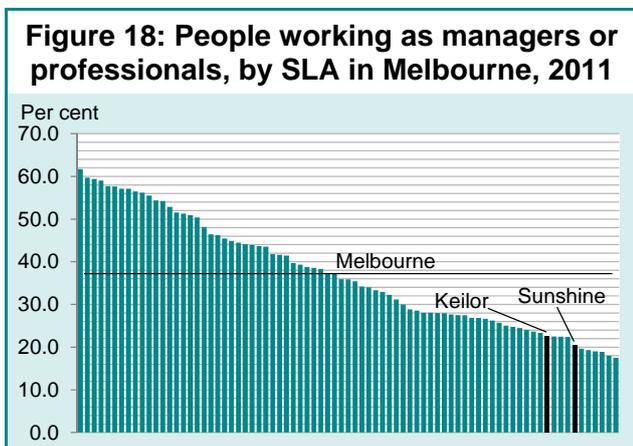
**Table 28: People working as managers or professionals, by PHA in Brimbank, 2011**

| PHA                                      | No.           | %           | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 1,375         | 33.6        | 1.56        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 2,596         | 20.4        | 0.95        |
| Cairnlea                                 | 1,036         | 25.8        | 1.20        |
| Deer Park - Derrimut                     | 2,088         | 21.8        | 1.01        |
| Delahey                                  | 574           | 15.7        | 0.73        |
| Keilor Downs                             | 1,469         | 23.1        | 1.07        |
| St Albans - North/ Kings Park            | 1,726         | 15.0        | 0.69        |
| St Albans - South/ Sunshine North        | 1,648         | 17.7        | 0.82        |
| Sydenham                                 | 1,294         | 23.2        | 1.08        |
| Taylors Lakes                            | 2,626         | 27.6        | 1.28        |
| <b>Brimbank City</b>                     | <b>16,432</b> | <b>21.5</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

## Regional comparisons

Relatively few people in Brimbank City were employed as managers or as professionals at the 2011 Census, when compared with other SLAs in Melbourne. In both Sunshine (where 20.4% of employed people were managers or professionals) and Keilor (22.6%), proportions were below the Melbourne average (of 36.6%) (Figure 18).



## Correlations

There was a very strong correlation between people working as managers or professionals and elevated proportions of the population having a level of education of a Bachelor Degree, or higher. Strong correlations were also found with the indicators of education and child development describing higher levels of participation in preschool and a greater proportion of children assessed as being developmentally on track in the physical health and wellbeing domain of the AEDC.

As would be expected for areas with more people who have the resources that come with positions of socioeconomic advantage, there were fewer children assessed as being developmentally vulnerable on one or more domains of the AEDC. There were also fewer people with their highest level of education as an Advanced Diploma, Diploma or Certificate.

There was a very strong inverse correlation with early school leavers at the SLA level across Melbourne, and strong inverse correlations with the indicators for children in families where the mother has low educational attainment, people working as labourers, and children living with disability.

There were also very strong inverse correlations with many of the health and wellbeing indicators, with fewer women smoking in pregnancy, fewer adult smokers,

fewer adults who are obese and relatively fewer people (aged 15 years and over) were hospitalised with ambulatory care-sensitive conditions; and a lower level of self-reported high or very high psychological distress (more so for females than males). This also demonstrates the likely health benefits of higher education levels, and the ability to access more resources to support health promoting behaviours and attend primary health care services.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). ANZSCO - Australian and New Zealand Standard Classification of Occupations, Version 1.2. (ABS Cat. no. 1220.0). Canberra: ABS, 2013.

## People working as labourers

Occupation remains an important determinant of wealth, social standing and wellbeing for most people in Australian society. The occupations described here as labourers encompass lower paid and less skilled work, and include, among others, cleaners, factory process workers, kitchen hands and garden workers.<sup>1</sup> Their prevalence in a community therefore forms a useful general indicator of lower socioeconomic status.

**Indicator definition:** Comprises people whose reported occupation in the 2011 Census of Population and Housing was classified as being a Labourer under the ABS Standard Classification of Occupations, expressed as a proportion of employed persons aged 15 years and over.<sup>1</sup>

### Key points

- Of people who reported in the 2011 Census that they were working, 14.0% gave their occupation as being a labourer: this was almost 50% above the level across Australia, and was 75% above the level in Melbourne.
- People living in Brimbank who work as labourers were located across much of the City, with only two PHAs having proportions in this occupation which were below the national average.

## Geographic variation

The proportion of the workforce in Brimbank classified as labourers (14.0%) is almost 50% above the level across Australia (and is 75% above the level in Melbourne) (Table 29).

Within Brimbank, more people living in the SLA of Sunshine were employed as labourers (16.0%), than were people from Keilor (12.1%).

**Table 29: People working as labourers, Brimbank and comparators, 2011**

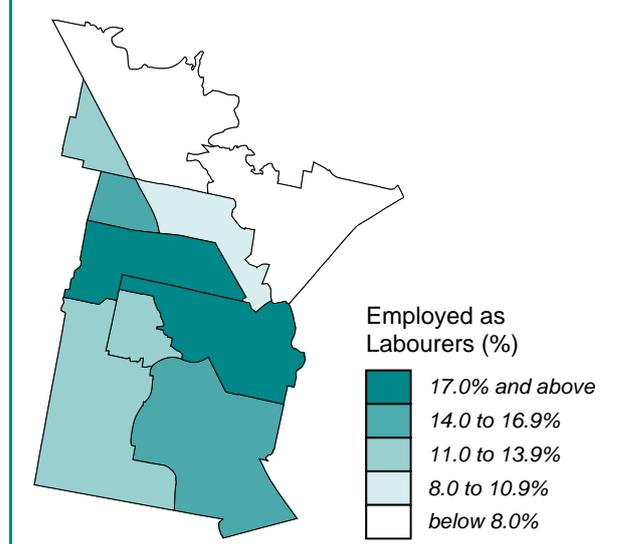
| Region                     | No.            | %           | RR#         |
|----------------------------|----------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>4,677</b>   | <b>12.1</b> | <b>1.28</b> |
| <b>Brimbank - Sunshine</b> | <b>6,033</b>   | <b>16.0</b> | <b>1.70</b> |
| <b>Brimbank City</b>       | <b>10,710</b>  | <b>14.0</b> | <b>1.49</b> |
| Melbourne - West           | 30,085         | 10.7        | 1.13        |
| Melbourne                  | 153,299        | 8.0         | 0.84        |
| Country Victoria           | 73,551         | 12.3        | 1.30        |
| Victoria                   | 227,181        | 9.0         | 0.95        |
| <b>Australia</b>           | <b>947,608</b> | <b>9.4</b>  | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

Labourers comprised the highest proportions of the workforce in St Albans - South/ Sunshine North (18.9%), St Albans - North/ Kings Park (18.8%), Ardeer - Albion/ Sunshine/ Sunshine West (16.6%) and Delahey (16.1%) (Map 14 and Table 30).

Relatively few people in Keilor (6.2%) and Taylors Lakes (7.9%) were working as labourers.

**Map 14: People working as labourers, by PHA in Brimbank, 2011**



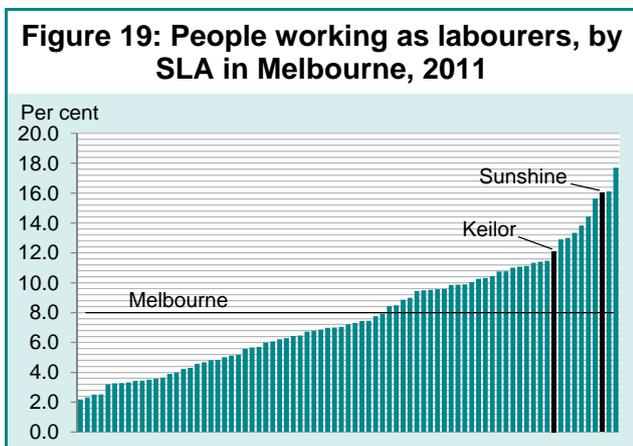
**Table 30: People working as labourers, by PHA in Brimbank, 2011**

| PHA                                      | No.           | %           | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 254           | 6.2         | 0.44        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 2,104         | 16.6        | 1.18        |
| Cairnlea                                 | 540           | 13.4        | 0.96        |
| Deer Park - Derrimut                     | 1,245         | 13.0        | 0.93        |
| Delahey                                  | 587           | 16.1        | 1.15        |
| Keilor Downs                             | 663           | 10.4        | 0.74        |
| St Albans - North/ Kings Park            | 2,172         | 18.8        | 1.34        |
| St Albans - South/ Sunshine North        | 1,760         | 18.9        | 1.35        |
| Sydenham                                 | 632           | 11.3        | 0.81        |
| Taylors Lakes                            | 752           | 7.9         | 0.56        |
| <b>Brimbank City</b>                     | <b>10,709</b> | <b>14.0</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

## Regional comparisons

Of all the SLAs in Melbourne, the Brimbank City SLAs had among the highest proportions of their workforce employed as labourers (Figure 19). The proportion in Sunshine, of 16.1%, was twice that in Melbourne (8.0%); in Keilor, it was 50% above the Melbourne figure, or 12.1% of the workforce.



## Correlations

At the SLA level across Melbourne, the indicators for children in families where the mother has low educational achievement, low income households under financial stress from rent or mortgage payments and homes without Internet access, were all strongly correlated with high proportions of labourers. Not surprisingly, there was a very strong inverse correlation with people working as managers or professionals.

Very strong correlations were also found with the indicators of education and child development, with relatively more children assessed as being developmentally vulnerable on one or more domains of the AEDC; and more people having left school early (i.e., completed Year 10 or below, or did not go to school). However, very strong inverse correlations indicated that relatively fewer children were on track in the language and cognitive skills domain of the AEDC; and fewer people had a highest level of education of a Bachelor Degree or higher.

Very strong correlations with the indicator of people working as labourers were also apparent for a number of the health and wellbeing indicators, with relatively more women smoking during pregnancy, and greater numbers of people reporting their health as fair or poor, male smokers, and adults who were obese. Strong correlations were

found with low birthweight babies, hospitalisations of children and adults for ambulatory care-sensitive conditions, the prevalence of diabetes mellitus and circulatory system diseases, and of female smokers.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). ANZSCO - Australian and New Zealand Standard Classification of Occupations, Version 1.2. (ABS Cat. no. 1220.0). Canberra: ABS, 2013.

## Social housing

*The availability of affordable, sustainable and appropriate housing underpins good health and the social, educational and economic participation of individuals.<sup>1</sup> Social housing provides secure and affordable housing not available in the private market through a range of organisations, and its distribution remains an indicator of socioeconomic disadvantage as tenants are increasingly welfare-dependent. Victoria trails the rest of Australia in the provision of social housing; and in December 2013, there were 33,916 Victorians waiting for public housing, with many more in need.<sup>2</sup>*

**Indicator definition:** Comprises occupied private dwellings rented from government housing authorities, housing cooperatives and community or church groups, expressed as a proportion of all occupied private dwellings.

### Key points

- Melbourne has a relatively small stock of social housing, with even lower levels within Brimbank: this is surprising, given the relatively disadvantaged nature of the City.
- None of the PHAs have proportions above the national average.

### Geographic variation

Social housing comprises a relatively small proportion of the housing stock in Melbourne (3.0%) when compared with the level across Australia (4.7%) (Table 31). The level in Brimbank is lower again, at 2.4% of the housing stock, with 2.3% in Keilor and 2.6% in Sunshine.

**Table 31: Social housing, Brimbank and comparators, 2011**

| Region               | No.            | %          | RR#         |
|----------------------|----------------|------------|-------------|
| Brimbank - Keilor    | 630            | 2.3        | 0.48        |
| Brimbank - Sunshine  | 794            | 2.6        | 0.54        |
| <b>Brimbank City</b> | <b>1,424</b>   | <b>2.4</b> | <b>0.51</b> |
| Melbourne - West     | 5,692          | 2.7        | 0.57        |
| Melbourne            | 42,475         | 3.0        | 0.63        |
| Country Victoria     | 21,114         | 4.1        | 0.87        |
| Victoria             | 63,589         | 3.3        | 0.69        |
| <b>Australia</b>     | <b>365,899</b> | <b>4.7</b> | <b>1.00</b> |

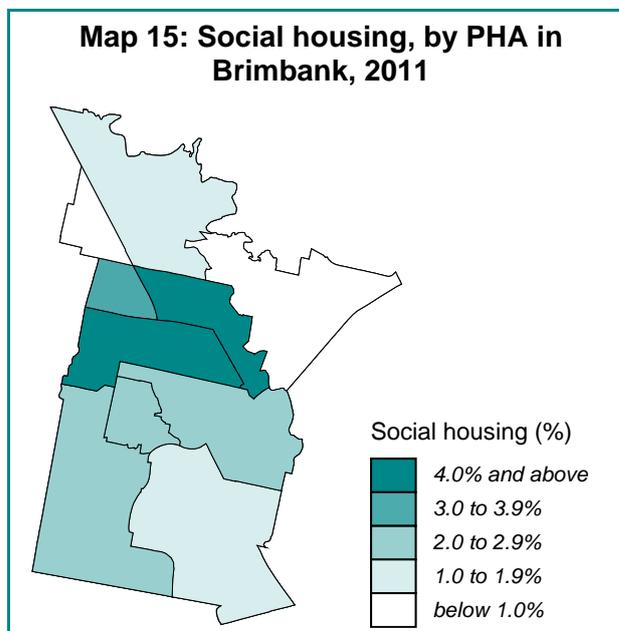
#RR is the ratio of the percentage in the area to the percentage for Australia

However, there is wide variation in the availability of social housing at the PHA level within Brimbank, and an unusual distribution in comparison to that seen for other social indicators mapped in this atlas. For example, the highest proportion of this housing is in Keilor Downs (4.4%). St Albans - North/ Kings Park (4.1%, and the largest number of these dwellings) and Delahey (3.3%), also in Keilor SLA, have the next highest proportions. The lowest proportions are in Sydenham (0.3%), Keilor (0.9%) and Taylors Lakes (1.1%).

In Sunshine, the highest proportions were in St Albans - South/ Sunshine North (2.8%, with the second largest number of these dwellings)

and Deer Park - Derrimut (2.6%); the lowest was in Ardeer - Albion/ Sunshine/ Sunshine West (1.1%) (Map 15 and Table 32).

**Map 15: Social housing, by PHA in Brimbank, 2011**



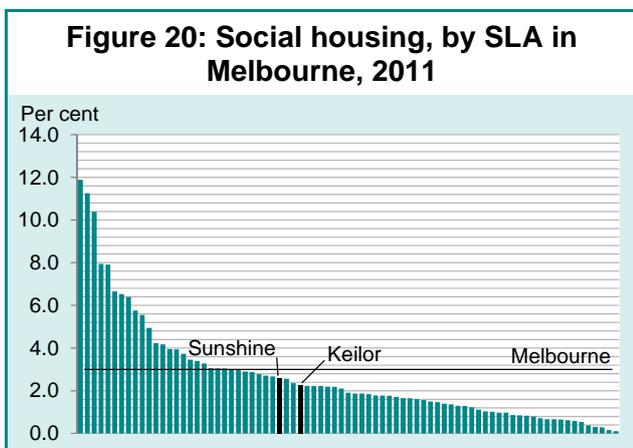
**Table 32: Social housing, by PHA in Brimbank, 2011**

| PHA                                      | No.          | %          | RR#         |
|--|--------------|------------|-------------|
| Keilor                                   | 78           | 0.9        | 0.35        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 99           | 1.1        | 0.41        |
| Cairnlea                                 | 148          | 2.1        | 0.81        |
| Deer Park - Derrimut                     | 67           | 2.6        | 1.02        |
| Delahey                                  | 144          | 3.3        | 1.29        |
| Keilor Downs                             | 188          | 4.4        | 1.72        |
| St Albans - North/ Kings Park            | 469          | 4.1        | 1.58        |
| St Albans - South/ Sunshine North        | 234          | 2.8        | 1.08        |
| Sydenham                                 | 17           | 0.3        | 0.12        |
| Taylors Lakes                            | 55           | 1.1        | 0.44        |
| <b>Brimbank City</b>                     | <b>1,499</b> | <b>2.6</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

## Regional comparisons

Given the relatively high level of socioeconomic disadvantage in Brimbank, there was little social housing available in 2011, when compared with other SLAs in Melbourne (Figure 20).



## Correlations

Social housing was strongly correlated with households without a motor vehicle at the SLA level across Melbourne. However, there were no other strong correlations between social housing and indicators of socioeconomic disadvantage, health and wellbeing or education and child development. This lack of correlation with the indicators of socioeconomic disadvantage is likely to reflect the relatively low rate of provision of this type of housing across Melbourne.

## Data sources, references and notes

1. Australian Institute of Health and Welfare (AIHW). Australia's welfare, 2011. (AIHW Cat. no. AUS 142). Canberra: AIHW, 2011.
2. Community Housing Federation of Victoria et al. Making social housing work: better homes for low-income Victorians. Melbourne, Victoria: Victorian Council of Social Services, 2014.

## Low income households under financial stress from rent or mortgage

A family or individual is considered to be in housing stress if they are in a low-income bracket and pay more than 30% of their income on rent or mortgage repayments. Acute housing stress occurs when 50% of income is spent on housing. High numbers of families experience housing stress, and are at increasing risk of homelessness.<sup>1</sup> In 2012, it was estimated that only two per cent of Melbourne rental homes were affordable for working single-parent families, while none were affordable for a single person on the minimum wage or income support.<sup>2</sup>

Housing stress is rising due to low investment in public housing, demographic shifts and increases in the number of households, including through family breakdown; and a tendency for affluent people to want to live in the inner-city, which increases rents and forces low-income earners out of even relatively low-standard, un-renovated housing.<sup>3</sup>

**Indicator definition:** Comprises households in the bottom 40% of the income distribution (those with less than 80% of median income), spending more than 30% of their income on rent, or on mortgage repayments, as a proportion of all private dwellings.

### Key points

- Relatively more low income households in Brimbank were under financial stress from their rental or mortgage commitments at the 2011 Census.
- Over one quarter of households in some PHAs were estimated to be under such financial stress.

### Geographic variation

Despite the low level of provision of social housing in Melbourne relative to the national level, the proportion of low income households under financial stress from their rental or mortgage commitments in Melbourne is consistent with the national figure (Table 33).

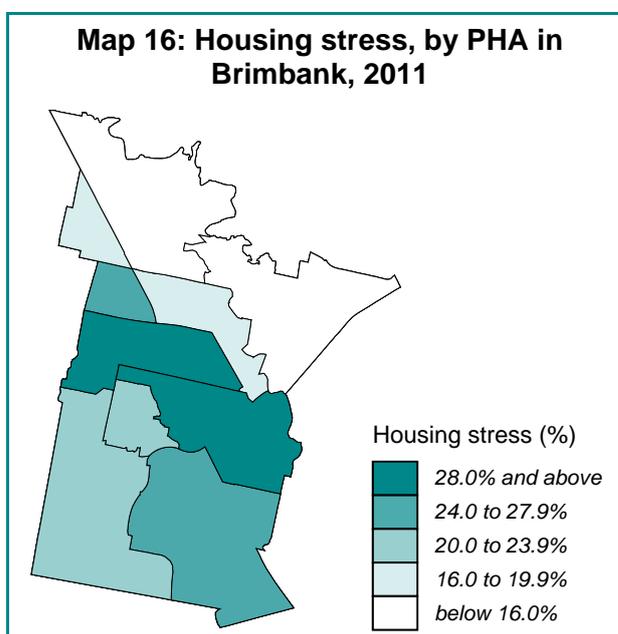
However, the same cannot be said of Brimbank, where the level of housing stress among these families is one third above the national figure. At the SLA level, almost one quarter of families in Sunshine (24.7%) and over one fifth in Keilor (21.0%) were considered to be under financial stress from their rental or mortgage commitments under this measure.

This financial pressure is most evident, at the PHA level, in St Albans - South/ Sunshine North (28.9% of households) and St Albans - North/ Kings Park (28.4%) (Map 16 and Table 34). It is least evident in Keilor (13.2% of households) and Taylors Lakes (13.5%).

**Table 33: Housing stress, Brimbank and comparators, 2011**

| Region                     | No.            | %           | RR#         |
|----------------------------|----------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>3,313</b>   | <b>21.0</b> | <b>1.21</b> |
| <b>Brimbank - Sunshine</b> | <b>4,693</b>   | <b>24.7</b> | <b>1.43</b> |
| <b>Brimbank City</b>       | <b>8,006</b>   | <b>23.0</b> | <b>1.33</b> |
| Melbourne - West           | 26,523         | 18.7        | 1.08        |
| Melbourne                  | 163,453        | 17.2        | 0.99        |
| Country Victoria           | 48,723         | 17.8        | 1.02        |
| Victoria                   | 212,177        | 17.3        | 1.00        |
| <b>Australia</b>           | <b>879,377</b> | <b>17.3</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia



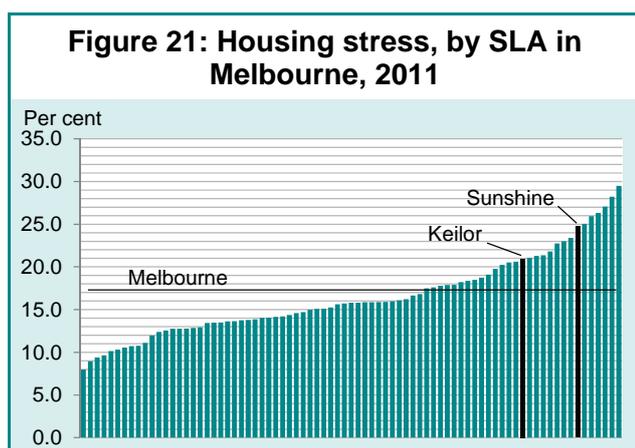
**Table 34: Housing stress, by PHA in Brimbank, 2011**

| PHA                                      | No.          | %           | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 176          | 13.2        | 0.57        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 1,606        | 24.8        | 1.08        |
| Cairnlea                                 | 401          | 21.7        | 0.94        |
| Deer Park - Derrimut                     | 1,068        | 21.0        | 0.91        |
| Delahey                                  | 431          | 25.2        | 1.09        |
| Keilor Downs                             | 409          | 18.0        | 0.78        |
| St Albans - North/ Kings Park            | 1,696        | 28.4        | 1.24        |
| St Albans - South/ Sunshine North        | 1,342        | 28.9        | 1.26        |
| Sydenham                                 | 491          | 18.8        | 0.82        |
| Taylors Lakes                            | 382          | 13.5        | 0.59        |
| <b>Brimbank City</b>                     | <b>8,002</b> | <b>23.0</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the PHA to the percentage for Brimbank City

## Regional comparisons

Sunshine is ranked seventh of all SLAs in Melbourne under this indicator of low income households under financial stress from their rental or mortgage commitments; Keilor is ranked fifteenth (Figure 21).



## Correlations

There is a very strong correlation at the SLA level across Melbourne between this indicator and many indicators of socioeconomic disadvantage: correlations with the individual indicators of socioeconomic disadvantage were most evident with children living in jobless families and unemployment (both at all ages and for young people).

Correlations with the indicators of health and wellbeing are very strong for self-assessed fair or poor health, high or very high psychological distress and male smokers. Strong correlations were evident for hospitalisations from ambulatory care-sensitive conditions, both for children aged 0 to 14 years and for people aged 15 years and over, indicating relatively poorer access to timely and effective primary health care.

A very strong correlation was found between this indicator and the education and child development indicator of children assessed as being developmentally vulnerable on one or more domains under the AEDC. However, there were relatively low levels of children participating in preschool (very strong inverse correlation) and young people participating in full-time secondary education, and relatively few children developmentally on track in the physical health and wellbeing, and the language and cognitive skills domains of the AEDC in these households (all with strong inverse correlations).

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Yates J, Gabriel M. Housing affordability in Australia. Sydney: Australian Housing and Urban Research Institute (AHURI), 2006.
2. Department of Human Services, Victoria. Rental report, March 2012. Melbourne: Victorian Government, 2012.
3. St Vincent de Paul Society (SVdPS). Don't dream, it's over: housing stress in Australia's private rental market. Canberra: SVdPS, 2007.

## No motor vehicle

Ready access to transport provides a link with educational, social and work-related activities. In the 2011 Census, 164,030 householders reported having no motor vehicle at the dwelling (8.4% of dwellings in Victoria).<sup>1</sup> While some of the households in these dwellings may represent more affluent inner city residents, the majority are more likely to be disadvantaged households. While public transport can adequately provide this link for some households, for most, this access is achieved through owning a car. People living in households without a car face many disadvantages in gaining access to jobs, services and recreation, especially if they are in low-density outer suburbia, or in rural or remote areas. The ability to afford to run and maintain a vehicle in reliable condition to meet their transport needs, and the costs of registering and insuring a vehicle are other important factors.

**Indicator definition:** Comprises people with no motor vehicle garaged or parked at their dwelling on Census night: the data have been age-standardised to remove expected differences between areas in the level of vehicle ownership related to the age of the population.

### Key points

- Although the proportion of Brimbank's population without direct access to a motor vehicle on Census night was consistent with that in Melbourne overall, such access was more limited in Sunshine than in Keilor.
- Despite adjusting these data to allow for lower vehicle ownership by older residents, the lack of access at the PHA level to a motor vehicle varied between 1% and 8% of the population.

## Geographic variation

The majority of the population in Australia reported having a motor vehicle garaged or parked at their dwelling on Census night, with only 5.4% not having such access (Table 35).

After adjusting for differences in the age of the population in Sunshine and Keilor from the Australian profile, more people in Sunshine had no immediate access to a motor vehicle (6.4% of the population, or 20% more than nationally) compared with fewer people in Keilor (4.0%, 26% fewer).

The rate in Melbourne West was slightly lower, and across Melbourne, it was slightly higher than in Brimbank City.

**Table 35: No motor vehicle, Brimbank and comparators, 2011**

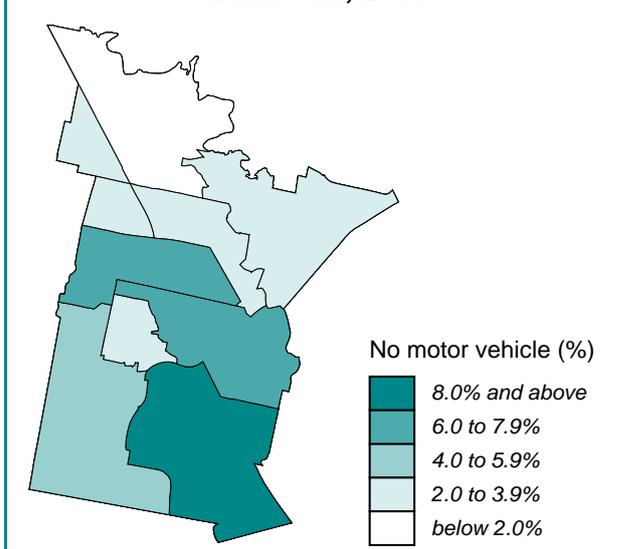
| Region                     | No.              | Rate*      | RR#         |
|----------------------------|------------------|------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>3,292</b>     | <b>4.0</b> | <b>0.74</b> |
| <b>Brimbank - Sunshine</b> | <b>6,163</b>     | <b>6.4</b> | <b>1.20</b> |
| <b>Brimbank City</b>       | <b>9,455</b>     | <b>5.3</b> | <b>0.99</b> |
| Melbourne - West           | 29,567           | 5.0        | 0.93        |
| Melbourne                  | 223,371          | 5.5        | 1.03        |
| Country Victoria           | 52,480           | 3.9        | 0.72        |
| Victoria                   | 275,851          | 5.1        | 0.95        |
| <b>Australia</b>           | <b>1,169,321</b> | <b>5.4</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the rate in the area to the rate for Australia

There is substantial variation in access to a vehicle across Brimbank (Map 17 and Table 36). In Taylors Lakes, only 1.4% of the population did not have access to a motor vehicle garaged or parked at their dwelling on Census night, with similarly low rates in Cairnlea (2.2%) and Keilor Downs (2.5%).

**Map 17: No motor vehicle, by PHA in Brimbank, 2011**



However, rates were substantially above the Brimbank average in Ardeer - Albion/ Sunshine/ Sunshine West (8.2%, and 55% above the Brimbank rate), St Albans - South/ Sunshine North (7.2%, and 36% above) and St Albans - North/ Kings Park (7.0%, and 32% above).

In Taylors Lakes, only 1.4% of the population did not have access to a motor vehicle garaged or parked at their dwelling on Census night, with similarly low rates in Cairnlea (2.2%) and Keilor Downs (2.5%).

**Table 36: No motor vehicle, by PHA in Brimbank, 2011**

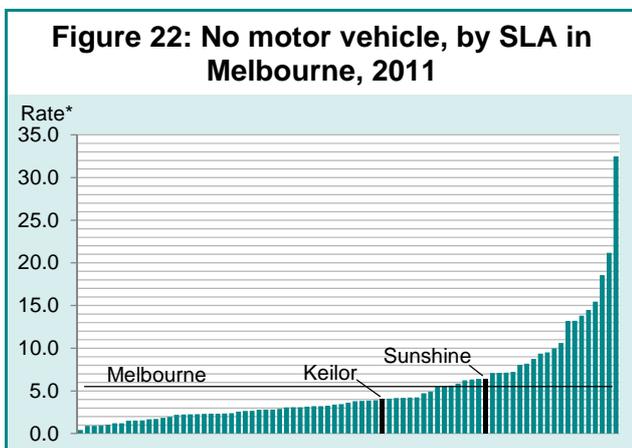
| PHA                                      | No.          | Rate*      | RR#         |
|--|--------------|------------|-------------|
| Keilor                                   | 185          | 2.2        | 0.42        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 2,805        | 8.2        | 1.55        |
| Cairnlea                                 | 172          | 2.2        | 0.41        |
| Deer Park - Derrimut                     | 924          | 4.4        | 0.83        |
| Delahey                                  | 263          | 3.4        | 0.65        |
| Keilor Downs                             | 315          | 2.5        | 0.46        |
| St Albans - North/ Kings Park            | 2,224        | 7.0        | 1.32        |
| St Albans - South/ Sunshine North        | 2,013        | 7.2        | 1.36        |
| Sydenham                                 | 322          | 3.0        | 0.56        |
| Taylors Lakes                            | 228          | 1.4        | 0.27        |
| <b>Brimbank City</b>                     | <b>9,455</b> | <b>5.3</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

## Regional comparisons

In 2011, the Brimbank City SLAs had proportions around the Melbourne average, above the average in Sunshine (6.4%) and below it in Keilor (4.0%) (Figure 22).



\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

## Correlations

There was a very strong correlation at the SLA level across Melbourne between this indicator and recent arrivals from NES countries. Strong correlations were also found with unemployed youth, social housing and people working as managers or professionals.

Of the health and wellbeing indicators, there were strong inverse correlations between this

indicator and children living with disability, and adult obesity.

There was a very strong inverse correlation between this indicator and people with their highest level of education as an Advanced Diploma, Diploma or Certificate; and a strong inverse correlation with early school leavers.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). 2011 Census QuickStats. Online at [http://www.censusdata.abs.gov.au/census\\_services/getproduct/census/2011/quickstat/0#vehicles](http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/quickstat/0#vehicles) (accessed 17 April 2014).

## No Internet access at home

*A household can be considered to be disadvantaged if it lacks the resources to participate fully in society.<sup>1</sup> Access to the outside world, through a telephone or the Internet, provides a means of communicating with friends and family, as well as services, employers and schools, thereby increasing educational, employment and other opportunities, including social interaction.<sup>2</sup>*

*Socioeconomic characteristics of households continue to influence the rate of computer and Internet connectivity across Australia. Households which do not have children aged less than 15 years and those that are located in non-metropolitan or regional areas of Australia and/or have lower household incomes are less likely to have a computer and/or access to the Internet.<sup>2</sup> These socioeconomic factors also influence the take-up rate of broadband access (as opposed to dial-up access), in addition to the technical issues regarding service availability in certain locations.*

**Indicator definition:** Comprises people living in dwellings where there is no Internet connection: the data have been age-standardised to remove expected differences between areas in the level of Internet connection related to the age of the population.

### Key points

- Almost 40% of the population of Brimbank in 2011 were living in dwellings where there was no Internet connection.
- More than half of the PHAs had a greater proportion of people without an Internet connection at home than was the case for Australia as a whole.

### Geographic variation

Almost one in five people (19.5%) in Sunshine reported in the 2011 Census that they did not have an Internet connection in their dwelling; this was 52% above the Australian level (Table 37). The proportion in Keilor was lower (16.0%), but was still markedly higher than the national figure.

The overall level in Brimbank, comprising some 30,480 people, or 17.9% of the population, was higher than in Melbourne West (15.0%), and substantially higher than the Melbourne average (11.4%).

**Table 37: No Internet access at home, Brimbank and comparators, 2011**

| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>12,797</b>    | <b>16.0</b> | <b>1.25</b> |
| <b>Brimbank - Sunshine</b> | <b>17,683</b>    | <b>19.5</b> | <b>1.52</b> |
| <b>Brimbank City</b>       | <b>30,480</b>    | <b>17.9</b> | <b>1.39</b> |
| Melbourne - West           | 81,203           | 15.0        | 1.17        |
| Melbourne                  | 443,275          | 11.4        | 0.89        |
| Country Victoria           | 227,380          | 15.7        | 1.23        |
| Victoria                   | 670,655          | 12.6        | 0.98        |
| <b>Australia</b>           | <b>2,789,109</b> | <b>12.9</b> | <b>1.00</b> |

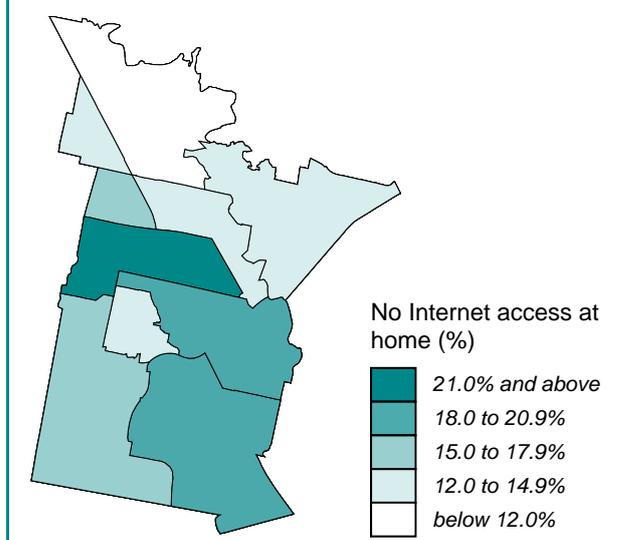
\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the rate in the area to the rate for Australia

Two thirds of dwellings in Brimbank with an Internet connection had a Broadband connection, just (5.3%) below the national average; however, in Melbourne, three quarters of dwellings had a Broadband connection.

Only St Albans - North/ Kings Park and Ardeer - Albion/ Sunshine/ Sunshine West had relatively more people with no Internet connection, when compared with the Brimbank figure, with rates higher by 17% and five per cent, respectively (Map 18 and Table 38).

**Map 18: No Internet access at home, by PHA in Brimbank, 2011**



However, in six of the ten PHAs in Brimbank, more people were without an Internet connection at home than for Australia overall.

The highest rates were in St Albans - North/ Kings Park (22.9%, or 78% above the Australian rate), St Albans - South/ Sunshine North (20.8%, and 62% above), Ardeer - Albion/ Sunshine/ Sunshine West (20.5%, and 60% above), Deer Park - Derrimut (17.7%, and 38% above), Delahey (16.4%, and 28% above) and Keilor Downs (13.7%, and 7% above).

People in Taylors Lakes (10.4%), Keilor (11.9%), Sydenham (12.3%) and Cairnlea (12.4%) were the most likely to have access to the Internet at home.

**Table 38: No Internet access at home, by PHA in Brimbank, 2011**

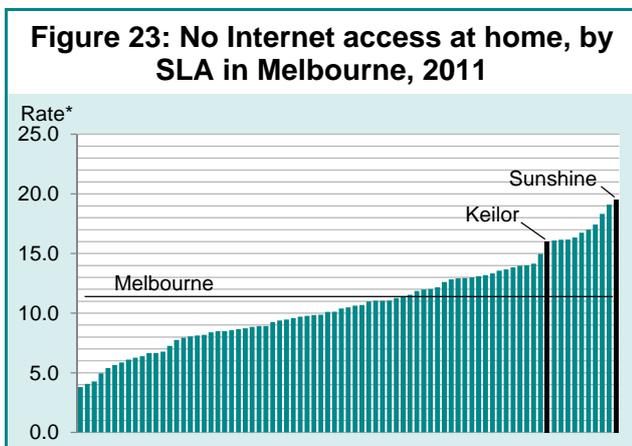
| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 1,085         | 11.9        | 0.61        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 6,839         | 20.5        | 1.05        |
| Cairnlea                                 | 809           | 12.4        | 0.64        |
| Deer Park - Derrimut                     | 3,222         | 17.7        | 0.91        |
| Delahey                                  | 1,132         | 16.4        | 0.84        |
| Keilor Downs                             | 1,738         | 13.7        | 0.70        |
| St Albans - North/ Kings Park            | 7,162         | 22.9        | 1.17        |
| St Albans - South/ Sunshine North        | 5,776         | 20.8        | 1.07        |
| Sydenham                                 | 1,134         | 12.3        | 0.63        |
| Taylors Lakes                            | 1,586         | 10.4        | 0.53        |
| <b>Brimbank City</b>                     | <b>30,480</b> | <b>17.9</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the rate in the area to the rate for Australia

## Regional comparisons

Almost one in five people in Sunshine lived in dwellings with no Internet connection (19.5%); this was the highest proportion of any SLA in Melbourne (Figure 23).



\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

Although Keilor had a lower proportion, with 16% of its population without this access, it was still ranked eleventh among Melbourne's SLAs.

## Correlations

This indicator was very strongly correlated at the SLA level across Melbourne with a number of other indicators of socioeconomic disadvantage: children living in jobless families, children in families where the mother has low educational attainment, people working as labourers and people aged 15 years and over living with disability. There was also a very strong inverse correlation between this indicator and young people learning or earning.

Strong correlations were found with the education and child development indicators of children assessed as developmentally vulnerable on one or more domains of the AEDC and more people having left school early (i.e., completed Year 10 or below, or did not go to school). There were relatively lower levels of preschool participation, relatively fewer people with their highest level of education being a Bachelor Degree or higher, and fewer children assessed as developmentally on track in the physical health and wellbeing, and the language and cognitive skills domains of the AEDC.

There was a very strong correlation between this indicator and estimates for people reporting fair or poor health, females with high or very high psychological distress, the prevalence of diabetes mellitus, and male smokers. A strong correlation was also evident for low birthweight babies, women smoking during pregnancy, males with high or very high psychological distress and for people (aged 15 years and over) hospitalised with ambulatory care-sensitive conditions, indicating relatively poorer access to effective primary health care.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Townsend P. Deprivation. *Journal of Social Policy* 1987; 16: 125-146.
2. Australian Bureau of Statistics (ABS). Household use of information technology, Australia, 2010-11. (ABS Cat. no. 8146.0). Canberra: ABS, 2011.

## Voluntary work

*Volunteering can improve the health and wellbeing of volunteers by enhancing their support networks, self-esteem and individual quality of life. It is estimated that volunteering (both arranged through an organisation or group, and informal unpaid help and care that occurs within personal networks) directly contributed \$16.4 billion in 2006 to the Victorian economy, and also has substantial social benefits.<sup>1</sup>*

*Almost one fifth (17.8%) of the population reported undertaking voluntary work through an organisation or a group in the year prior to the 2011 Census.<sup>2</sup> These data are useful in the planning of local facilities and services, and in understanding the way individuals and families balance paid work and other important aspects of their lives with such community commitments.*

**Indicator definition:** Comprises people aged 15 years and over who participated in voluntary work for an organisation or group in the twelve months before the 2011 Census, expressed as a proportion of the population aged 15 years and over.

### Key points

- Only half of the number of people in Brimbank aged 15 years and over reported that they participated in voluntary work when compared with the Australian average.
- None of the PHAs had a participation rate above the Melbourne average.

### Geographic variation

Only half of the number of people in Brimbank reported that they participated in voluntary work (9.0% of the population aged 15 years and over) when compared with the Australian average (17.8%) (Table 39). This rate is also lower than in Melbourne - West (11.5%).

It is of note that the rate of participation in Melbourne is also below the Australian and 'all capital cities' average (of 17.8% and 16.3%, respectively).

At the SLA level, a higher proportion of the population of Keilor reported being involved in voluntary work for an organisation or group in the twelve months before the 2011 Census, at 9.7%, compared with 8.4% of the population aged 15 years and over in Sunshine.

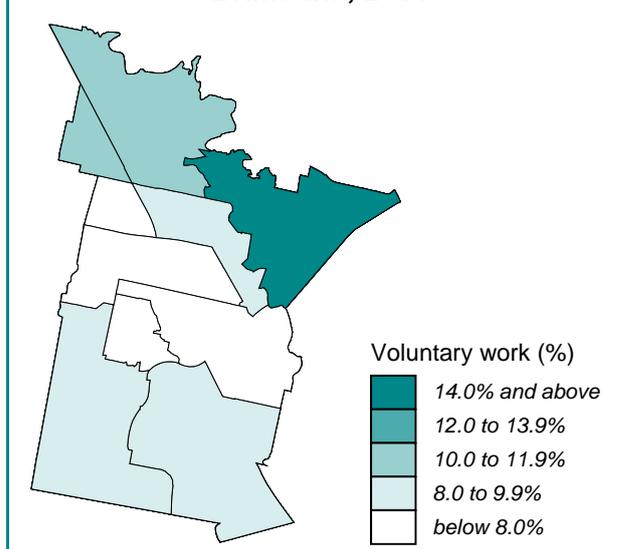
None of the rates of participation in voluntary work at the PHA level in Brimbank were above the Melbourne average, with only Keilor (14.1%), Taylors Lakes (11.1%) and Sydenham (11.0%) having more than one in ten people in their populations engaged in this way (Map 19 and Table 40). Participation in the remaining areas varied from 7.4% to 9.8%.

**Table 39: Voluntary work, Brimbank and comparators, 2011**

| Region                     | No.              | %           | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>6,836</b>     | <b>9.7</b>  | <b>0.54</b> |
| <b>Brimbank - Sunshine</b> | <b>6,489</b>     | <b>8.4</b>  | <b>0.47</b> |
| <b>Brimbank City</b>       | <b>13,325</b>    | <b>9.0</b>  | <b>0.51</b> |
| Melbourne - West           | 55,867           | 11.5        | 0.64        |
| Melbourne                  | 516,533          | 15.8        | 0.89        |
| Country Victoria           | 254,915          | 23.4        | 1.32        |
| Victoria                   | 772,443          | 17.7        | 1.00        |
| <b>Australia</b>           | <b>3,090,875</b> | <b>17.8</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

**Map 19: Voluntary work, by PHA in Brimbank, 2011**



**Table 40: Voluntary work, by PHA in Brimbank, 2011**

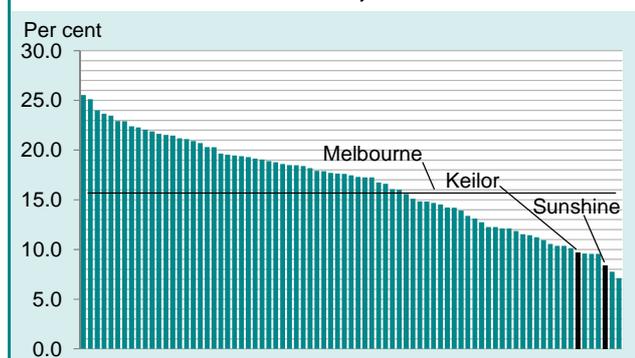
| PHA                                      | No.           | %          | RR#         |
|--|---------------|------------|-------------|
| Keilor                                   | 978           | 14.1       | 1.56        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 2,583         | 9.5        | 1.05        |
| Cairnlea                                 | 528           | 7.9        | 0.88        |
| Deer Park - Derrimut                     | 1,378         | 8.0        | 0.88        |
| Delahey                                  | 508           | 7.7        | 0.85        |
| Keilor Downs                             | 1,107         | 9.8        | 1.09        |
| St Albans - North/ Kings Park            | 1,959         | 7.4        | 0.82        |
| St Albans - South/ Sunshine North        | 1,690         | 7.7        | 0.85        |
| Sydenham                                 | 986           | 11.0       | 1.22        |
| Taylors Lakes                            | 1,608         | 11.1       | 1.23        |
| <b>Brimbank City</b>                     | <b>13,325</b> | <b>9.0</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

### Regional comparisons

As noted above, the populations of both of the Brimbank City SLAs reported relatively low rates of participation in voluntary work, with the rate in Sunshine (8.4%) being the third lowest recorded in Melbourne (Figure 24). The rate in Keilor was only slightly higher (9.7%).

**Figure 24: Voluntary work, by SLA in Melbourne, 2011**



### Correlations

There was a very strong inverse correlation at the SLA level across Melbourne between this indicator and many indicators of socioeconomic disadvantage.

Very strong or strong correlations were found with most of the indicators of education and child development, in particular demonstrating relatively higher levels of preschool attendance, relatively more young people participating in full-time secondary education, more people with their highest level of education being a Bachelor Degree or higher, and relatively more children being developmentally on track in the physical health and wellbeing, and the language and cognitive skills domains of the AEDC.

As expected, given the results described above, relatively fewer children were assessed as being developmentally vulnerable on one or more domains of the AEDC, and there were fewer early school leavers in these areas.

For the health and wellbeing indicators, there were very strong inverse correlations between this indicator and people reporting fair or poor health, and diabetes mellitus. There was a strong inverse correlation with the estimated prevalence of high or very high psychological distress for both males and females.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Ironmonger D. The economic value of volunteering in Victoria. Melbourne: Department of Planning and Community Development, Government of Victoria, 2012.
2. Australian Bureau of Statistics (ABS). 2011 Census QuickStats. Online at [http://www.censusdata.abs.gov.au/census\\_services/getproduct/census/2011/quickstat/0#vehicles](http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/quickstat/0#vehicles) (accessed 17 April 2014).

## People living with disability

The likelihood of living with disability increases with age. The disability rate among 15 to 24 year olds was 6.6%, and the rate was higher for successively older age groups, with 18% of 45 to 54 year olds, and 31% of 55 to 64 year olds living with disability in 2009.<sup>1</sup> In Victoria in 2006, there were nearly 5,000 parents aged 65 years and older who were living with a son or daughter with a more severe disability.<sup>2</sup>

Personal networks for people with profound or severe disability are particularly important in supporting their integration into the wider community, thereby enhancing their wellbeing and the social fabric of the community. In 2009, in terms of disability group, people with intellectual disability who had profound or severe disability, were less likely to have participated in social clubs and organisations in the previous 12 months than their counterparts who reported other disability types.<sup>3</sup> However, all people with disability were less likely to have participated in social and support groups than people without disability.<sup>3</sup>

**Indicator definition:** Comprises people living in the community who reported in the 2011 Census a need for assistance which resulted in them being designated as having a profound or severe disability. These 'living in the community' data exclude people living in long-term residential accommodation in nursing homes, in accommodation for the retired or aged (not self-contained), in hostels for the disabled, or in psychiatric hospitals.

### Key points

- Almost 730 children aged 0 to 14 years were living with disability in Brimbank.
- Brimbank has a substantially higher rate of people aged 15 years and over living with a disability than the Australian average.

## Geographic variation

### 0 to 14 years of age

Children aged 0 to 14 years and living with disability comprised 2.1% of all children aged 0 to 14 years in Brimbank at the 2011 Census (Table 41). This proportion is consistent with the Melbourne and Australian averages (1.9% and 2.0% respectively).

Of the SLAs, Sunshine had a higher proportion than Keilor, at 2.2% and 2.0% respectively.

As a result, almost 730 children in Brimbank aged 0 to 14 years were estimated to be living with disability at the 2011 Census.

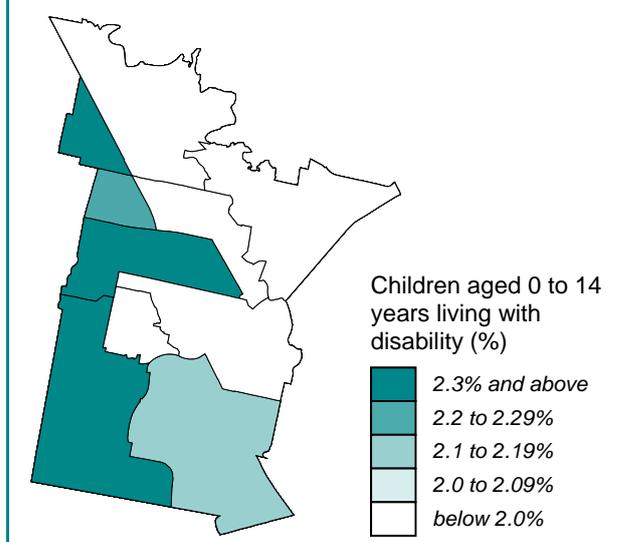
**Table 41: Children aged 0 to 14 years living with disability, Brimbank and comparators, 2011**

| Region              | No.    | %   | RR#  |
|---------------------|--------|-----|------|
| Brimbank - Keilor   | 328    | 2.0 | 1.00 |
| Brimbank - Sunshine | 400    | 2.2 | 1.08 |
| Brimbank City       | 728    | 2.1 | 1.05 |
| Melbourne - West    | 2,702  | 2.1 | 1.05 |
| Melbourne           | 14,146 | 1.9 | 0.96 |
| Country Victoria    | 6,431  | 2.5 | 1.24 |
| Victoria            | 20,577 | 2.1 | 1.03 |
| Australia           | 83,154 | 2.0 | 1.00 |

#RR is the ratio of the percentage in the area to the percentage for Australia

Higher proportions of children living with disability were recorded in the PHAs of St Albans - North/ Kings Park and Sydenham (2.4%), followed by Deer Park - Derrimut (2.3%). In contrast, lower proportions were recorded in Keilor, St Albans - South/ Sunshine North and Taylors Lakes (1.8%) (Map 20 and Table 42).

**Map 20: Children aged 0 to 14 years living with disability, by PHA in Brimbank, 2011**



**Table 42: Children aged 0 to 14 years living with disability, by PHA in Brimbank, 2011**

| PHA                                      | No.        | %          | RR#         |
|--|------------|------------|-------------|
| Keilor                                   | 24         | 1.8        | 0.84        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 116        | 2.1        | 1.00        |
| Cairnlea                                 | 42         | 1.9        | 0.92        |
| Deer Park - Derrimut                     | 113        | 2.3        | 1.10        |
| Delahey                                  | 39         | 2.2        | 1.03        |
| Keilor Downs                             | 43         | 1.9        | 0.92        |
| St Albans - North/ Kings Park            | 143        | 2.4        | 1.13        |
| St Albans - South/ Sunshine North        | 88         | 1.8        | 0.86        |
| Sydenham                                 | 62         | 2.4        | 1.16        |
| Taylors Lakes                            | 61         | 1.8        | 0.85        |
| <b>Brimbank City</b>                     | <b>731</b> | <b>2.1</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

### 15 years of age and over

People aged 15 years and over living with disability comprised 6.1% of the Brimbank population (aged 15 years and over) at the 2011 Census (Table 43). This is substantially higher than the Australian average as shown by the rate ratio of 1.40; it is also substantially higher than the Melbourne average.

Of the SLAs, the proportion in Sunshine was higher than in Keilor, with 6.4% and 5.7% respectively.

As a result, almost 9,000 people aged 15 years and over were estimated to be living with disability in Brimbank at the 2011 Census.

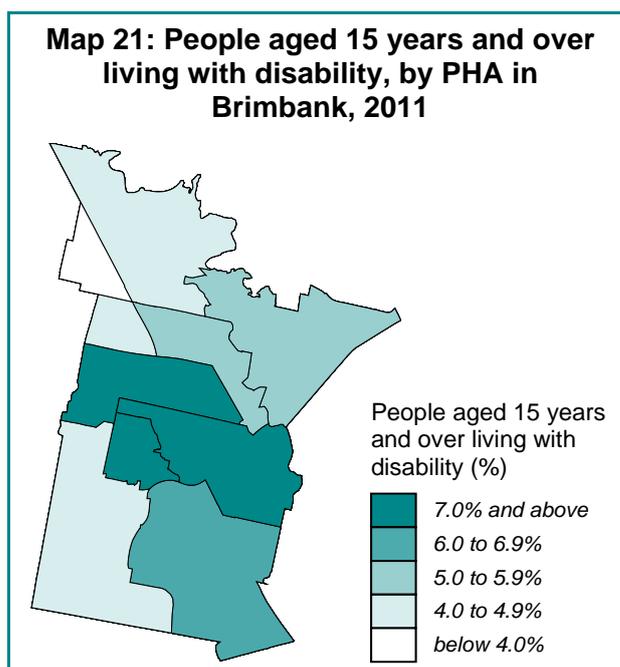
**Table 43: People aged 15 years and over living with disability, Brimbank and comparators, 2011**

| Region                     | No.            | %          | RR#         |
|----------------------------|----------------|------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>4,011</b>   | <b>5.7</b> | <b>1.32</b> |
| <b>Brimbank - Sunshine</b> | <b>4,933</b>   | <b>6.4</b> | <b>1.47</b> |
| <b>Brimbank City</b>       | <b>8,944</b>   | <b>6.1</b> | <b>1.40</b> |
| Melbourne - West           | 22,891         | 4.7        | 1.08        |
| Melbourne                  | 135,711        | 4.2        | 0.97        |
| Country Victoria           | 55,080         | 4.8        | 1.10        |
| Victoria                   | 190,789        | 4.4        | 1.01        |
| <b>Australia</b>           | <b>755,054</b> | <b>4.4</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

Within Brimbank, higher proportions of people aged 15 years and over living with disability were recorded in the PHAs of St Albans - North/ Kings Park (7.9%), St Albans - South/ Sunshine North (7.8%) and Cairnlea (7.3%).

In contrast, markedly lower proportions were recorded in Sydenham (3.4%), Taylors Lake (4.0%), Deer Park - Derrimut (4.2%) and Delahey (4.5%) (Map 21 and Table 44).



**Table 44: People aged 15 years and over living with disability, by PHA in Brimbank, 2011**

| PHA                                      | No.          | %          | RR#         |
|--|--------------|------------|-------------|
| Keilor                                   | 360          | 5.1        | 0.84        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 1,780        | 6.3        | 1.04        |
| Cairnlea                                 | 361          | 7.3        | 1.20        |
| Deer Park - Derrimut                     | 164          | 4.2        | 0.69        |
| Delahey                                  | 920          | 4.5        | 0.75        |
| Keilor Downs                             | 666          | 5.9        | 0.98        |
| St Albans - North/ Kings Park            | 2,092        | 7.9        | 1.31        |
| St Albans - South/ Sunshine North        | 1,715        | 7.8        | 1.29        |
| Sydenham                                 | 309          | 3.4        | 0.57        |
| Taylors Lakes                            | 575          | 4.0        | 0.65        |
| <b>Brimbank City</b>                     | <b>8,942</b> | <b>6.0</b> | <b>1.00</b> |

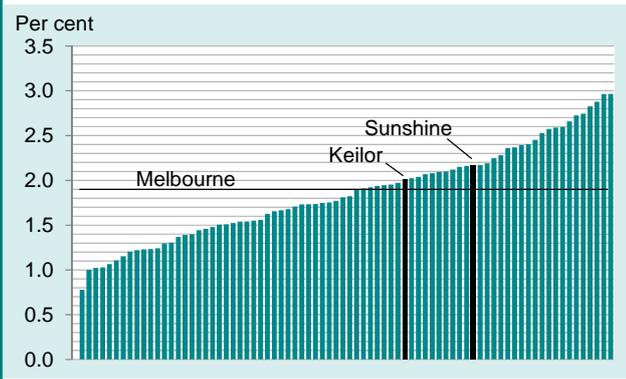
#RR is the ratio of the percentage in the area to the percentage for Brimbank City

## Regional comparisons

### 0 to 14 years of age

Both Keilor and Sunshine had proportions (2.0% and 2.2%, respectively) above the Melbourne average (of 1.9%); however, both of these SLAs were ranked just outside of the twenty SLAs with the highest proportions among the 79 Melbourne SLAs (Figure 25).

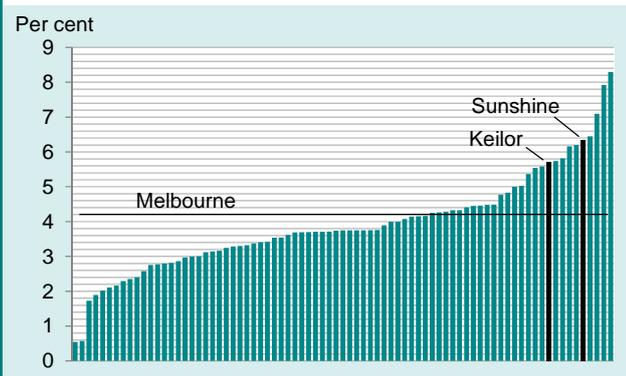
**Figure 25: Children aged 0 to 14 years living with disability, by SLA in Melbourne, 2011**



### 15 years of age and over

Across the 79 SLAs in Melbourne, Sunshine ranked fifth highest (6.4%) and Keilor, tenth highest (5.7%), showing that these SLAs are amongst those with the highest proportions across Melbourne (Figure 26). As mentioned earlier, Keilor and Sunshine have proportions well above the Melbourne average of 4.2%.

**Figure 26: People aged 15 years and over living with disability, by SLA in Melbourne, 2011**



## Correlations

### 0 to 14 years of age

There are strong correlations at the SLA level across Melbourne between children living with disability and children in families where the mother has low educational achievement, and people working as labourers. There was a very strong inverse correlation with high proportions of people working as managers or professionals.

For the health and wellbeing indicators, there were very strong correlations with this indicator and women smoking during pregnancy, female smokers, and obese adults. Male smoking was strongly correlated.

There were also very strong correlations between this indicator and the education indicators for early school leavers (i.e., people

had completed Year 10 or below, or did not go to school) and for people with a highest level of education of an Advanced Diploma, Diploma or Certificate; however, relatively fewer people had a Bachelor Degree or higher.

Proportions for these indicators in the Brimbank SLAs are similarly elevated.

### 15 years of age and over

There was a very strong correlation at the SLA level across Melbourne between this indicator and many indicators of socioeconomic disadvantage; there was a similarly strong correlation with households without Internet access at home.

In the area of health and wellbeing, there were very strong correlations with this indicator and self-assessed fair or poor health, and the estimated prevalence of diabetes mellitus. Strong correlations were also present for hospitalisations for ambulatory care-sensitive conditions, the prevalence of circulatory system diseases, high or very high psychological distress, male smoking, and adult obesity.

Strong correlations were found between this indicator and the education and child development indicators for children assessed as developmentally vulnerable on one or more domains of the AEDC, and people having left school early (i.e., completed Year 10 or below, or did not go to school). In keeping with this finding of the AEDC, relatively fewer children in these areas were assessed as being developmentally on track in the language and cognitive skills domain of the AEDC.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). Australian social trends, March quarter 2012. (ABS Cat. no. 4102.0). Canberra: ABS, 2012.
2. Qu L, Edwards B, Gray M. Ageing parent carers of people with a disability. (Report for Carers Victoria). Melbourne: Australian Institute of Family Studies, 2012.
3. Australian Bureau of Statistics (ABS). Social participation of people with a disability, 2011. (ABS Cat. no. 4439.0). Canberra: ABS, 2011.

## Health and wellbeing, and education and child development indicators at the Population Health Area level

### Health and wellbeing

#### Mothers and babies

Low birthweight babies

98

Women smoking during pregnancy

100

Admissions to hospital for ambulatory care-sensitive conditions, by age

102

#### Modelled estimates

105

Self-assessed health status reported as 'fair' or 'poor'

106

Prevalence of diabetes mellitus

108

Prevalence of circulatory system diseases

110

High or very high psychological distress

112

Smoking

116

Obesity

120

### Education and child development

Participation in preschool

124

Young people aged 16 years participating in full-time secondary school education

126

Early school leavers

128

Highest level of education, by type of qualification

130

Australian Early Development Census:

- children who are developmentally on track

134

- children who are developmentally vulnerable

138

## Low birthweight babies

The weight of a baby at delivery (birthweight) is widely accepted as a key indicator of infant health and can be affected by a number of factors, including the age, size, health and nutritional status of the mother, pre-term birth, and tobacco smoking during pregnancy.<sup>1</sup> A baby is defined as having a low birthweight if born weighing less than 2,500 grams. Low birthweight is generally associated with poorer health outcomes, including increased risk of illness and death, longer periods of hospitalisation after birth, and increased risk of developing significant disabilities.<sup>2</sup> The country of birth of the mother may also be an important risk factor for outcomes such as low birthweight and perinatal mortality.<sup>3</sup>

**Indicator definition:** Comprises babies (both live born and still-born) weighing less than 2500 grams at birth, expressed as a proportion of all births.

### Key points

- There were 667 low birthweight babies born in Brimbank City over the period 2010-12.
- The proportion of low birthweight babies born in Brimbank was 14% higher than that for Australia overall, particularly in Keilor, where it was 23% above the national rate and ranked fourth highest among Melbourne's SLAs.

## Geographic variation

For the period 2010-12, the proportion of low birthweight babies born in Brimbank was 14% above the Australian rate, and slightly higher than the rate in Melbourne, which was consistent with the national average (Table 45).

In Keilor, the proportion of low birthweight babies was markedly higher than the Australian rate, being 23% above it; however, the rate in Sunshine was just slightly higher (8%) than the national figure.

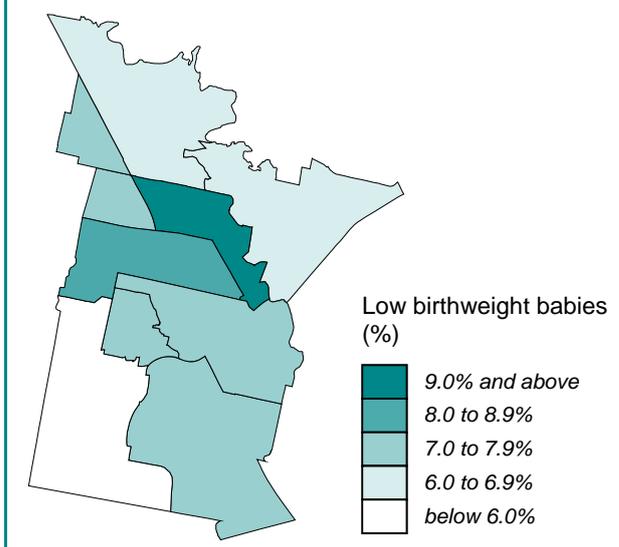
At the PHA level, Keilor Downs had 35% more low birthweight babies than in Brimbank overall, with 17% more in St Albans - North/Kings Park (Map 22 and Table 46). The lowest proportions were in Deer Park - Derrimut (22% below the Brimbank figure) and Keilor (19% below).

**Table 45: Low birthweight babies, Brimbank and comparators, 2010-12**

| Region                     | No.           | %          | RR#         |
|----------------------------|---------------|------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>289</b>    | <b>8.1</b> | <b>1.23</b> |
| <b>Brimbank - Sunshine</b> | <b>378</b>    | <b>7.1</b> | <b>1.08</b> |
| <b>Brimbank City</b>       | <b>667</b>    | <b>7.5</b> | <b>1.14</b> |
| Melbourne - West           | ..            | ..         | ..          |
| Melbourne                  | 11,699        | 6.8        | 1.03        |
| Country Victoria           | 3,558         | 7.1        | 1.08        |
| Victoria                   | 15,257        | 6.9        | 1.05        |
| <b>Australia</b>           | <b>58,788</b> | <b>6.6</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Victoria

**Map 22: Low birthweight babies, by PHA in Brimbank, 2010-12**



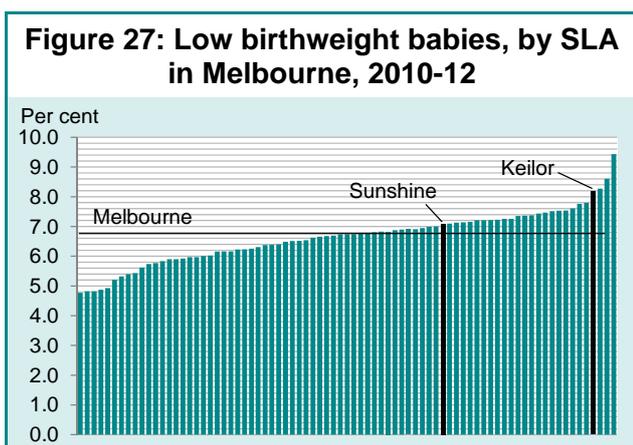
**Table 46: Low birthweight babies, by PHA in Brimbank, 2010-12**

| PHA                                      | No.        | %          | RR#         |
|--|------------|------------|-------------|
| Keilor                                   | 16         | 6.1        | 0.81        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 131        | 7.6        | 1.01        |
| Cairnlea                                 | 36         | 7.5        | 1.00        |
| Deer Park - Derrimut                     | 92         | 5.9        | 0.78        |
| Delahey                                  | 24         | 7.1        | 0.95        |
| Keilor Downs                             | 48         | 10.1       | 1.35        |
| St Albans - North/ Kings Park            | 126        | 8.8        | 1.17        |
| St Albans - South/ Sunshine North        | 99         | 7.4        | 0.99        |
| Sydenham                                 | 50         | 7.9        | 1.06        |
| Taylors Lakes                            | 28         | 6.7        | 0.90        |
| <b>Brimbank City</b>                     | <b>650</b> | <b>7.5</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

### Regional comparisons

Keilor had the fourth highest rate of low birthweight babies born in 2010-12, compared to Melbourne's SLAs (Figure 27). The rate in Sunshine was lower, and just above the Melbourne average.



### Correlations

There was a strong correlation at the SLA level across Melbourne between this indicator and many indicators of socioeconomic disadvantage: with children living in families where the mother has low educational attainment, people working as labourers, and no access to the Internet at home.

Strong correlations were found with some of the indicators of education and child development, in particular demonstrating relatively higher levels of early school leavers. Strong inverse correlations were apparent for people with their highest level of education being a Bachelor Degree or higher, and people working as managers or professionals.

In the area of health and wellbeing, there were strong correlations between this indicator and people reporting fair or poor health, male smokers and obese females.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Laws PJ, Grayson N, Sullivan EA. Australia's mothers and babies, 2004. (AIHW Cat. no. PER 34). Sydney: Australian Institute of Health and Welfare (AIHW), 2006.
2. Australian Institute of Health and Welfare (AIHW). A picture of Australia's children, 2012. Canberra: AIHW, 2012.
3. Li Z, McNally L, Hilder L, Sullivan EA. Australia's mothers and babies 2009. (Perinatal statistics series no. 25, AIHW Cat. no. PER 52). Sydney: Australian Institute of Health and Welfare (AIHW), 2011.

## Women smoking during pregnancy

*Maternal smoking during pregnancy is a major risk factor that can adversely affect infant health, increasing the likelihood of low birth weight, pre-term birth, fetal and neonatal death, and SIDS.<sup>1</sup> In 2009 in Australia, one in seven women (14%) smoked during pregnancy, with rates between three and four times as high among Aboriginal and Torres Strait Islander women, and those living in remote or socioeconomically disadvantaged areas.<sup>2</sup>*

**Indicator definition:** Comprises women who reported that they smoked at any time during the first 20 weeks of pregnancy, expressed as a proportion of the number of pregnant women.

### Key points

- The proportion of women who smoked during pregnancy in Brimbank City was 34% lower when compared to the national rate; however, the proportion was only slightly lower than that for the Melbourne SLAs.
- None of the PHAs had a rate of women smoking during pregnancy which was at, or above, the Australian average.

## Geographic variation

The proportion of women living in Brimbank who reported that they smoked during pregnancy over the period 2010-12 was 34% below the Australian rate, and just lower than the rate for Melbourne (Table 47).

In both Sunshine and Keilor, the proportion of women smoking in pregnancy was markedly lower than the Australian average, being 34% and 33% respectively, below the national rate.

The rate of women smoking in pregnancy in Melbourne was 31% lower than the figure for Australia overall.

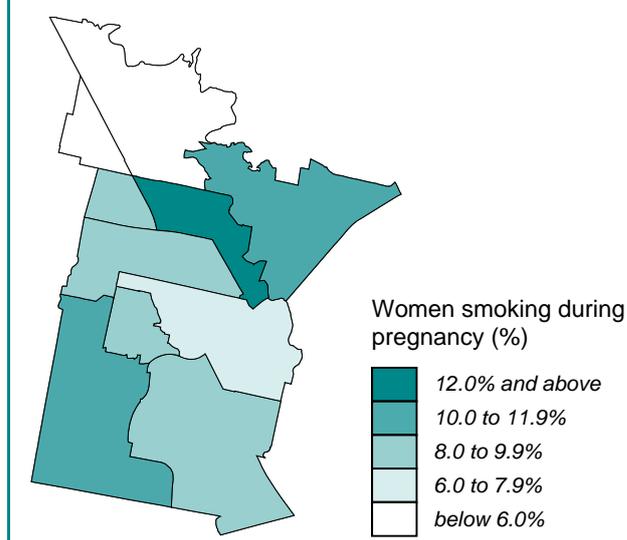
**Table 47: Women smoking during pregnancy, Brimbank and comparators, 2010-12**

| Region                     | No.            | %           | RR#         |
|----------------------------|----------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>315</b>     | <b>9.2</b>  | <b>0.67</b> |
| <b>Brimbank - Sunshine</b> | <b>465</b>     | <b>9.0</b>  | <b>0.66</b> |
| <b>Brimbank City</b>       | <b>780</b>     | <b>9.0</b>  | <b>0.66</b> |
| Melbourne - West           | ..             | ..          | ..          |
| Melbourne                  | 15,679         | 9.4         | 0.69        |
| Country Victoria           | 8,552          | 17.5        | 1.28        |
| Victoria                   | 24,231         | 11.2        | 0.82        |
| <b>Australia</b>           | <b>119,868</b> | <b>13.7</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Victoria

Consistent with the low overall proportion of women smoking during pregnancy, the highest proportion, of 12.1% in Keilor Downs, was still below the national figure of 13.7%. However, the rate in Keilor Downs was 38% above the Brimbank average (Map 23 and Table 48). The lowest proportions were in Sydenham (35% below the Brimbank rate) and in Taylors Lakes (34% below).

**Map 23: Women smoking during pregnancy, by PHA in Brimbank, 2010-12**



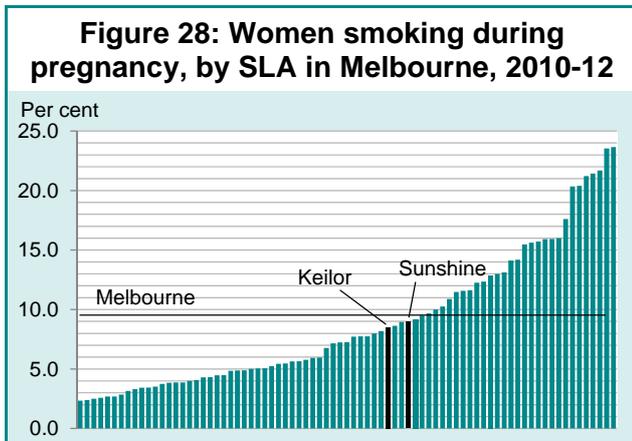
**Table 48: Women smoking during pregnancy, by PHA in Brimbank, 2010-12**

| PHA                                      | No.        | %          | RR#         |
|--|------------|------------|-------------|
| Keilor                                   | 27         | 10.5       | 1.19        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 147        | 8.8        | 0.99        |
| Cairnlea                                 | 39         | 8.4        | 0.96        |
| Deer Park - Derrimut                     | 168        | 11.0       | 1.25        |
| Delahey                                  | 31         | 9.6        | 1.09        |
| Keilor Downs                             | 55         | 12.1       | 1.38        |
| St Albans - North/ Kings Park            | 123        | 8.8        | 1.00        |
| St Albans - South/ Sunshine North        | 91         | 7.1        | 0.80        |
| Sydenham                                 | 35         | 5.7        | 0.65        |
| Taylors Lakes                            | 23         | 5.8        | 0.66        |
| <b>Brimbank City</b>                     | <b>739</b> | <b>8.8</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

## Regional comparisons

Rates for women living in Sunshine and Keilor, who reported smoked during pregnancy, were just below the average rate for Melbourne's 79 SLAs (Figure 28).



## Correlations

There was a very strong correlation at the SLA level across Melbourne between this indicator and many indicators of socioeconomic disadvantage: with children living in families where the mother has low educational attainment, people working as labourers, and children aged 0 to 14 years living with disability.

Strong correlations were found with some of the indicators of education and child development, in particular demonstrating relatively higher levels of early school leavers; lower rates of earning or learning; and fewer children participating in preschool or developmentally on track in the physical health and wellbeing and language and cognitive skills under the AEDC. Very strong inverse correlations were apparent for people with their highest level of education being a Bachelor Degree or higher, and people working as managers or professionals.

In the area of health and wellbeing, there were very strong correlations between this indicator and male and female smokers, and obese females. Strong correlations were apparent for rates of hospitalisations for ambulatory care-sensitive conditions for children aged 0 to 14 years and people aged 15 years and over, indicating relatively poorer access to adequate and timely primary health care, and for high or very high psychological distress for females.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Laws PJ, Grayson N, Sullivan EA. Smoking and pregnancy. (AIHW Cat. no. PER 33). Sydney: Australian Institute of Health and Welfare (AIHW), 2006.
2. Australian Institute of Health and Welfare (AIHW). A picture of Australia's children, 2012. Canberra: AIHW, 2012.

## Ambulatory care-sensitive conditions

*Ambulatory care-sensitive conditions (ACSCs) are those conditions for which hospitalisation should be able to be avoided because the disease or condition was prevented from occurring, or because individuals have had access to timely and effective primary care.<sup>1</sup> Variations in hospitalisations from these conditions can be used as an indicator to assess the adequacy, efficiency and quality of primary health care within the broader health system, as preventive care and early disease management is usually delivered in a primary care setting (for example by a general medical practitioner, or at a community health centre). High rates of hospital admissions for ACSCs may provide indirect evidence of problems with patient access to primary health care, inadequate health-related resources, poor health literacy or disconnection with specialist services.<sup>1</sup>*

**Indicator definition:** Hospital admissions resulting from ambulatory care-sensitive conditions per 1,000 population (see Appendix A for details of conditions covered).

Note: As these data were not available for Australia in the age groups shown here, the comparisons made are between Brimbank, and Victoria or Melbourne.

### Key points

- Hospitalisations for ACSCs of children aged from 0 to 14 years living in Brimbank are relatively high, and surprisingly so in Brimbank - Keilor, with the second highest rate of all SLAs in Melbourne. At the PHA level, high rates are found in areas of both high and low socioeconomic status.
- Among the population aged 15 years and over, the gap in hospitalisations for these conditions is even greater than for children, with the rate in Keilor being over one and a half times the rate in Sunshine. Rates in two PHAs were over 50% above the average rate for the City.

## Geographic variation

### 0 to 14 years of age

The rate of hospitalisations of children aged 0 to 14 years for ACSCs in Brimbank, of 24.1 admissions per 1,000 population, is 19% above the Victorian rate, and even more elevated when compared with the rate in Melbourne (Table 49). Children in Sunshine had a rate consistent with the Victorian rate; however, the rate in Keilor was markedly higher, being 40% above the Victorian rate.

Rates for these admissions in Melbourne - West and in Melbourne were both 8% below the Victorian rate.

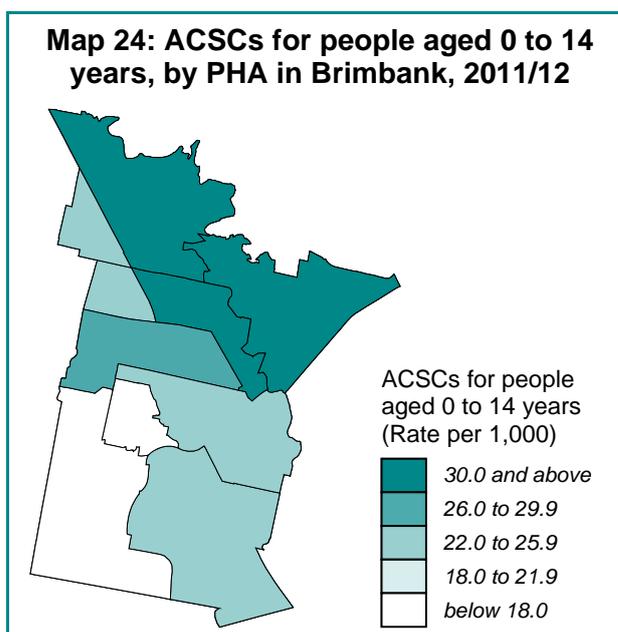
**Table 49: ACSCs for people aged 0 to 14 years, Brimbank and comparators, 2011/12**

| Region                     | No.        | Rate*       | RR#         |
|----------------------------|------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>459</b> | <b>28.4</b> | <b>1.40</b> |
| <b>Brimbank - Sunshine</b> | <b>398</b> | <b>20.6</b> | <b>1.01</b> |
| <b>Brimbank City</b>       | <b>857</b> | <b>24.1</b> | <b>1.19</b> |
| Melbourne - West           | 2,807      | 18.6        | 0.92        |
| Melbourne                  | 14,103     | 18.6        | 0.92        |
| Country Victoria           | 6,475      | 25.4        | 1.25        |
| Victoria                   | 20,578     | 20.3        | 1.00        |
| <b>Australia</b>           | <b>..</b>  | <b>..</b>   | <b>..</b>   |

\*Indirectly age-standardised rate per 1,000 population

#RR is the ratio of the rate in the area to the rate for Victoria

Rates of hospitalisation for these conditions vary widely across Brimbank (Map 24 and Table 50). Keilor (33.1 admissions per 1,000 population) and Keilor Downs (32.5) had rates of over one third above the City rate, with a high rate also in Taylors Lakes (30.8). Other data provided for this atlas show that children in these PHAs had very high hospitalisation rates for ACSCs for both asthma and dental conditions.



Cairnlea (16.5) and Deer Park - Derrimut (16.9) had the lowest rates of hospitalisation of children for these ACSCs.

There is no clear association at the PHA level between socioeconomic disadvantage and hospitalisations for ACSCs of children; for example, PHAs with high hospitalisation rates include some with high and some with low IRSD scores, or proportions of social housing or of children in jobless families.

**Table 50: ACSCs for people aged 0 to 14 years, by PHA in Brimbank, 2011/12**

| PHA                                      | No.        | Rate*       | RR#         |
|--|------------|-------------|-------------|
| Keilor                                   | 44         | 33.1        | 1.37        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 137        | 23.7        | 0.98        |
| Cairnlea                                 | 37         | 16.5        | 0.69        |
| Deer Park - Derrimut                     | 92         | 16.9        | 0.70        |
| Delahey                                  | 45         | 25.9        | 1.07        |
| Keilor Downs                             | 71         | 32.5        | 1.35        |
| St Albans - North/ Kings Park            | 166        | 26.7        | 1.11        |
| St Albans - South/ Sunshine North        | 111        | 22.5        | 0.93        |
| Sydenham                                 | 61         | 23.3        | 0.96        |
| Taylors Lakes                            | 95         | 30.8        | 1.28        |
| <b>Brimbank City</b>                     | <b>857</b> | <b>24.1</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 1,000 population

#RR is the ratio of the rate in the area to the rate for Brimbank City

### 15 years of age and over

Hospitalisation rates for ACSCs of people aged 15 years and over were higher than those for the 0 to 14 year age group, and are markedly different at the SLA level (Table 51). For example, although the rate in Brimbank was just 8% above the Victorian rate, the rate in Keilor was 36% above that rate, and in Sunshine, it was 17% below it. The Keilor rate is, therefore, over one and a half times the rate in Sunshine.

**Table 51: ACSCs for people aged 15 years and over, Brimbank and comparators, 2011/12**

| Region                     | No.          | Rate*       | RR#         |
|----------------------------|--------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>3,003</b> | <b>38.2</b> | <b>1.36</b> |
| <b>Brimbank - Sunshine</b> | <b>2,083</b> | <b>23.4</b> | <b>0.83</b> |
| <b>Brimbank City</b>       | <b>5,086</b> | <b>30.3</b> | <b>1.08</b> |
| Melbourne - West           | 15,348       | 30.0        | 1.07        |
| Melbourne                  | 111,327      | 27.8        | 0.99        |
| Country Victoria           | 44,501       | 28.9        | 1.03        |
| Victoria                   | 155,829      | 28.1        | 1.00        |
| <b>Australia</b>           | <b>..</b>    | <b>..</b>   | <b>..</b>   |

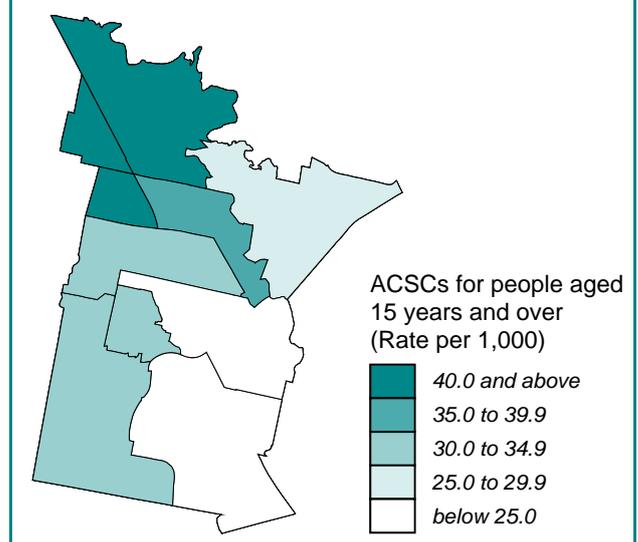
\*Indirectly age-standardised rate per 1,000 population

#RR is the ratio of the rate in the area to the rate for Victoria

The distribution at the PHA level is also markedly different from that seen for children, with the highest rates in Sydenham (47.1 admissions per 1,000 population, and 55% above the Brimbank rate), Delahey (45.9, 51% above) and Taylors Lakes (42.2, 39% above) (Map 25 and Table 52). In Keilor Downs, the rate was 21% above the City rate. Ardeer - Albion/ Sunshine/ Sunshine West and St Albans - South/ Sunshine North both had rates that were one third below the Brimbank rate.

The drivers of these high rates of hospitalisation in Brimbank are also the chronic conditions that are the most prevalent across Australia, namely diabetes, chronic obstructive pulmonary disease and angina.

**Map 25: ACSCs for people aged 15 years and over, by PHA in Brimbank, 2011/12**



**Table 52: ACSCs for people aged 15 years and over, by PHA in Brimbank, 2011/12**

| PHA                                      | No.          | Rate*       | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 287          | 29.1        | 0.96        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 712          | 20.4        | 0.68        |
| Cairnlea                                 | 192          | 34.8        | 1.15        |
| Deer Park - Derrimut                     | 482          | 30.3        | 1.00        |
| Delahey                                  | 292          | 45.9        | 1.51        |
| Keilor Downs                             | 466          | 36.7        | 1.21        |
| St Albans - North/ Kings Park            | 1,054        | 33.8        | 1.12        |
| St Albans - South/ Sunshine North        | 583          | 20.5        | 0.68        |
| Sydenham                                 | 398          | 47.1        | 1.55        |
| Taylors Lakes                            | 620          | 42.2        | 1.39        |
| <b>Brimbank City</b>                     | <b>5,086</b> | <b>30.3</b> | <b>1.00</b> |

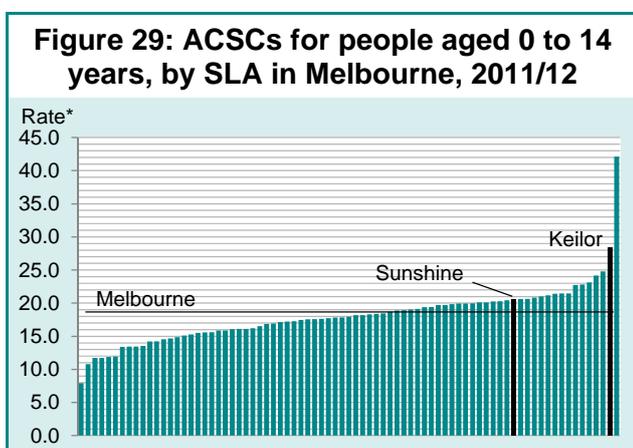
\*Indirectly age-standardised rate per 1,000 population

#RR is the ratio of the rate in the area to the rate for Brimbank City

## Regional comparisons

### 0 to 14 years of age

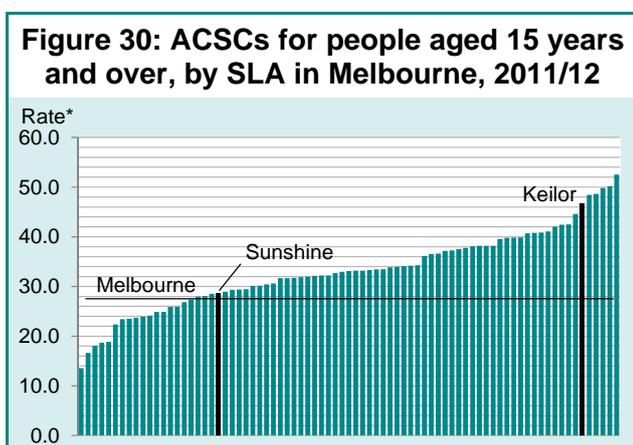
Keilor had the second highest admission rate for children 0 to 14 years hospitalised for ACSCs in 2011/12, after Melbourne - Inner (Figure 29). The rate in Sunshine was much lower, although it was still above the Melbourne average.



\*Indirectly age-standardised rate per 1,000 population

### 15 years of age and over

Keilor also had a hospitalisation rate for the 15 years and over age group that was well above average, and was ranked sixth among Melbourne's SLAs (Figure 30). The rate in Sunshine was much lower, and close to the Melbourne average.



\*Indirectly age-standardised rate per 1,000 population

## Correlations

### 0 to 14 years of age

There are strong correlations at the SLA level across Melbourne between this indicator and relatively high levels of unemployment (at all ages and for young people) and low income households under financial stress from rent or mortgage payments.

### 15 years of age and over

There was a strong correlation at the SLA level across Melbourne between this indicator and other indicators of socioeconomic disadvantage. These were most evident for homes without Internet access, children living in jobless families and those where the mother had low educational attainment, and low income households under financial stress from rent or mortgage payments. Strong inverse correlations were also found between this indicator and young adults learning or earning, people working as managers or professionals and people who had participated in voluntary work.

Strong correlations were also found with the education and child development indicator for children being developmentally vulnerable on one or more domains of the AEDC. In line with this finding, relatively few children were on track in the language and cognitive skills domain of the AEDC.

In the area of health and wellbeing, there were strong correlations between this indicator and women smoking during pregnancy; self-assessed fair or poor health; high or very high psychological distress; estimated prevalence of diabetes mellitus, and circulatory system diseases; male smokers; and obese females. A strong correlation was also found between this indicator and high rates of hospitalisation of children for ACSCs.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Victorian Department of Health (VDH). Victorian Ambulatory Care Sensitive Conditions study. [Website]. At <http://www.health.vic.gov.au/healthstatus/admin/acsc/> (accessed 17 April 2014).

## Modelled estimates

The following pages show the estimated prevalence of a number of important indicators of the population's health at the PHA level in Brimbank. These estimates, produced from the Australian Health Survey 2011-13, are for self-assessed health status (reported as 'fair' or 'poor'), psychological distress (reported as 'high' or 'very high'), diabetes, circulatory system diseases, and the health risk factors of smoking and obesity.

These data are not available at the PHA or other small area level from any administrative data source. In order to provide people working at the local and community level with credible estimates of the likely level of a condition or risk factor in their area, PHIDU contracted the Australian Bureau of Statistics to produce the estimates. Further details of the estimates, their production, their limitations and the additional work undertaken by PHIDU to publish them in the form below, are contained in Appendix C.

Although the data were modelled at the PHA (and not at the SLA) level, the PHA data have been allocated to SLAs to produce weighted estimates for all SLAs in Melbourne; these data are shown in the bar chart. This involved splitting data, for some PHAs, between SLAs. However, this was of little significance in Brimbank, as the boundaries of the PHAs in Brimbank very closely approximate the Keilor and Sunshine boundaries.

The numbers are estimates for an area, not measured events as are, for example, death statistics. As such, they should be viewed as a tool that, when used in conjunction with local area knowledge and taking into consideration the prediction reliability, can provide useful information to assist with decision making for small geographic regions.

## Self-assessed health status reported as 'fair', or 'poor'

*Self-assessed health status is commonly used as a proxy measure of actual health status; and how people rate their health is strongly related to their experience of illness and disability.<sup>1,2</sup> This measure is therefore an important indicator of key aspects of quality of life.<sup>3</sup>*

Australians generally consider themselves to be healthy. In 2011-12, over half (55%) of Australians aged 15 years and over rated their health as 'very good' or 'excellent', while only 4% rated it as 'poor'.<sup>1</sup> Older Australians generally rated themselves as having poorer health than younger people, with persons aged 75-84 years and 85 years and over recording the highest proportions of fair or poor health, at 31.4% and 37.5% respectively.<sup>1</sup> Men and women showed no differences in the way they assessed their overall health.<sup>1</sup>

**Indicator definition:** Estimated number of people aged 15 years and over who reported their health as 'fair' or as 'poor' (rather than as 'good', 'very good', or 'excellent'); expressed as an indirectly age-standardised rate per 100 population (aged 15 years and over). These data are modelled estimates – for more information, see Appendix C.

### Key points

- Rates for people aged 15 years and over living in Brimbank City who report fair or poor health, are relatively high, with Brimbank - Sunshine and - Keilor, having the third and fifth highest estimated rates respectively, of all SLAs in Melbourne.
- Three of the PHAs had estimated rates of people reporting fair or poor health, which were above the City's average.

### Geographic variation

An estimated one in five people in Brimbank, assessed their health as being fair, or poor, 38% above the Australian rate, and even more elevated when compared with the rate in Melbourne (Table 53).

People aged 15 years and over in Sunshine and Keilor had rates of reporting fair or poor health, which were markedly higher than that for Australia overall, being 47% and 29% respectively, above the national rate.

The rate in Melbourne was 5% below the national rate.

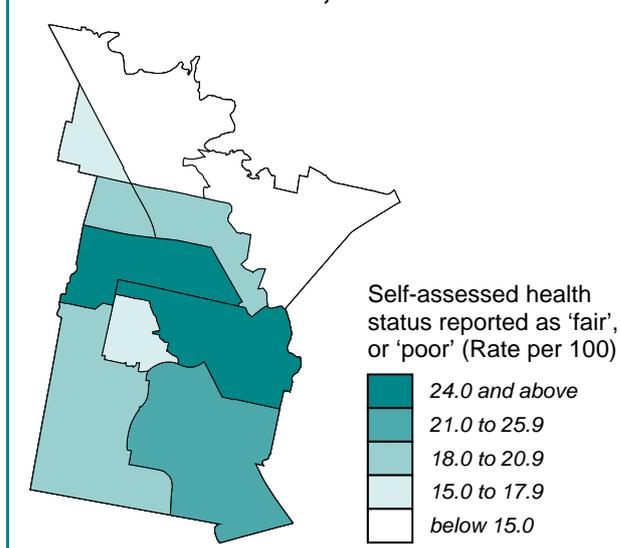
**Table 53: Self-assessed health status reported as 'fair', or 'poor', Brimbank and comparators, 2011-12**

| Region              | No.              | Rate*       | RR#         |
|---------------------|------------------|-------------|-------------|
| Brimbank - Keilor   | 13,706           | 18.9        | 1.29        |
| Brimbank - Sunshine | 16,821           | 21.6        | 1.47        |
| Brimbank City       | 30,526           | 20.3        | 1.38        |
| Melbourne - West    | ..               | ..          | ..          |
| Melbourne           | 462,660          | 13.9        | 0.95        |
| Country Victoria    | 175,662          | 14.8        | 1.01        |
| Victoria            | 638,323          | 14.1        | 0.96        |
| <b>Australia</b>    | <b>2,620,662</b> | <b>14.6</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population  
#RR is the ratio of the rate in the area to the rate for Australia

The population reporting their health as fair or poor is highly concentrated, with rates in St Albans - North/ Kings Park (25.5 people per 100 population) and St Albans - South/ Sunshine North (24.0 people per 100 population) elevated by 26% and 18%, respectively above the Brimbank rate (Map 26 and Table 54). That these figures are even more highly elevated when compared with the national rate (14.6%) suggests this is an area of concern.

**Map 26: Self-assessed health status reported as 'fair', or 'poor', by PHA in Brimbank, 2011-12**



The populations of both Keilor (13.2 people per 100 population) and Taylors Lakes (14.0 people per 100 population) have rates of over 30% below the Brimbank average.

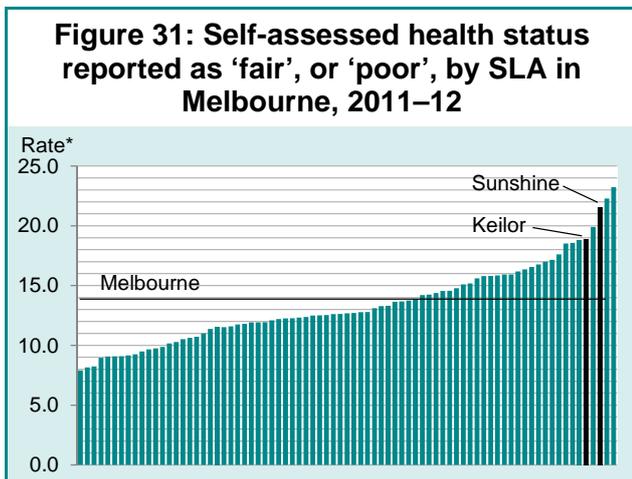
**Table 54: Self-assessed health status reported as ‘fair’, or ‘poor’, by PHA in Brimbank, 2011–12**

| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 1,054         | 13.2        | 0.65        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 5,984         | 21.3        | 1.05        |
| Cairnlea                                 | 1,074         | 17.4        | 0.86        |
| Deer Park – Derrimut                     | 3,057         | 19.1        | 0.94        |
| Delahey                                  | 1,205         | 18.9        | 0.93        |
| Keilor Downs                             | 2,133         | 18.0        | 0.89        |
| St Albans - North/ Kings Park            | 7,061         | 25.5        | 1.26        |
| St Albans - South/ Sunshine North        | 5,568         | 24.0        | 1.18        |
| Sydenham                                 | 1,295         | 15.8        | 0.78        |
| Taylors Lakes                            | 2,096         | 14.0        | 0.69        |
| <b>Brimbank City</b>                     | <b>30,526</b> | <b>20.3</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population  
#RR is the ratio of the rate in the area to the rate for Brimbank City

## Regional comparisons

Residents of Sunshine and Keilor aged 15 years and over reported estimated rates of fair or poor health, which were well above the average for Melbourne, and ranked third and fifth respectively, among Melbourne’s SLAs (Figure 31).



## Correlations

There was a very strong correlation at the SLA level across Melbourne between this indicator and many indicators of socioeconomic disadvantage: for children living in jobless families, and in families where the mother has low educational attainment, people working as labourers, adult unemployment, people aged 15 years and over living with disability, no Internet access at home, and low income

households under financial stress from rent or mortgage commitments. A very strong inverse correlation was evident for voluntary work.

Very strong correlations were also found with a number of the indicators of education and child development, in particular demonstrating relatively fewer children participating in preschool (a strong inverse correlation), or developmentally on track in the language and cognitive skills under the AEDC. A very strong correlation was therefore apparent for children developmentally vulnerable in one or more domains of the AEDC. A very strong inverse correlation was evident for young people earning or learning.

For the health and wellbeing indicators, there were very strong correlations between this indicator and high or very high psychological distress, male smokers, and the estimated prevalence of diabetes mellitus. Strong correlations were apparent for rates of hospitalisations for ambulatory care-sensitive conditions for people aged 15 years and over, indicating relatively poorer access to adequate and timely primary health care.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). Profiles of health, Australia, 2011-13. (ABS Cat. no. 4338.0). Canberra: ABS, 2013.
2. Doiron D, Fiebig DG, Johar M, Suziedelyte A. Does self-assessed health measure health? Sydney, NSW: UTS, 2014.
3. McCallum J, Shadbolt B, Wang D. Self-rated health and survival: a seven-year follow-up study of Australian elderly. *American Journal of Public Health* 1994; 84(7): 1100-1105.

## Prevalence of diabetes mellitus

*Diabetes mellitus is a chronic disease characterised by high blood glucose levels resulting from defective insulin production, insulin action or both.<sup>1</sup> There are a number of different forms of diabetes, which may have serious complications, such as cardiovascular, eye and renal diseases.*

*Aboriginal and Torres Strait Islander peoples and others who are socioeconomically disadvantaged are at higher risk of developing diabetes mellitus, and have much greater hospitalisation and death rates from diabetes than other Australians.<sup>2</sup>*

**Indicator definition:** The prevalence of diabetes mellitus was measured by a glycated haemoglobin test (commonly referred to as HbA1c), derived from tests on blood and samples from volunteering participants aged 18 years and over selected in the AHS: people with an HbA1c level of greater than or equal to 6.5% were recorded as having diabetes mellitus (6.5% is the WHO recommended cut-off point for diabetes). These data, expressed as an indirectly age-standardised rate per 100 population aged 18 years and over, are modelled estimates – see Appendix C.

### Key points

- Rates for people aged 18 years and over with diabetes mellitus living in Brimbank are relatively elevated, with Brimbank - Sunshine and - Keilor having the second and fifth highest rates respectively, of all SLAs in Melbourne.
- There were two PHAs in Brimbank, which were at least 25% higher than the City's average for this indicator.

## Geographic variation

The estimated prevalence of diabetes mellitus among the population of Brimbank was substantially higher than in Australia overall, with the rate of 8.8 per 100 people being 63% above the national rate (Table 55). When compared with Melbourne, with a rate 6% below the national rate, the gap is even larger.

For people aged 18 years and over, the estimated prevalence of diabetes mellitus in Sunshine was substantially higher than that for Australia overall, being 79% above the national rate.

In Keilor, the prevalence of diabetes mellitus was markedly (47%) higher than the national rate.

St Albans - North/ Kings Park and St Albans - South/ Sunshine North (both with 11.2 people per 100 population with diabetes mellitus) have the most highly elevated rates when compared with the rate in Brimbank overall. These rates are over twice the national rate (Map 27 and Table 56). Ardeer - Albion/ Sunshine West (9.3 people per 100 population) is the only other PHA with a rate estimated to be above the Brimbank rate.

Keilor (5.8 people per 100 population with diabetes mellitus) and Sydenham (6.0) have rates of around two thirds of the Brimbank average.

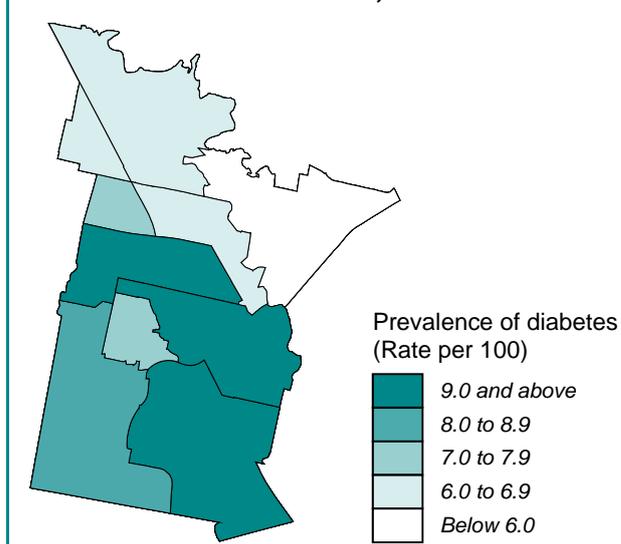
**Table 55: Prevalence of diabetes mellitus, Brimbank and comparators, 2011–12**

| Region                     | No.            | Rate*      | RR#         |
|----------------------------|----------------|------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>5,338</b>   | <b>7.9</b> | <b>1.47</b> |
| <b>Brimbank - Sunshine</b> | <b>6,771</b>   | <b>9.6</b> | <b>1.79</b> |
| <b>Brimbank City</b>       | <b>12,109</b>  | <b>8.8</b> | <b>1.63</b> |
| Melbourne - West           | ..             | ..         | ..          |
| Melbourne                  | 154,865        | 5.0        | 0.94        |
| Country Victoria           | 47,331         | 3.9        | 0.73        |
| Victoria                   | 202,196        | 4.7        | 0.88        |
| <b>Australia</b>           | <b>917,838</b> | <b>5.4</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Australia

**Map 27: Prevalence of diabetes mellitus, by PHA in Brimbank, 2011–12**



**Table 56: Prevalence of diabetes mellitus, by PHA in Brimbank, 2011–12**

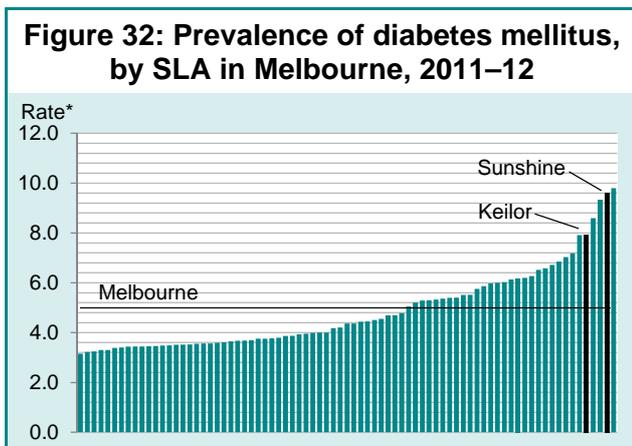
| PHA                                      | No.           | Rate*      | RR#         |
|--|---------------|------------|-------------|
| Keilor                                   | 485           | 5.8        | 0.66        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 2,432         | 9.3        | 1.06        |
| Cairnlea                                 | 357           | 7.3        | 0.83        |
| Deer Park – Derrimut                     | 1,064         | 8.0        | 0.91        |
| Delahey                                  | 396           | 7.2        | 0.82        |
| Keilor Downs                             | 750           | 6.7        | 0.76        |
| St Albans - North/ Kings Park            | 2,952         | 11.2       | 1.27        |
| St Albans - South/ Sunshine North        | 2,442         | 11.2       | 1.27        |
| Sydenham                                 | 392           | 6.0        | 0.68        |
| Taylors Lakes                            | 839           | 6.3        | 0.71        |
| <b>Brimbank City</b>                     | <b>12,109</b> | <b>8.8</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Brimbank City

### Regional comparisons

The estimated rates of diabetes mellitus for residents aged 18 years and over in Sunshine and Keilor are considerably higher than the average for Melbourne, with Sunshine and Keilor ranked second and fifth respectively, among Melbourne’s SLAs (Figure 32).



### Correlations

There are very strong correlations at the SLA level across Melbourne between this indicator and many other indicators of socioeconomic disadvantage. These were most evident with high proportions of children living in jobless families, people born overseas reporting poor proficiency in English, longer term residents born in NES countries, adult unemployment, no Internet access at home, and people aged 15 years and over living with disability. Strong correlations were found for children in families with mothers with low educational attainment, unemployed youth, people working as labourers, and low income households under financial stress from rent or mortgage

payments. Strong inverse correlations were also found with high proportions of the population involved in learning or earning, and female labour force participation.

Strong inverse correlations were also found, with children in these families having relatively lower levels of preschool participation, and fewer children who were developmentally on track in the physical health and wellbeing, and in the language and cognitive skills domains of the AEDC. Not surprisingly, given these findings, relatively more children were developmentally vulnerable on one or more domains of the AEDC.

With respect to health and wellbeing indicators, there was a very strong correlation with self-assessed fair or poor health. Strong correlations were found for estimates of high or very high psychological distress; male smokers; and hospitalisations for ambulatory care-sensitive conditions for people aged 15 years and over, indicating relatively poorer access to adequate and timely primary health care.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. World Health Organization (WHO). Definition, diagnosis and classification of diabetes mellitus and its complications. Part 1: Diagnosis and classification of diabetes mellitus. Geneva: Department of Noncommunicable Disease Surveillance, WHO; 1999.
2. Australian Bureau of Statistics (ABS). Profiles of health, Australia, 2011-13. (ABS Cat. no. 4338.0). Canberra: ABS, 2013.

## Prevalence of circulatory system diseases

The heart, blood and blood vessels make up the circulatory system. The leading conditions contributing to circulatory system disease burden and mortality are hypertension (high blood pressure), stroke, and ischaemic heart disease (coronary heart disease). These diseases are mainly caused by a damaged blood supply to the heart, brain and/or limbs, and share a number of risk factors. Behavioural risk factors, such as poor diet and tobacco smoking, contribute significantly to the likelihood of developing a circulatory system disease.<sup>1</sup> Circulatory system diseases are also largely age-related.

In 2011–12, 16.9% of Australians (or around 3.7 million people) reported having a disease of the circulatory system.<sup>2</sup> Indigenous Australians, people of lower socioeconomic status, males over the age of 45 years, and males living in rural and remote areas are at increased risk for developing and dying from circulatory system diseases.<sup>3</sup>

**Indicator definition:** Estimated number of people aged two years and over who reported that they had heart or circulatory conditions, and who confirmed that a doctor, nurse or other health practitioner had told them they had the condition; expressed as an indirectly age-standardised rate per 100 population aged two years and over. These data are modelled estimates – see Appendix C.

### Key points

- For people aged two years and over living in Brimbank City, the prevalence of circulatory system diseases was estimated at slightly below the Australian rate; and consistent with that for Melbourne.
- There is little variation in the prevalence of circulatory system diseases at the PHA level across the City.

## Geographic variation

The estimated prevalence of circulatory system diseases for people aged two years and over living in Brimbank, a rate of 16.6 per 100 population, is slightly below the national rate, and consistent with the rate in Melbourne (Table 57).

For Sunshine and Keilor, the estimated prevalence of circulatory system diseases is similar, and slightly lower than that for Australia overall.

**Table 57: Prevalence of circulatory system diseases, Brimbank and comparators, 2011–12**

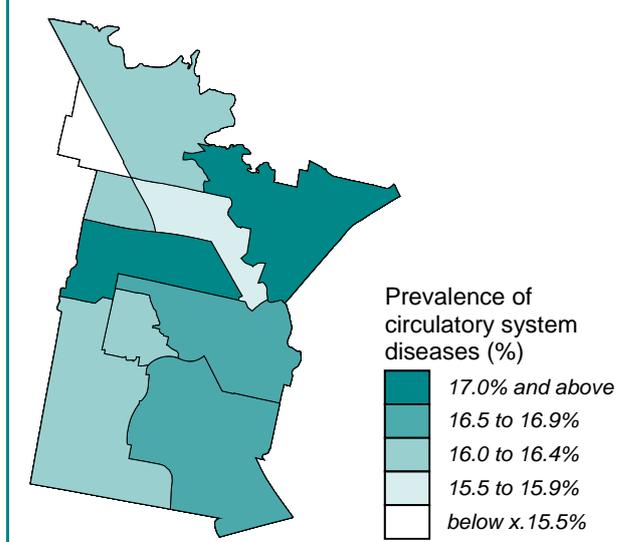
| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>13,953</b>    | <b>16.6</b> | <b>0.96</b> |
| <b>Brimbank - Sunshine</b> | <b>14,906</b>    | <b>16.7</b> | <b>0.96</b> |
| <b>Brimbank City</b>       | <b>28,858</b>    | <b>16.6</b> | <b>0.96</b> |
| Melbourne - West           | ..               | ..          | ..          |
| Melbourne                  | 642,168          | 16.4        | 0.95        |
| Country Victoria           | 258,228          | 17.1        | 0.99        |
| Victoria                   | 900,395          | 16.6        | 0.96        |
| <b>Australia</b>           | <b>3,721,333</b> | <b>17.3</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Australia

There is little variation in the prevalence of circulatory system diseases at the PHA level, with rates estimated to range from five per cent above the Brimbank average in St Albans - North/ Kings Park and Keilor, to nine per cent below in Sydenham (Map 28 and Table 58).

**Map 28: Prevalence of circulatory system diseases, by PHA in Brimbank, 2011–12**



**Table 58: Prevalence of circulatory system diseases, by PHA in Brimbank, 2011–12**

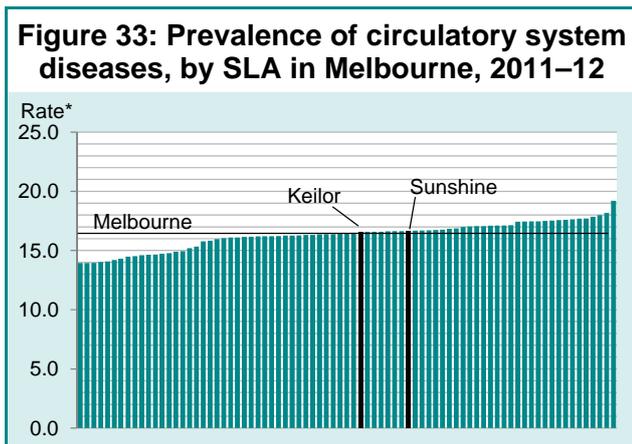
| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 1,795         | 17.4        | 1.05        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 5,533         | 16.6        | 1.00        |
| Cairnlea                                 | 1,010         | 16.2        | 0.98        |
| Deer Park - Derrimut                     | 2,737         | 16.2        | 0.97        |
| Delahey                                  | 1,111         | 16.0        | 0.97        |
| Keilor Downs                             | 2,220         | 15.8        | 0.95        |
| St Albans - North/ Kings Park            | 5,787         | 17.5        | 1.05        |
| St Albans - South/ Sunshine North        | 4,694         | 16.9        | 1.02        |
| Sydenham                                 | 1,284         | 15.2        | 0.91        |
| Taylors Lakes                            | 2,687         | 16.1        | 0.97        |
| <b>Brimbank City</b>                     | <b>28,858</b> | <b>16.6</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Brimbank City

### Regional comparisons

For people aged two years and over, the estimated rates of circulatory system diseases in Sunshine and Keilor are both just above the average for Melbourne’s SLAs (Figure 33).



### Correlations

There are strong correlations at the SLA level across Melbourne between this indicator and other indicators of socioeconomic disadvantage.

These were most evident with the indicators for proportions of children living in families with mothers with low educational attainment, people working as labourers, no Internet access at home, and people aged 15 years and over living with disability. Strong inverse correlations were present for young people learning or earning, and voluntary work.

With respect to indicators of education and child development, there were strong correlations for early school leavers, and children developmentally vulnerable on one or

more domains of the AEDC. Conversely, strong inverse correlations were found for preschool participation, and the highest level of education being a Bachelor Degree or higher.

With respect to health and wellbeing indicators, there was a strong correlation with those for women smoking in pregnancy, self-assessed fair or poor health, male and female smokers, and obese females. A strong correlation with hospitalisations for ambulatory care-sensitive conditions for people aged 15 years and over is likely to indicate relatively poorer access to adequate and timely primary health care.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Australian Institute of Health and Welfare (AIHW). Australia's health 2010. (AIHW Cat. no. AUS 122). Canberra: AIHW, 2010.
2. Australian Bureau of Statistics (ABS). Australian Health Survey: Health service usage and health related actions, 2011-12. (ABS Cat. no. 4364.0.55.002). Canberra: ABS, 2013.
3. Australian Institute of Health and Welfare (AIHW). Socioeconomic inequalities in cardiovascular disease in Australia: current picture and trends since 1992. (AIHW Cat. no. AUS 74.) Canberra: AIHW, 2006.

population), Taylors Lakes (9.3 males per 100 population) and Keilor (9.6 males per 100 population) all have rates markedly below the Brimbank average.

**Table 60: High or very high psychological distress (males), by PHA in Brimbank, 2011–12**

| PHA                                      | No.          | Rate*       | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 327          | 9.6         | 0.80        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 1,940        | 14.0        | 1.17        |
| Cairnlea                                 | 356          | 10.2        | 0.85        |
| Deer Park – Derrimut                     | 1,072        | 12.0        | 1.00        |
| Delahey                                  | 364          | 11.2        | 0.93        |
| Keilor Downs                             | 487          | 8.5         | 0.71        |
| St Albans - North/ Kings Park            | 1,760        | 13.1        | 1.09        |
| St Albans - South/ Sunshine North        | 1,546        | 14.0        | 1.17        |
| Sydenham                                 | 465          | 10.3        | 0.86        |
| Taylors Lakes                            | 717          | 9.3         | 0.78        |
| <b>Brimbank City</b>                     | <b>9,036</b> | <b>12.0</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population  
#RR is the ratio of the rate in the area to the rate for Brimbank City

### Females

The estimated rate of high or very high psychological distress among females in Brimbank, a rate of 14.7 females per 100 population, was 16% above the Australian rate. The Brimbank rate was notably elevated when compared with the rate in Melbourne overall (Table 61).

**Table 61: High or very high psychological distress (females), Brimbank and comparators, 2011–12**

| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>4,851</b>     | <b>13.3</b> | <b>1.05</b> |
| <b>Brimbank - Sunshine</b> | <b>6,308</b>     | <b>16.0</b> | <b>1.26</b> |
| <b>Brimbank City</b>       | <b>11,159</b>    | <b>14.7</b> | <b>1.16</b> |
| Melbourne - West           | ..               | ..          | ..          |
| Melbourne                  | 205,471          | 12.3        | 0.97        |
| Country Victoria           | 69,486           | 13.3        | 1.04        |
| Victoria                   | 274,957          | 12.5        | 0.99        |
| <b>Australia</b>           | <b>1,097,824</b> | <b>12.7</b> | <b>1.00</b> |

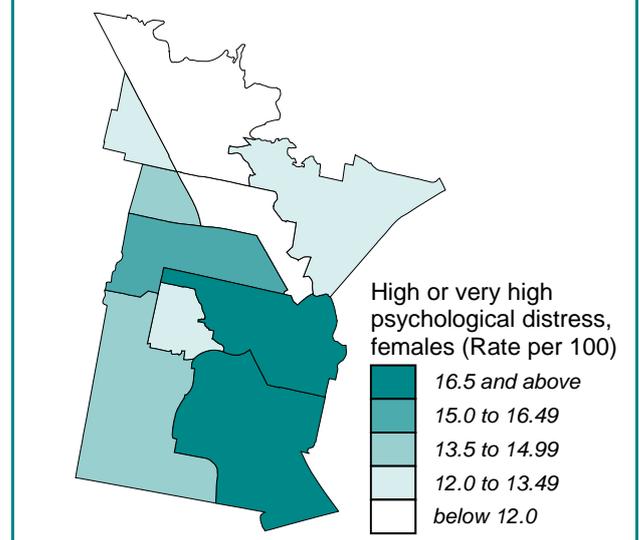
\*Indirectly age-standardised rate per 100 population  
#RR is the ratio of the rate in the area to the rate for Australia

Of note is the rate for females aged 18 years and over in Sunshine, where 16.0 females per 100 population were estimated to have high or very high psychological distress, markedly above the national rate.

Seven of the ten PHAs in Brimbank have rates of high or very high psychological distress for females aged 18 years and over which are

above the national rate (Map 30 and Table 62). As such, only three PHAs have rates notably above the Brimbank rate; they are the PHAs of St Albans - South/ Sunshine North (17.2 females per 100 population), Ardeer - Albion/ Sunshine/ Sunshine West (16.6) and St Albans - North/ Kings Park (16.1).

**Map 30: High or very high psychological distress (females), by PHA in Brimbank, 2011–12**



**Table 62: High or very high psychological distress (females), by PHA in Brimbank, 2011–12**

| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 429           | 12.0        | 0.82        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 2,240         | 16.6        | 1.13        |
| Cairnlea                                 | 449           | 12.7        | 0.86        |
| Deer Park – Derrimut                     | 1,333         | 14.8        | 1.01        |
| Delahey                                  | 497           | 14.5        | 0.99        |
| Keilor Downs                             | 643           | 10.9        | 0.74        |
| St Albans - North/ Kings Park            | 2,190         | 16.1        | 1.09        |
| St Albans - South/ Sunshine North        | 1,932         | 17.2        | 1.17        |
| Sydenham                                 | 579           | 12.7        | 0.86        |
| Taylors Lakes                            | 865           | 11.4        | 0.78        |
| <b>Brimbank City</b>                     | <b>11,159</b> | <b>14.7</b> | <b>1.00</b> |

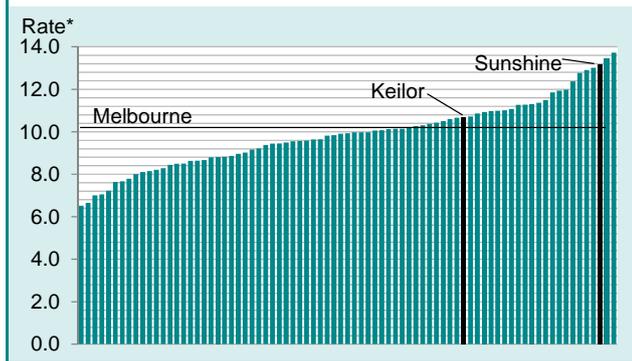
\*Indirectly age-standardised rate per 100 population  
#RR is the ratio of the rate in the area to the rate for Brimbank City

## Regional comparisons

### Males

The level of high or very high psychological distress among males aged 18 years and over living in Sunshine was above the average for Melbourne, with Sunshine ranked third among Melbourne’s SLAs; the rate in Keilor was slightly above the average (Figure 34).

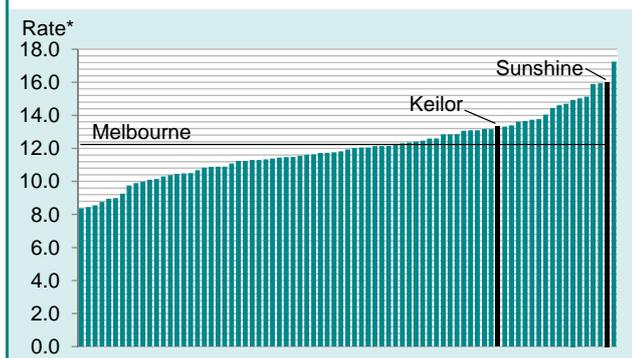
**Figure 34: High or very high psychological distress (males), by SLA in Melbourne, 2011–12**



### Females

For females aged 18 years and over, the estimated rate of psychological distress in Sunshine was well above the average for Melbourne, being ranked second among Melbourne’s SLAs; the rate in Keilor was slightly above the average (Figure 35).

**Figure 35: High or very high psychological distress (females), by SLA in Melbourne, 2011–12**



### Correlations

There are strong correlations at the SLA level across Melbourne between this indicator and other indicators of socioeconomic disadvantage.

Correlations with the estimated prevalence of high or very high psychological distress were very strong with the rates of children living in jobless families, unemployment and low income households under financial stress from rent or mortgage payments. Very strong correlations for females and strong correlations for males were evident with the proportions of children in families with mothers with low educational attainment, people working as labourers, and no Internet access at home. There was a very strong inverse correlation (for both males and females with high or very high psychological distress) with young people

learning or earning, and strong inverse correlations with people working as managers or professionals (for females), and with people undertaking voluntary work (for both males and females).

For females, strong correlations were also found with a number of the indicators of education and child development, in particular demonstrating relatively higher participation in vocational education and training, and high rates of early school leavers. There were strong or very strong correlations for both males and females with high or very high psychological distress with poor outcomes under the AEDC, indicating that relatively fewer children were on track in the health and wellbeing, or language and cognitive skills domains; and relatively more were vulnerable on one or more domains.

For the health and wellbeing indicators, there were very strong correlations between this indicator and fair or poor self-assessed health. Strong correlations were apparent for women smoking during pregnancy (with females with high or very high psychological distress); for the estimated prevalence of diabetes mellitus or circulatory system diseases (for both males and females); and for rates of hospitalisations for ambulatory care-sensitive conditions for people aged 15 years and over (males and females) and 0 to 14 years (males), indicating relatively poorer access to adequate and timely primary health care.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Coombs T. Australian Mental Health Outcomes and Classification Network: Kessler-10 Training Manual. Sydney: NSW Institute of Psychiatry, 2005.
2. Australian Bureau of Statistics (ABS). National Health Survey: users’ guide - electronic publication, 2007-08. (ABS Cat. no. 4364.0). Canberra: ABS, 2009.
3. Australian Bureau of Statistics (ABS). Profiles of health, Australia, 2011-13. (ABS Cat. no. 4338.0). Canberra: ABS, 2013.

*This page intentionally left blank*

## Smoking

Tobacco smoking is recognised as the largest single preventable cause of death and disease in Australia.<sup>1</sup> It is associated with an increased risk of heart disease, stroke, cancer, emphysema, bronchitis, asthma, renal disease and eye disease.<sup>2</sup> In 2011-12, the Australian Health Survey estimated that approximately eight million Australian adults aged 18 years and over had smoked at some time in their lives; and 3.1 million were current smokers, with the vast majority (90%) of these people smoking daily.<sup>1</sup> The negative effects of passive smoking indicate that the risks to health of smoking affect more than just the smoker. Passive smoking increases the risk of heart disease, asthma, and some cancers. It may also increase the risk of Sudden Infant Death Syndrome (SIDS), and may predispose children to allergic sensitisation.<sup>3</sup> Rates of smoking differ between males and females and across age groups; and between 2001 and 2011-12, overall rates of smoking decreased for both males and females. In 2011-12, 20.4% of males and 16.3% of females aged 18 years and over were current smokers.<sup>4</sup>

**Indicator definition:** Estimated number of people aged 18 years and over who reported being a current smoker; expressed as an indirectly age-standardised rate per 100 population aged 18 years and over (see Appendix A). These data are modelled estimates – see Appendix C.

### Key points

- One in four adult males and about one in seven females in Brimbank City are estimated to be current smokers, representing rates which are 26% higher and 8% lower, respectively than the national rate.
- There is some variation at the PHA level for male smokers, but little for female smokers.

## Geographic variation

### Males

One quarter of the male population in Brimbank aged 18 years and over was estimated to smoke cigarettes, a rate that is 26% above the national average, and higher than the level in Melbourne (Table 63).

For adult males living in Sunshine and Keilor, the estimated prevalence of smoking is markedly higher than that for Australia overall, being 34% and 17% higher respectively, than the national rate.

St Albans - South/ Sunshine North (with 28.8 male smokers per 100 population), St Albans - North/ Kings Park (28.4), Ardeer - Albion/ Sunshine West (27.8) and Deer Park - Derrimut (25.9) had male smoking rates above the Brimbank average (Map 31 and Table 64). As noted, the Brimbank City rate is already substantially above the Australian and Melbourne averages; this indicates the high levels of smoking among males in these areas.

Keilor and Taylors Lakes had the lowest rates, with 19.6 and 19.5 male smokers per 100 population, respectively.

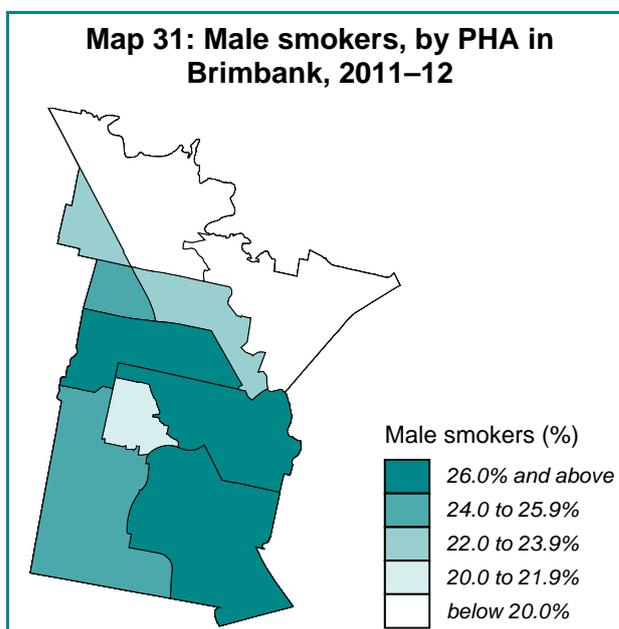
**Table 63: Male smokers, Brimbank and comparators, 2011–12**

| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>8,629</b>     | <b>23.7</b> | <b>1.17</b> |
| <b>Brimbank - Sunshine</b> | <b>11,094</b>    | <b>27.1</b> | <b>1.34</b> |
| <b>Brimbank City</b>       | <b>19,723</b>    | <b>25.5</b> | <b>1.26</b> |
| Melbourne - West           | ..               | ..          | ..          |
| Melbourne                  | 324,160          | 19.8        | 0.98        |
| Country Victoria           | 123,591          | 25.2        | 1.24        |
| Victoria                   | 447,751          | 21.0        | 1.04        |
| <b>Australia</b>           | <b>1,702,898</b> | <b>20.3</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Australia

**Map 31: Male smokers, by PHA in Brimbank, 2011–12**



**Table 64: Male smokers, by PHA in Brimbank, 2011–12**

| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 627           | 19.5        | 0.77        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 3,969         | 27.8        | 1.09        |
| Cairnlea                                 | 790           | 21.2        | 0.83        |
| Deer Park – Derrimut                     | 2,500         | 25.9        | 1.02        |
| Delahey                                  | 852           | 25.3        | 0.99        |
| Keilor Downs                             | 1,283         | 22.6        | 0.89        |
| St Albans - North/ Kings Park            | 3,901         | 28.4        | 1.11        |
| St Albans - South/ Sunshine North        | 3,206         | 28.8        | 1.13        |
| Sydenham                                 | 1,076         | 22.3        | 0.87        |
| Taylors Lakes                            | 1,519         | 19.6        | 0.77        |
| <b>Brimbank City</b>                     | <b>19,723</b> | <b>25.5</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Brimbank City

### Females

The female smoking rate is much lower than the male rate, with 14.5 females aged 18 years and over per 100 population in Brimbank estimated to smoke cigarettes (Table 65). This rate is consistent with that in Melbourne.

For adult females living in Keilor and Sunshine, the estimated rates of smoking are slightly lower than that for Australia overall, being 9% and 7% lower respectively, than the national rate.

**Table 65: Female smokers, Brimbank and comparators, 2011–12**

| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>5,345</b>     | <b>14.3</b> | <b>0.91</b> |
| <b>Brimbank - Sunshine</b> | <b>5,878</b>     | <b>14.6</b> | <b>0.93</b> |
| <b>Brimbank City</b>       | <b>11,222</b>    | <b>14.5</b> | <b>0.92</b> |
| Melbourne - West           | ..               | ..          | ..          |
| Melbourne                  | 242,028          | 14.3        | 0.91        |
| Country Victoria           | 101,708          | 20.2        | 1.28        |
| Victoria                   | 343,735          | 15.7        | 1.00        |
| <b>Australia</b>           | <b>1,356,339</b> | <b>15.7</b> | <b>1.00</b> |

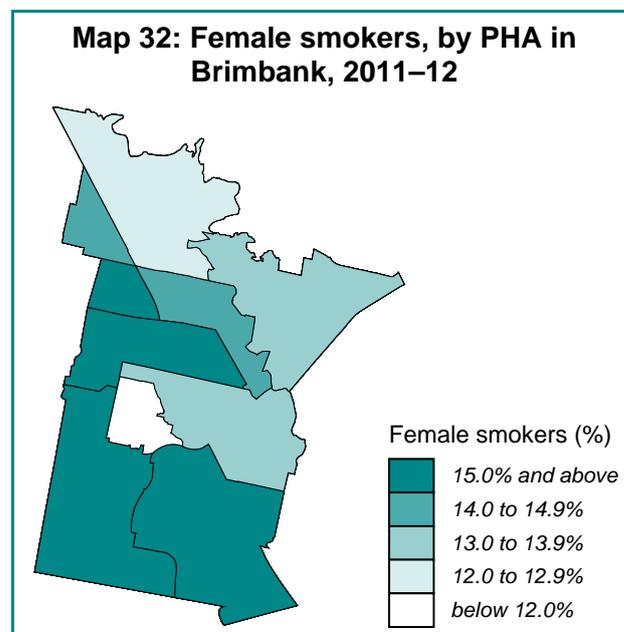
\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Australia

None of the PHAs had highly elevated female smoking rates, with the highest in Ardeer - Albion/ Sunshine West (15.6 female smokers per 100 population), Deer Park - Derrimut (15.3), and Delahey and St Albans - North/ Kings Park (both 15.2) (Map 32 and Table 66).

Taylors Lakes had the lowest rate, with 12.9 female smokers per 100 population.

**Map 32: Female smokers, by PHA in Brimbank, 2011–12**



**Table 66: Female smokers, by PHA in Brimbank, 2011–12**

| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 473           | 13.9        | 0.96        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 2,090         | 15.6        | 1.08        |
| Cairnlea                                 | 435           | 11.3        | 0.78        |
| Deer Park - Derrimut                     | 1,479         | 15.3        | 1.06        |
| Delahey                                  | 545           | 15.2        | 1.05        |
| Keilor Downs                             | 882           | 14.7        | 1.02        |
| St Albans - North/ Kings Park            | 2,082         | 15.2        | 1.05        |
| St Albans - South/ Sunshine North        | 1,538         | 13.8        | 0.96        |
| Sydenham                                 | 686           | 14.1        | 0.97        |
| Taylors Lakes                            | 1,012         | 12.9        | 0.89        |
| <b>Brimbank City</b>                     | <b>11,222</b> | <b>14.5</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

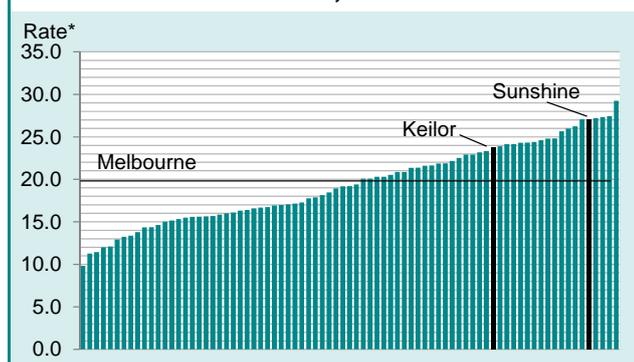
#RR is the ratio of the rate in the area to the rate for Brimbank City

### Regional comparisons

#### Males

For males aged 18 years and over, the estimated rates of smoking in Sunshine and Keilor are both above the average for Melbourne, with Sunshine ranked fifth among Melbourne’s SLAs (Figure 36, overleaf).

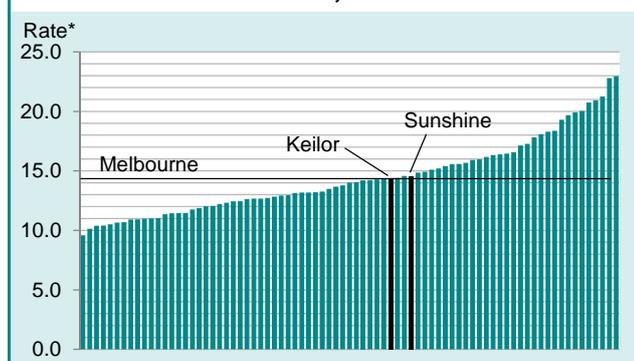
**Figure 36: Male smokers, by SLA in Melbourne, 2011–12**



## Females

For females aged 18 years and over, the estimated rates of smoking in Sunshine and Keilor are both close to the average for Melbourne's SLAs (Figure 37).

**Figure 37: Female smokers, by SLA in Melbourne, 2011–12**



## Correlations

There are different strength correlations for males and females at the SLA level across Melbourne between this indicator and other indicators of socioeconomic disadvantage.

For male smokers, there were very strong correlations with children living in jobless families and those with mothers with low educational attainment, people working as labourers, early school leavers, and no Internet access at home. Strong correlations were recorded with Aboriginal and Torres Strait Islander peoples, low income households under financial stress from rent or mortgage payments, and people living with disability.

Strong or very strong correlations were also found with the indicators for women smoking in pregnancy, hospitalisations for ambulatory care-sensitive conditions, self-assessed fair or poor health, estimated prevalence of diabetes mellitus and circulatory system disease, female smokers, and obesity.

For female smokers, correlations were very strong with the rates of children in families with mothers with low educational attainment, Aboriginal and Torres Strait Islander peoples, early school leavers, and children living with disability. Very strong inverse correlations were found for people working as managers or professionals.

There were also very strong correlations with the health indicators for women smoking in pregnancy, male smokers, and female obesity; and strong correlations with the estimated prevalence of diabetes mellitus and of circulatory system diseases, and obese males.

In the education and child development indicators, very strong inverse correlations were present for male smokers and young people learning or earning, young people participating in full-time secondary education, preschool participation, highest level of education being a Bachelor Degree or higher, and children developmentally on track in one or more domains of the AEDC. For female smokers, a very strong inverse correlation was present for the highest level of education being a Bachelor Degree or higher; and strong inverse correlations for children developmentally on track in language and cognitive skills under the AEDC.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). Australian Health Survey: Health service usage and health related actions, 2011-12. (ABS Cat. no. 4364.0.55.002). Canberra: ABS, 2013.
2. Australian Medical Association (AMA). Tobacco smoking - position statement, November 2005. [Online resource]. At <https://ama.com.au/position-statement/tobacco-smoking-2005> (accessed 29 July 2014).
3. National Public Health Partnership (NPHP). National response to passive smoking in enclosed places and workplaces: a background paper. Canberra: NPHP, 2000.
4. Australian Bureau of Statistics (ABS). Gender indicators, Australia. (ABS Cat. no. 4125.0). Canberra: ABS, 2013.

*This page intentionally left blank*

## Obesity

*Being obese has significant health, social and economic impacts, and is closely related to lack of exercise and to diet.<sup>1</sup> Obesity increases the risk of developing a range of health conditions, including coronary heart disease, type 2 diabetes, some cancers, knee and hip problems, and sleep apnoea.<sup>1</sup> In 2011–12, more than one in four adult Australians were obese.<sup>2</sup> Rates of obesity were the same for men and women (both 27.5%). The proportion of people who are obese has increased across all age groups over time, from 18.7% in 1995 to 27.5% in 2011–12.<sup>2</sup>*

**Indicator definition:** Estimated number of people aged 18 years and over who were assessed as being obese, based on their measured height and weight; expressed as an indirectly age-standardised rate per 100 population aged 18 years and over. These data are modelled estimates – see Appendix C.

Note: Obesity is classified as having a Body Mass Index (BMI) of 30 and greater: the BMI was calculated from measured height and weight information and grouped to allow reporting against both the World Health Organization and the National Health and Medical Research Council guidelines.

### Key points

- One in four adult males and almost one in three adult females are estimated to be obese in Brimbank City. These reflect rates which are 6% below and 18% above respectively, the national rate.
- At the PHA level, there is little variation in the extent of male obesity; but considerable variation in female obesity, with the highest rate estimated in St Albans - North/ Kings Park (28% above the Brimbank City rate).

## Geographic variation

### Males

One quarter of the male population in Brimbank aged 18 years and over was estimated to be obese, a rate that is 6% below the national average, but higher than the rate in Melbourne (Table 67).

For adult males living in Sunshine and Keilor, the estimated prevalence of obesity is slightly lower than that for Australia overall, being 7% and 6% lower respectively, than the national rate.

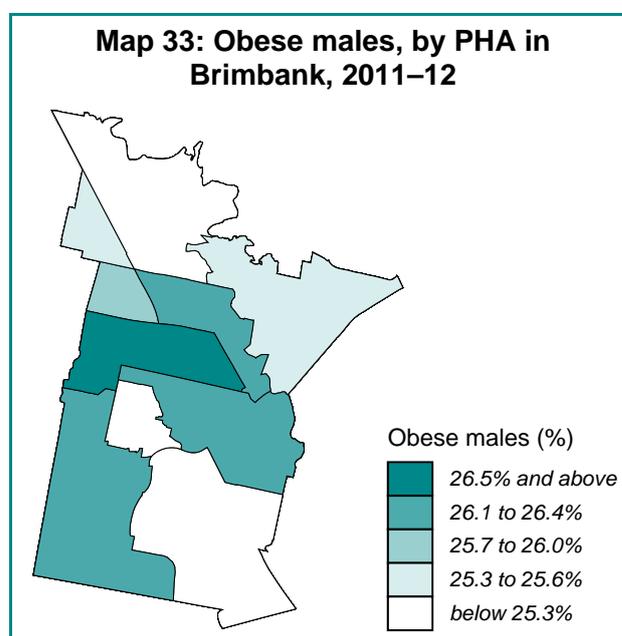
**Table 67: Obese males, Brimbank and comparators, 2011–12**

| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>7,537</b>     | <b>25.9</b> | <b>0.94</b> |
| <b>Brimbank - Sunshine</b> | <b>8,127</b>     | <b>25.7</b> | <b>0.93</b> |
| <b>Brimbank City</b>       | <b>15,664</b>    | <b>25.8</b> | <b>0.94</b> |
| Melbourne - West           | ..               | ..          | ..          |
| Melbourne                  | 308,260          | 23.7        | 0.86        |
| Country Victoria           | 116,737          | 26.7        | 0.97        |
| Victoria                   | 424,996          | 24.5        | 0.89        |
| <b>Australia</b>           | <b>2,007,156</b> | <b>27.5</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Australia

There is little variation in the extent of obesity among males aged 18 years and over at the PHA level in Brimbank, with rates varying by no more than 4% from the average for the City (Map 33 and Table 68).



**Table 68: Obese males, by PHA in Brimbank, 2011–12**

| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 736           | 25.4        | 0.98        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 2,799         | 25.1        | 0.97        |
| Cairnlea                                 | 689           | 25.1        | 0.97        |
| Deer Park – Derrimut                     | 1,831         | 26.1        | 1.01        |
| Delahey                                  | 667           | 25.9        | 1.00        |
| Keilor Downs                             | 1,223         | 26.2        | 1.02        |
| St Albans - North/ Kings Park            | 2,954         | 26.7        | 1.04        |
| St Albans - South/ Sunshine North        | 2,333         | 26.1        | 1.01        |
| Sydenham                                 | 886           | 25.4        | 0.98        |
| Taylors Lakes                            | 1,546         | 25.1        | 0.97        |
| <b>Brimbank City</b>                     | <b>15,664</b> | <b>25.8</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Brimbank City

### Females

Almost one third (32.6%) of the female population in Brimbank aged 18 years and over were estimated to be obese (Table 69). This was 18% above Australian rate (27.5%), and markedly above the Melbourne rate, of 25.3%.

The rates in Keilor and Sunshine were consistent with the level for the City overall, at 32.0% and 33.2%, respectively.

**Table 69: Obese females, Brimbank and comparators, 2011–12**

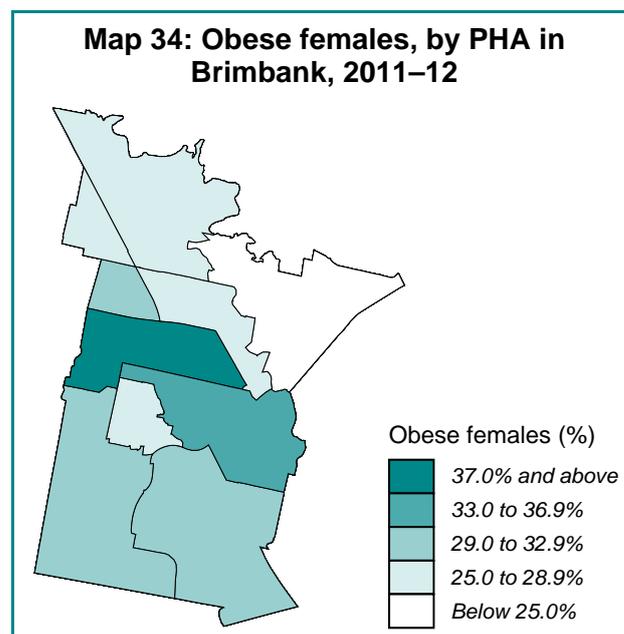
| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>9,005</b>     | <b>32.0</b> | <b>1.16</b> |
| <b>Brimbank - Sunshine</b> | <b>9,859</b>     | <b>33.2</b> | <b>1.21</b> |
| <b>Brimbank City</b>       | <b>18,864</b>    | <b>32.6</b> | <b>1.18</b> |
| Melbourne - West           | ..               | ..          | ..          |
| Melbourne                  | 324,053          | 25.3        | 0.92        |
| Country Victoria           | 139,939          | 32.9        | 1.19        |
| Victoria                   | 463,992          | 27.2        | 0.99        |
| <b>Australia</b>           | <b>1,940,380</b> | <b>27.5</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Australia

In contrast to the situation for males, obesity among adult females in Brimbank varied markedly between the PHAs (Map 34 and Table 70).

The highest rate of obesity was estimated for females in St Albans - North/ Kings Park (28% above the Brimbank City rate), and the lowest rates were estimated for Keilor (31% below the City rate), and Cairnlea (21% below).



**Table 70: Obese females, by PHA in Brimbank, 2011–12**

| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 662           | 22.4        | 0.69        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 3,369         | 32.7        | 1.00        |
| Cairnlea                                 | 663           | 25.8        | 0.79        |
| Deer Park – Derrimut                     | 2,071         | 31.8        | 0.98        |
| Delahey                                  | 828           | 32.0        | 0.98        |
| Keilor Downs                             | 1,228         | 26.7        | 0.82        |
| St Albans - North/ Kings Park            | 4,401         | 41.6        | 1.28        |
| St Albans - South/ Sunshine North        | 3,048         | 35.3        | 1.08        |
| Sydenham                                 | 918           | 27.7        | 0.85        |
| Taylors Lakes                            | 1,676         | 28.8        | 0.88        |
| <b>Brimbank City</b>                     | <b>18,864</b> | <b>32.6</b> | <b>1.00</b> |

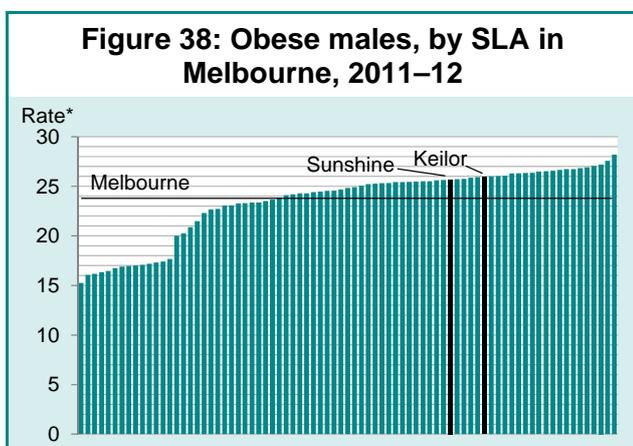
\*Indirectly age-standardised rate per 100 population

#RR is the ratio of the rate in the area to the rate for Brimbank City

## Regional comparisons

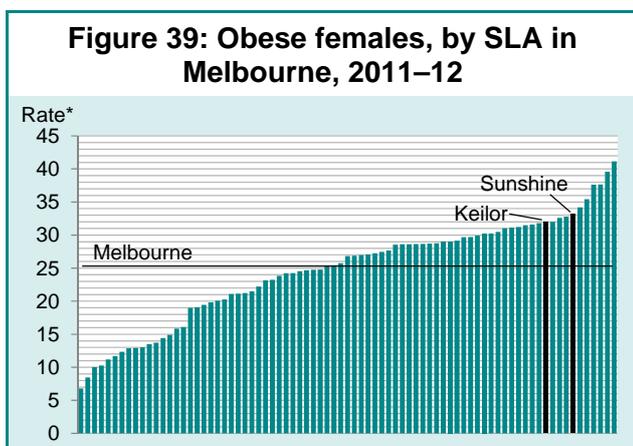
### Males

For males aged 18 years and over, the estimated rates of obesity in Sunshine and Keilor are both just higher than the average for Melbourne's SLAs (Figure 38).



### Females

In Sunshine and Keilor, the estimated rates of obesity for adult females are both markedly higher than the average for Melbourne's SLAs, with Sunshine ranked seventh highest (Figure 39).



## Correlations

There are different strength correlations for males and females at the SLA level across Melbourne between this indicator and other indicators of socioeconomic disadvantage.

For obese males, there were very strong correlations with children living in families with mothers with low educational attainment, people working as labourers, early school leavers, and children living with disability. Strong correlations were recorded with Aboriginal and Torres Strait Islander peoples, no Internet access at home, and people aged 15 years and over living with disability.

Strong correlations were also found with the indicators for self-assessed fair or poor health, adult smokers, and obese females.

For obese females, correlations were very strong with the indicators for children in families with mothers with low educational attainment, people working as labourers, early school leavers, and children living with disability. Strong correlations were present for Aboriginal and Torres Strait Islander peoples, no Internet access at home, and adults living with disability. Very strong inverse correlations were found for people working as managers or professionals.

There were very strong correlations with the health indicators for women smoking in pregnancy, adult smokers, and male obesity; and strong correlations with low birthweight babies, self-assessed fair or poor health, females with high or very high psychological distress, and estimated prevalence of circulatory system diseases. Strong correlations were also found with hospitalisations for ambulatory care-sensitive conditions, indicating relatively poorer access to adequate and timely primary health care.

In the education and child development indicators, very strong correlations were evident for obese males and highest level of education being an Advanced Diploma, Diploma or Certificate. For obese females, a very strong inverse correlation was present for the highest level of education being a Bachelor Degree or higher; and strong inverse correlations for preschool participation, children developmentally on track in physical health and wellbeing and language and cognitive skills under the AEDC. Conversely, there was a strong correlation with children developmentally vulnerable on one or more domains of the AEDC.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Australian Bureau of Statistics (ABS). Measures of Australia's progress, 2010. (ABS Cat. no. 1370.0). Canberra: ABS, 2010.
2. Australian Bureau of Statistics (ABS). Profiles of health, Australia. (ABS Cat. no. 4338.0). Canberra: ABS, 2013.

*This page intentionally left blank*

## Participation in preschool

The Victorian Government funds kindergarten, pre-school and child care services to provide an early childhood program to children in the year before they go to school, which aims to enhance children's social, emotional, physical and intellectual development.<sup>1</sup> Preschool services are also provided by private or community-run child care services and by Catholic and Independent schools.

Kindergarten participation rates have been historically high in Victoria, with data suggesting 96.8% attendance compared with the national average of 87.2%.<sup>1</sup> However, Aboriginal children are less likely to participate in preschool than their non-Indigenous peers. Recent data indicate that the Victorian participation rate of Aboriginal children in kindergarten in 2006 was 52.6%, slightly higher than the national participation rate of 50.8%.<sup>2</sup>

**Indicator definition:** Children recorded at the 2011 Census as attending a preschool, as a proportion of the number of children aged from three to four years.

### Key points

- The participation in preschool of young children living in Brimbank is low, and is particularly low in Sunshine.
- The 2011 Census data show that, in a number of PHAs, only one third of eligible children are attending preschool.

### Geographic variation

The participation in preschool of young children living in Brimbank (36.0%) is relatively low, being 16% below the level across Australia (Table 71).

There is also a notable difference between the SLAs, with a participation rate of 39.9% in Keilor compared with 34.6% in Sunshine, the latter being 21% below the Australian rate. However, both SLAs have participation rates below the national figure of 43.9%. It is of note that participation in Melbourne is 47.5%, or 8% above the national rate.

**Table 71: Participation in preschool, Brimbank and comparators, 2011**

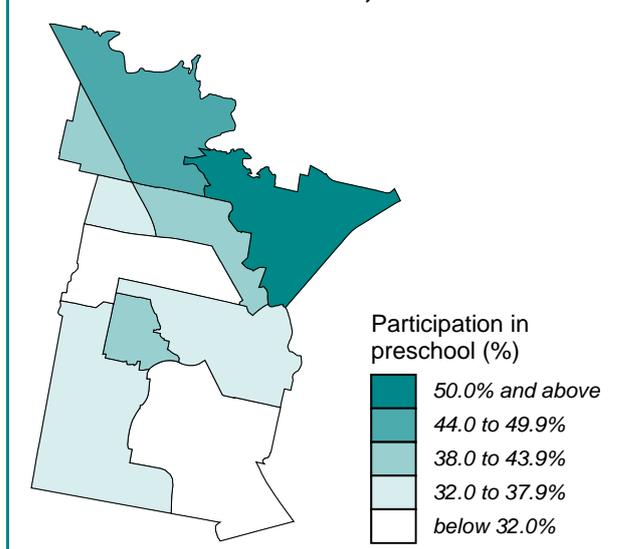
| Region              | No.            | %           | RR#         |
|---------------------|----------------|-------------|-------------|
| Brimbank - Keilor   | 853            | 39.9        | 0.91        |
| Brimbank - Sunshine | 922            | 34.6        | 0.79        |
| Brimbank City       | 1775           | 36.9        | 0.84        |
| Melbourne - West    | 7631           | 39.9        | 0.91        |
| Melbourne           | 49,435         | 47.5        | 1.08        |
| Country Victoria    | 14,928         | 42.5        | 0.97        |
| Victoria            | 64,423         | 46.3        | 1.05        |
| <b>Australia</b>    | <b>252,692</b> | <b>43.9</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

The variation in participation at the PHA level is substantial, from 58% above the Brimbank City rate in Keilor, to 15% below in Ardeer - Albion/ Sunshine/ Sunshine West and 14% below in St Albans - North/ Kings Park (Map 35 and Table 72).

Both Taylors Lakes and Sydenham also had relatively high rates of participation in preschool (at 30% and 15% above, respectively); and in St Albans - South/ Sunshine North and Delahey, about one third of children were recorded in the 2011 Census as attending preschool, which was below the rate for Brimbank City.

**Map 35: Participation in preschool, by PHA in Brimbank, 2011**



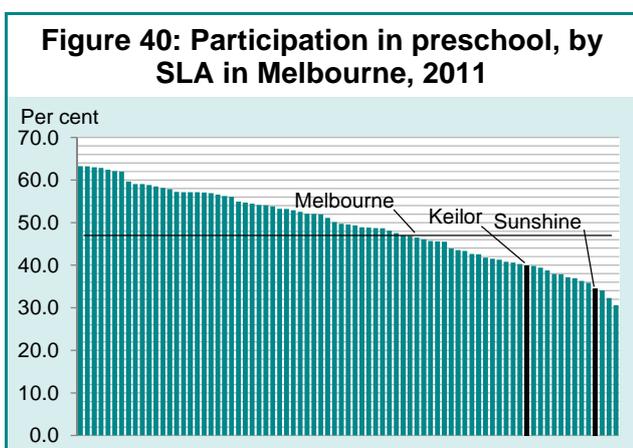
**Table 72: Participation in preschool, by PHA in Brimbank, 2011**

| PHA                                      | No.          | %           | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 102          | 58.3        | 1.58        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 241          | 31.4        | 0.85        |
| Cairnlea                                 | 121          | 39.2        | 1.06        |
| Deer Park - Derrimut                     | 296          | 36.6        | 0.99        |
| Delahey                                  | 79           | 33.8        | 0.92        |
| Keilor Downs                             | 118          | 40.0        | 1.08        |
| St Albans - North/ Kings Park            | 265          | 31.6        | 0.86        |
| St Albans - South/ Sunshine North        | 212          | 33.2        | 0.90        |
| Sydenham                                 | 151          | 42.8        | 1.16        |
| Taylors Lakes                            | 193          | 47.9        | 1.30        |
| <b>Brimbank City</b>                     | <b>1,778</b> | <b>36.9</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

### Regional comparisons

Just over one third of young children in Sunshine were estimated to be attending preschool at the 2011 Census; this figure, of 34.6%, was the fourth lowest at the SLA level in Melbourne (Figure 40). The proportion of 39.9% in Keilor was also well below that in Melbourne overall (47.5%), and in the majority of SLAs.



### Correlations

This indicator was very strongly correlated at the SLA level across Melbourne with socioeconomic advantage, as measured by the IRSD, and with the individual indicators of higher socioeconomic status for populations learning or earning, and undertaking voluntary work. There are very strong inverse correlations with children living in jobless families, children in families where the mother has low educational attainment, and unemployment.

In the health and wellbeing indicators, there were very strong inverse correlations with self-assessed fair or poor health, high or very high

psychological distress for females, and male smoking. Strong inverse correlations were apparent for hospitalisations of girls aged 0 to 14 years and of people aged 15 years and over for ambulatory care-sensitive conditions, indicating relatively poor access to timely and effective primary health care. Strong inverse correlations were also found with the indicators for the estimated prevalence of diabetes mellitus, high or very high psychological distress for males, circulatory system diseases and obesity in females.

Very strong correlations were also found with education and child development indicators, indicating that there were relatively more children developmentally on track in the physical health and wellbeing, and the language and cognitive skills domains of the AEDC; and relatively more young people participating in full-time secondary education. Conversely, relatively fewer children in areas characterised by high rates of participation in preschool were developmentally vulnerable on one or more domains of the AEDC.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Harrington M. Preschool education in Australia. Canberra, ACT: Parliamentary Library Parliament of Australia, 2008.
2. Kronemann M. Universal preschool education for Aboriginal and Torres Strait Islander children. (Briefing paper). Southbank, Victoria: Australian Education Union (AEU), 2007.

## Young people aged 16 years participating in full-time secondary school education

*The indicator for young people aged 16 years participating in full-time secondary education is not intended as an indicator of educational participation; it is included because young people completing Year 12 (and who would be still at school at age 16) are more likely to make a successful initial transition to further education, training and work than are early school leavers.<sup>1</sup>*

**Indicator definition:** 16 year old young people recorded at the 2011 Census as attending full-time secondary education, expressed as a proportion of all young people of that age.

### Key points

- Young people aged 16 years living in Brimbank were participating in full-time secondary education in 2011 at the same rate as other young Australians of this age.
- However, there was some variation within the City, with less than three quarters of 16 year olds in some PHAs in full-time secondary education.

### Geographic variation

In Brimbank, four fifths (80.3%) of young people 16 years of age were attending full-time secondary education in 2011; this was just above the figure for Australia, of 79.1%. Although Brimbank also had a better outcome on this measure than the western region overall (with 79.0%), participation was a little below the level in Melbourne, where 82.9% of young people at this age were attending full-time secondary education (Table 73).

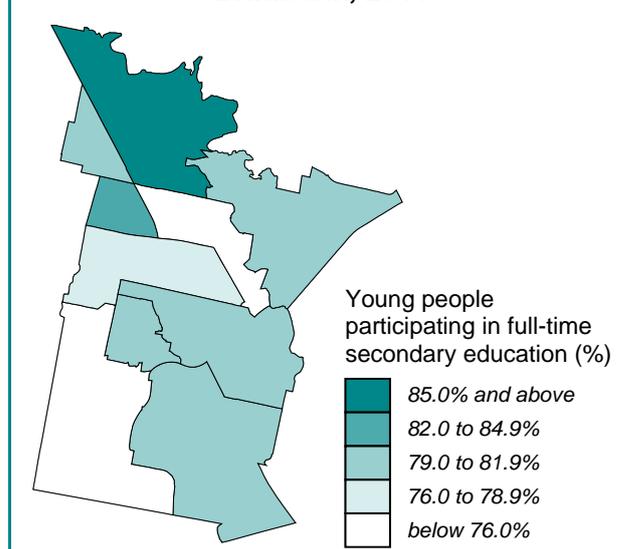
**Table 73: Young people participating in full-time secondary education, Brimbank and comparators, 2011**

| Region                     | No.            | %           | RR#         |
|----------------------------|----------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>1,125</b>   | <b>81.5</b> | <b>1.03</b> |
| <b>Brimbank - Sunshine</b> | <b>910</b>     | <b>79.0</b> | <b>1.00</b> |
| <b>Brimbank City</b>       | <b>2,035</b>   | <b>80.3</b> | <b>1.02</b> |
| Melbourne - West           | 6,204          | 79.0        | 1.00        |
| Melbourne                  | 41,166         | 82.9        | 1.05        |
| Country Victoria           | 15,306         | 79.1        | 1.00        |
| Victoria                   | 56,496         | 81.8        | 1.03        |
| <b>Australia</b>           | <b>225,240</b> | <b>79.1</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

Fewer than three quarters of 16 year olds in Deer Park - Derrimut (72.5%) and Keilor Downs (73.8%) were participating in full-time secondary education, with proportions below the Brimbank average also in St Albans - North/ Kings Park (78.0%) (Map 36 and Table 74). The highest proportions were in Taylors Lakes (86.2%) and Delahey (83.5%): all other PHAs had proportions of 80% or higher.

**Map 36: Young people participating in full-time secondary education, by PHA in Brimbank, 2011**



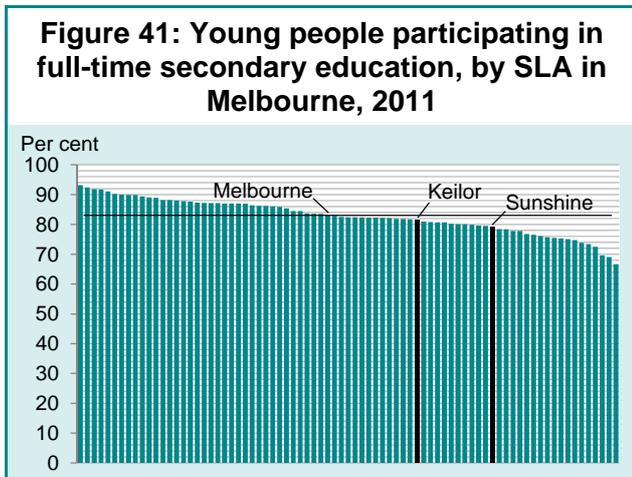
**Table 74: Young people participating in full-time secondary education, by PHA in Brimbank, 2011**

| PHA                                      | No.          | %           | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 106          | 80.9        | 1.01        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 310          | 80.3        | 1.01        |
| Cairnlea                                 | 91           | 80.5        | 1.01        |
| Deer Park - Derrimut                     | 182          | 72.5        | 0.91        |
| Delahey                                  | 137          | 83.5        | 1.05        |
| Keilor Downs                             | 163          | 73.8        | 0.92        |
| St Albans - North/ Kings Park            | 327          | 78.0        | 0.98        |
| St Albans - South/ Sunshine North        | 279          | 81.8        | 1.03        |
| Sydenham                                 | 149          | 80.1        | 1.00        |
| Taylors Lakes                            | 282          | 86.2        | 1.08        |
| <b>Brimbank City</b>                     | <b>2,026</b> | <b>79.8</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

## Regional comparisons

Both Keilor and Sunshine had slightly fewer young people 16 years of age participating in full-time secondary education in 2011 than in Melbourne overall (Figure 41).



## Correlations

There was a very strong correlation at the SLA level across Melbourne between this indicator and young people aged 15 to 24 years who were learning or earning. Strong inverse correlations were found with the indicators of socioeconomic disadvantage for children living in jobless families, children in families where the mother has low educational attainment, and low income households under financial stress from rent or mortgage payments.

In the health and wellbeing indicators, there was a very strong inverse correlation between this indicator and male smokers. Strong inverse correlations were also evident for women smoking during pregnancy, self-assessed fair or poor health, and female smoking.

There are strong correlations with the following indicators of education and child development: participation in preschool, children developmentally on track in the physical health and wellbeing, and the language and cognitive skills domains of the AEDC, and fewer children developmentally vulnerable on one or more domains of the AEDC.

These correlations reinforce the differences in health and wellbeing between communities with high levels of educational participation and those with lower levels. Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Foundation for Young Australians (FYA). How young people are faring, 2009. Melbourne: Foundation for Young Australians, 2009.

## Early school leavers

*Education increases opportunities for choice of occupation and for income and job security, and also equips people with the skills and ability to control many aspects of their lives – key factors that influence wellbeing throughout the life course.<sup>1</sup>*

*People who leave school early and do not undertake further training or education may be at risk of social exclusion, poorer life chances and socioeconomic disadvantage in the longer term.<sup>1</sup> Research has shown that a model of community-centred education that offers a networked, integrated and contextual approach to learning, which is broader than the concept of ‘schooling’, is more likely to be successful in re-engaging those young people at risk of becoming disengaged with education.<sup>2</sup>*

**Indicator definition:** Comprises people of all ages who completed Year 10 or below, or did not go to school, expressed as a proportion of the population aged 15 years and over: the data have been age-standardised to remove expected differences between areas in the level of school attendance related to the age of the population (see box for details).

### Key points

- Looking across the population as whole, the number of people who completed Year 10 or below, or did not go to school, was consistent with the national figure.
- However, early school leavers comprised over one third of the population in over half of the PHAs.

## Geographic variation

There were slightly fewer early school leavers in Brimbank (33.5%) than in Australia (34.3%), although the rate in Sunshine (34.9%) was slightly higher, and that in Keilor, a little lower (32.0%), than the national figure (Table 75). However, both Melbourne - West and Melbourne had lower rates, of below one third of the population aged 15 years and over in Melbourne - West (32.3%) and just over one quarter in Melbourne (27.0%).

**Table 75: Early school leavers, Brimbank and comparators, 2011**

| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>22,035</b>    | <b>32.0</b> | <b>0.93</b> |
| <b>Brimbank - Sunshine</b> | <b>25,420</b>    | <b>34.9</b> | <b>1.02</b> |
| <b>Brimbank City</b>       | <b>47,455</b>    | <b>33.5</b> | <b>0.98</b> |
| Melbourne - West           | 143,359          | 32.3        | 0.94        |
| Melbourne                  | 847,493          | 27.0        | 0.79        |
| Country Victoria           | 423,658          | 36.6        | 1.07        |
| Victoria                   | 1,273,107        | 29.4        | 0.86        |
| <b>Australia</b>           | <b>5,952,566</b> | <b>34.3</b> | <b>1.00</b> |

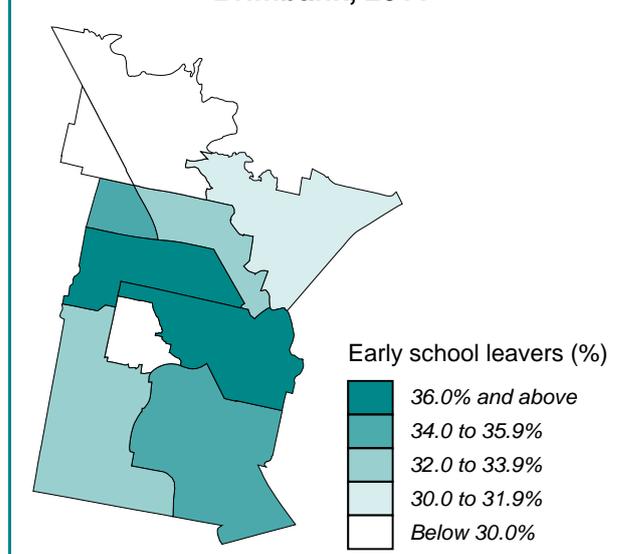
\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the percentage in the area to the percentage for Australia

There is, however, marked variation in rates at the PHA level in Brimbank, from just over one quarter of the population aged 15 years and over in Taylors Lakes (27.9%), Cairnlea (28.3%) and Sydenham (28.6%), to over one third in St Albans - South/ Sunshine North (37.3%), St Albans - North/ Kings Park (36.0%) and

Ardeer - Albion/ Sunshine/ Sunshine West (35.5%) (Map 37 and Table 76).

**Map 37: Early school leavers, by PHA in Brimbank, 2011**



### Age-standardised data

Rates of completion of schooling beyond Year 10 have increased over the years: for example, the population aged 80 years had lower rates of completion of Year 10 than did the population aged 40 years. The data have therefore been age-standardised to remove any cohort influence.

**Table 76: Early school leavers, by PHA in Brimbank, 2011**

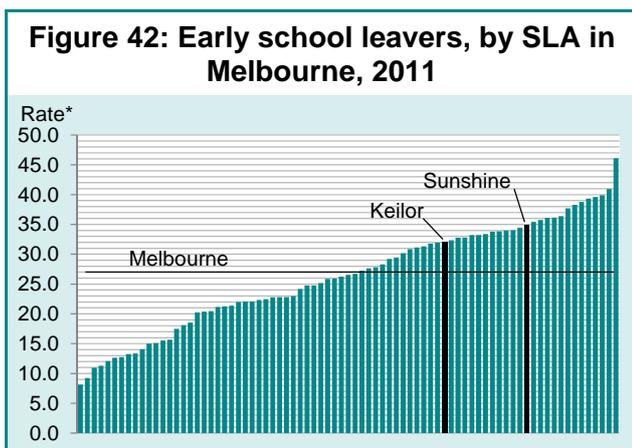
| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 2,206         | 30.1        | 0.89        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 9,211         | 35.5        | 1.05        |
| Cairnlea                                 | 1,632         | 28.3        | 0.84        |
| Deer Park - Derrimut                     | 5,061         | 33.8        | 1.00        |
| Delahey                                  | 2,086         | 34.0        | 1.00        |
| Keilor Downs                             | 3,601         | 32.7        | 0.97        |
| St Albans - North/ Kings Park            | 9,497         | 37.3        | 1.10        |
| St Albans - South/ Sunshine North        | 8,000         | 36.9        | 1.09        |
| Sydenham                                 | 2,239         | 28.6        | 0.85        |
| Taylors Lakes                            | 3,922         | 27.9        | 0.83        |
| <b>Brimbank City</b>                     | <b>47,455</b> | <b>33.8</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

### Regional comparisons

Although the Brimbank City SLAs have rates of early school leavers above the Melbourne average, they are not among the areas with the poorest outcome on this measure (Figure 42).



\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

### Correlations

There are very strong correlations at the SLA level across Melbourne between this indicator and children in families where the mother has low educational attainment, children living with disability, and people working as labourers; and a very strong inverse correlation between this indicator and people working as managers or professionals.

A very strong inverse correlation was evident with people having a Bachelor Degree or higher; and there were strong inverse correlations with children developmentally on track on the physical health and wellbeing, and the language and cognitive skills domains of

the AEDC. This indicator was also strongly correlated with children assessed as being developmentally vulnerable on one or more domains of the AEDC.

In the health and wellbeing indicators, there is a very strong correlation for women smoking during pregnancy, adult smokers, adult obesity, and high or very high levels of psychological distress for females. Strong correlations are evident with low birthweight infants, hospitalisations of people aged 15 years and over for ambulatory care-sensitive conditions, self-assessed fair or poor health, and the estimated prevalence of circulatory system diseases.

These correlations stand in contrast to those for the previous indicator (young people 16 years of age attending full-time secondary education). Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Pech J, McNevin A, Nelms L. Young people with poor labour force attachment: a survey of concepts, data and previous research. Canberra: Australian Fair Pay Commission, 2009.
2. Stehlik T. Schooling vs. education: (Re)engaging early school leavers in meaningful learning through whole-of-community approaches to learning as part of social inclusion initiatives in South Australia. Refereed paper presented to the New Zealand Association for Research in Education National Conference, December 2006.

## Highest level of education

Tertiary education entry and attainment levels in Australia are well above the OECD average: in 2010, 38% of 25-64 year olds had attained this level of education.<sup>1</sup> Among younger adults, this figure was even higher, with 44% of 25-34 year olds attaining tertiary education, placing the country 9th among OECD member and partner countries in 2010.<sup>1</sup>

Upward mobility is a significant feature of Australia's education system, with 41% of 25-34 year olds having attained tertiary education, despite being from socioeconomically disadvantaged backgrounds and having parents with low levels of education.<sup>1</sup> This is the highest proportion among OECD countries.<sup>1</sup> Educational attainment also adds an earnings premium, though less so than across many OECD countries. In 2009, a tertiary-educated worker in Australia could expect to earn 35% more than a worker with an upper secondary education.<sup>1</sup>

A Bachelor degree (or higher) is the standard university qualification and is recognised worldwide. Most courses take three to four years to complete and are almost exclusively delivered by universities.<sup>2</sup> Courses at Diploma, Advanced Diploma and Associate degree level take between two to three years to complete, and are generally considered to be equivalent to one to two years of study at degree level. These courses are usually delivered by universities, TAFE colleges, community education centres and private RTO's (Registered Training Organisations).<sup>2</sup>

**Indicator definition:** Comprises people who have a qualification at Bachelor Degree, Graduate Diploma and Graduate Certificate, or Postgraduate Degree Level. Advanced Diploma, Diploma or Certificate comprises people who have a qualification at any of these three levels.

### Key points

- One in eight people in Brimbank had a Bachelor Degree or higher in 2011, with relatively fewer people with these qualifications across all areas of Brimbank than Australia overall.
- Just over one in five people had the level of education of an Advanced Diploma, Diploma or Certificate, again below the Australian average overall (and in almost all areas within the City).

## Geographic variation

### Bachelor Degree or higher

After adjusting for differences in the age of the population of Brimbank compared to the Australian population, the rate of people who had a Bachelor Degree or higher qualification, as reported at the 2011 Census, is markedly below the Australian rate and, in particular, the Melbourne rate (Table 77).

**Table 77: Bachelor Degree or higher, Brimbank and comparators, 2011**

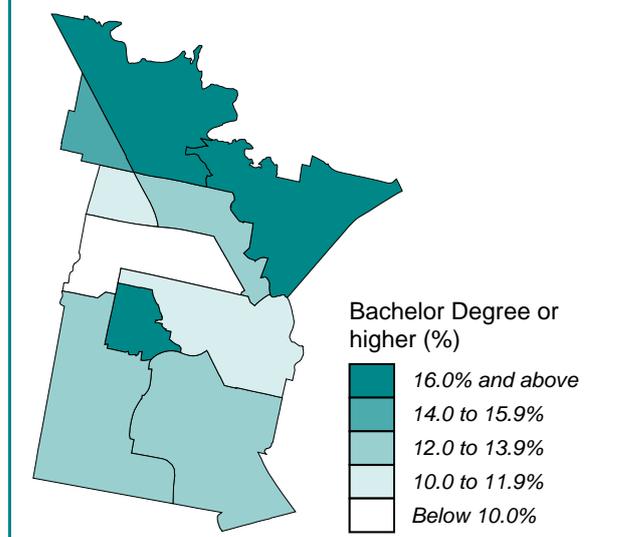
| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>9,076</b>     | <b>12.8</b> | <b>0.68</b> |
| <b>Brimbank - Sunshine</b> | <b>10,400</b>    | <b>12.8</b> | <b>0.68</b> |
| <b>Brimbank City</b>       | <b>19,476</b>    | <b>12.8</b> | <b>0.68</b> |
| Melbourne - West           | 85,151           | 16.3        | 0.87        |
| Melbourne                  | 769,673          | 23.0        | 1.22        |
| Country Victoria           | 135,992          | 13.3        | 0.71        |
| Victoria                   | 906,952          | 20.8        | 1.10        |
| <b>Australia</b>           | <b>3,268,910</b> | <b>18.8</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the percentage in the area to the percentage for Australia

Of the SLAs, Keilor and Sunshine (both with 12.8 people with these qualifications per 100 population) had lower rates than in Melbourne - West (16.3), and a markedly lower rate than in Melbourne (23.0).

**Map 38: Bachelor Degree or higher, by PHA in Brimbank, 2011**



Within Brimbank, none of the PHAs had rates above the Australian rate (18.8 people with these qualifications per 100 population) (Map

38 and Table 86). The lowest rates were in the PHAs of St Albans - North/ Kings Park (8.9), Delahey (10.6) and St Albans - South/ Sunshine North (10.9). In contrast, the highest rates were evident for people living in Keilor (17.1), Cairnlea (16.9), and Taylors Lakes (16.3).

**Table 78: Bachelor Degree or higher, by PHA in Brimbank, 2011**

| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 1,101         | 17.1        | 1.33        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 3,642         | 13.1        | 1.02        |
| Cairnlea                                 | 1,251         | 16.9        | 1.32        |
| Deer Park - Derrimut                     | 2,720         | 13.9        | 1.09        |
| Delahey                                  | 723           | 10.6        | 0.83        |
| Keilor Downs                             | 1,417         | 12.8        | 1.00        |
| St Albans - North/ Kings Park            | 2,402         | 8.9         | 0.70        |
| St Albans - South/ Sunshine North        | 2,421         | 10.9        | 0.85        |
| Sydenham                                 | 1,510         | 15.5        | 1.21        |
| Taylors Lakes                            | 2,290         | 16.3        | 1.27        |
| <b>Brimbank City</b>                     | <b>19,477</b> | <b>12.8</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

#### Advanced Diploma, Diploma or Certificate

More than one in five people living in Brimbank had an Advanced Diploma, Diploma or Certificate level of education at the 2011 Census (Table 79). After adjusting for differences in the age of the population for Brimbank compared to the Australian population, this rate (20.7 people with these qualifications per 100 population) is lower than the rates in Melbourne (23.5) and Australia (26.1).

**Table 79: Advanced Diploma, Diploma or Certificate, Brimbank and comparators, 2011**

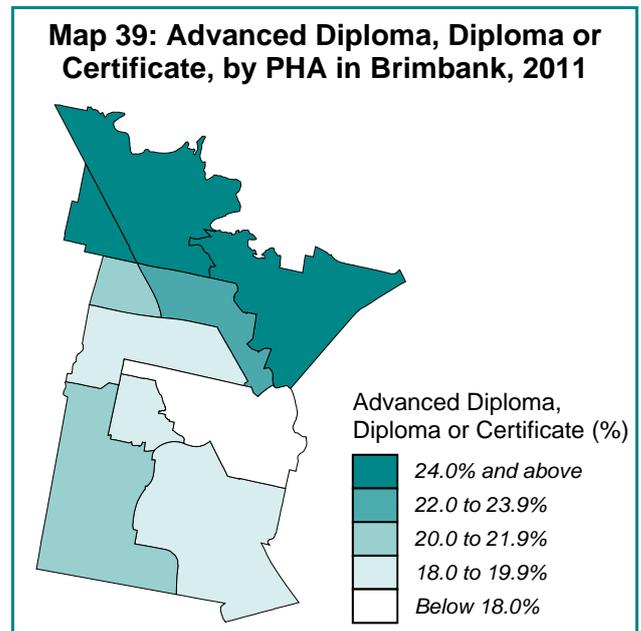
| Region                     | No.              | Rate*       | RR#         |
|----------------------------|------------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>15,845</b>    | <b>22.4</b> | <b>0.86</b> |
| <b>Brimbank - Sunshine</b> | <b>15,037</b>    | <b>19.1</b> | <b>0.73</b> |
| <b>Brimbank City</b>       | <b>30,888</b>    | <b>20.7</b> | <b>0.79</b> |
| Melbourne - West           | 114,664          | 23.0        | 0.88        |
| Melbourne                  | 773,603          | 23.5        | 0.90        |
| Country Victoria           | 303,804          | 28.6        | 1.10        |
| Victoria                   | 1,078,949        | 24.8        | 0.95        |
| <b>Australia</b>           | <b>4,527,962</b> | <b>26.1</b> | <b>1.00</b> |

\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the percentage in the area to the percentage for Australia

Of the SLAs, Keilor (22.4 people with these qualifications per 100 population) had a similar rate to Melbourne -West (23.0) whereas the rate in the SLA of Sunshine (19.1) was lower.

The rate of people with an Advanced Diploma, Diploma or Certificate was lowest in the PHAs of St Albans - South/ Sunshine North (16.8 people with these qualifications per 100 population), followed by Cairnlea and St Albans - North/ Kings Park (18.7). In contrast, the highest rates for the level of education of an Advanced Diploma or lower were calculated for people living in Keilor (26.6), Sydenham (25.3) and Taylors Lakes (24.1) (Map 39 and Table 80).



**Table 80: Advanced Diploma, Diploma or Certificate, by PHA in Brimbank, 2011**

| PHA                                      | No.           | Rate*       | RR#         |
|--|---------------|-------------|-------------|
| Keilor                                   | 1,810         | 26.6        | 1.29        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 5,293         | 19.4        | 0.94        |
| Cairnlea                                 | 1,301         | 18.7        | 0.91        |
| Deer Park - Derrimut                     | 3,931         | 21.8        | 1.05        |
| Delahey                                  | 1,372         | 20.5        | 0.99        |
| Keilor Downs                             | 2,671         | 23.7        | 1.15        |
| St Albans - North/ Kings Park            | 4,967         | 18.7        | 0.90        |
| St Albans - South/ Sunshine North        | 3,696         | 16.8        | 0.81        |
| Sydenham                                 | 2,330         | 25.3        | 1.22        |
| Taylors Lakes                            | 3,512         | 24.1        | 1.17        |
| <b>Brimbank City</b>                     | <b>30,883</b> | <b>20.7</b> | <b>1.00</b> |

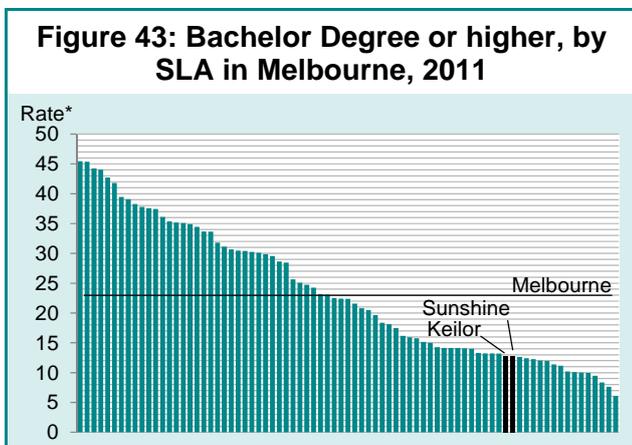
\*Indirectly age-standardised rate per 100 population, also referred to as a percentage (age-standardised)

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

## Regional comparisons

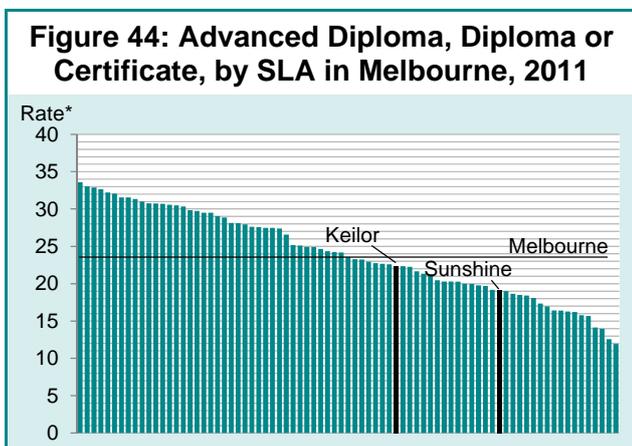
### Bachelor Degree or higher

Across the SLAs in Melbourne, Keilor and Sunshine had relatively low numbers of people with a Bachelor Degree or higher, ranking in the twenty SLAs with the lowest rates among the 79 Melbourne SLAs (Figure 43).



### Advanced Diploma, Diploma or Certificate

The SLAs of Keilor and Sunshine had a wider variation in the rate of people with a qualification of an Advanced Diploma, Diploma or Certificate when ranked against all 79 Melbourne SLAs, with Keilor around the Melbourne rate, but Sunshine ranking in the twenty SLAs with the lowest rates amongst the Melbourne SLAs (Figure 44).



## Correlations

### Bachelor Degree or higher

There is a very strong correlation at the SLA level across Melbourne between this indicator and people working as managers or professionals; and there are very strong inverse correlations with children in families where the mother has low educational attainment, people working as labourers, and children living with disability.

There are very strong inverse correlations between areas with high proportions of the population having a Bachelor Degree or higher qualification, and women smoking during pregnancy, adult smokers, obese adults, early school leavers, and the highest level of education being an Advanced Diploma, Diploma and Certificate. Strong inverse correlations were evident for hospitalisations for ambulatory care-sensitive conditions, and self-assessed fair or poor health, among others.

Strong correlations with other education and child development indicators were also found, in particular indicating a relatively higher level of preschool participation, more young people participating in full-time secondary education and more children being developmentally on track in the physical health and wellbeing, and the language and cognitive skills domains of the AEDC. Conversely, there were relatively fewer children assessed as being developmentally vulnerable on one or more domains of the AEDC. Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

### Advanced Diploma, Diploma or Certificate

There was a very strong correlation at the SLA level across Melbourne between this indicator and children living with disability, and obese males; and a very strong inverse correlation with people without access to a motor vehicle.

A strong correlation was recorded with early school leavers, women smoking during pregnancy, female smokers and obese females. A very strong inverse correlation was apparent with the highest level of education being a Bachelor Degree or higher.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Organisation for Economic Co-operation and Development (OECD). Education at a glance, 2012: OECD Indicators - Australia. Paris: OECD, 2012.
2. Australian Qualifications Framework Council (AQFC). Australian Qualifications Framework (2<sup>nd</sup> edn.). Adelaide: AQFC, 2013.

*This page intentionally left blank*

## Australian Early Development Census: children developmentally on track

In 2009, the Australian Early Development Index (AEDI), which provides information on early childhood development outcomes, was undertaken nationwide.<sup>1</sup> Information was collected on children in their first year of full-time formal school (average age of five years and seven months), using a teacher-completed checklist. The AEDI data collection was repeated in 2012; and in 2014, it was renamed the Australian Early Development Census (AEDC).

AEDC data help communities to assess how well they support young children and their families.<sup>2</sup> The results from the AEDC provide information about how local children have developed by the time they start school, measured across five areas (domains) of early child development: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school-based), and communication skills and general knowledge.<sup>2</sup>

**Indicator definition:** Children who were assessed as being developmentally 'on track' (i.e., children in the top 75% of the national AEDC population) in the *physical health and wellbeing* and the *language and cognitive skills (school-based)* developmental domains, expressed as a proportion of all children for whom a checklist was completed.

### Key points

- Over three quarters of Brimbank City's children in their first year of school were assessed as being developmentally on track in the physical health and wellbeing, and the language and cognitive skills (school-based) developmental domains. The proportion of children assessed as being developmentally on track in the language and cognitive skills domain was somewhat lower in Brimbank City, than in Australia or in Melbourne.
- There was little variation across the City for the domain of physical health and wellbeing; however, for the language and cognitive skills (school-based) domain, there was a slightly lower proportion in Sunshine.

## Geographic variation

### Physical health and wellbeing domain

The majority of children in Brimbank City were assessed as being developmentally on track in the physical health and wellbeing domain (Table 81). The proportion of 79.1% was slightly below that in Australia (81.2%) and Melbourne (81.7%), but consistent with that in Melbourne - West.

There was little variation across the SLAs, although Brimbank - Sunshine had a slightly higher proportion.

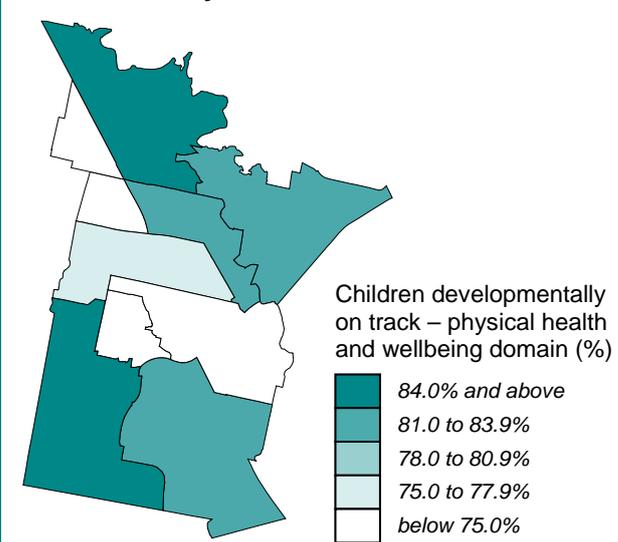
**Table 81: Children developmentally on track under the physical health and wellbeing domain, Brimbank and comparators, 2012**

| Region               | No.            | %           | RR#         |
|----------------------|----------------|-------------|-------------|
| Brimbank - Keilor    | 738            | 78.0        | 0.96        |
| Brimbank - Sunshine  | 977            | 80.0        | 0.98        |
| <b>Brimbank City</b> | <b>1,715</b>   | <b>79.1</b> | <b>0.97</b> |
| Melbourne - West     | 6,121          | 79.7        | 0.98        |
| Melbourne            | 35,061         | 81.7        | 1.01        |
| Country Victoria     | 14,458         | 68.3        | 0.84        |
| Victoria             | 49,519         | 77.3        | 0.95        |
| <b>Australia</b>     | <b>222,425</b> | <b>81.2</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

In the majority of PHAs, the proportion of children assessed as being developmentally on track in this domain were within 11% of the Brimbank City average (Map 40 and Table 82). The major variations were the higher proportion in Taylors Lakes (13% above the City's average), and the lower proportion in Delahey (15% below).

**Map 40: Children developmentally on track under the physical health and wellbeing domain by PHA in Brimbank, 2012**



**Table 82: Children developmentally on track under the physical health and wellbeing domain by PHA in Brimbank, 2012**

| PHA                                      | No.          | %           | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 71           | 83.6        | 1.06        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 273          | 82.7        | 1.05        |
| Cairnlea                                 | 101          | 73.7        | 0.93        |
| Deer Park – Derrimut                     | 340          | 86.0        | 1.09        |
| Delahey                                  | 72           | 67.6        | 0.85        |
| Keilor Downs                             | 110          | 82.5        | 1.04        |
| St Albans - North/ Kings Park            | 293          | 75.6        | 0.96        |
| St Albans - South/ Sunshine North        | 211          | 70.8        | 0.89        |
| Sydenham                                 | 73           | 70.2        | 0.89        |
| Taylors Lakes                            | 172          | 89.5        | 1.13        |
| <b>Brimbank City</b>                     | <b>1,715</b> | <b>79.1</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

### Language and cognitive skills (school-based) domain

The proportion of children assessed as being developmentally on track in the language and cognitive skills domain was somewhat lower in Brimbank City (77.4%) than in Australia (82.6%) or in Melbourne (84.5%) (Table 83).

Unlike the physical health and wellbeing domain, in this instance, a slightly lower proportion was recorded for children in Brimbank - Sunshine.

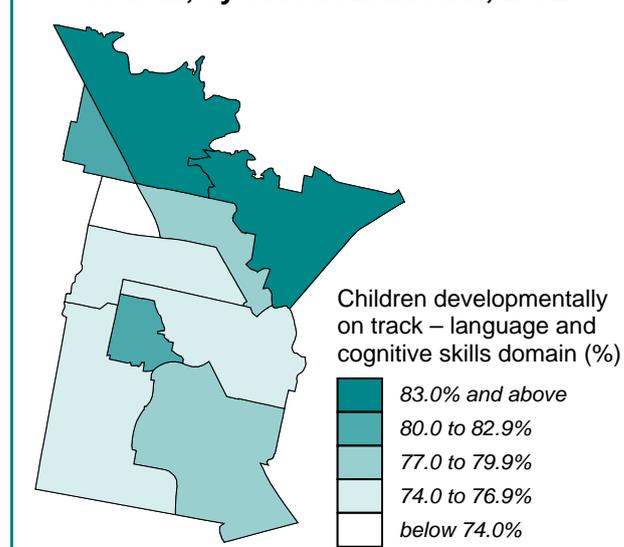
**Table 83: Children developmentally on track under the language and cognitive skills domain, Brimbank and comparators, 2012**

| Region                     | No.            | %           | RR#         |
|----------------------------|----------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>738</b>     | <b>78.2</b> | <b>0.95</b> |
| <b>Brimbank - Sunshine</b> | <b>940</b>     | <b>76.7</b> | <b>0.93</b> |
| <b>Brimbank City</b>       | <b>1,678</b>   | <b>77.4</b> | <b>0.94</b> |
| Melbourne – West           | 6,236          | 81.1        | 0.98        |
| Melbourne                  | 36,329         | 84.5        | 1.02        |
| Country Victoria           | 17,595         | 82.9        | 1.00        |
| Victoria                   | 53,924         | 84.0        | 1.02        |
| <b>Australia</b>           | <b>226,238</b> | <b>82.6</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

The variation at the PHA level was generally small, ranging from 10% above the Brimbank City average in Keilor, to 10% below in Delahey, with almost half of the areas with proportions within 5% of the City's average (Map 41 and Table 84).

**Map 41: Children developmentally on track under the language and cognitive skills domain, by PHA in Brimbank, 2012**



**Table 84: Children developmentally on track under the language and cognitive skills domain, by PHA in Brimbank, 2012**

| PHA                                      | No.          | %           | RR#         |
|--|--------------|-------------|-------------|
| Keilor                                   | 72           | 84.9        | 1.10        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 257          | 77.9        | 1.01        |
| Cairnlea                                 | 110          | 80.3        | 1.04        |
| Deer Park - Derrimut                     | 298          | 75.0        | 0.97        |
| Delahey                                  | 74           | 69.4        | 0.90        |
| Keilor Downs                             | 106          | 79.5        | 1.03        |
| St Albans - North/ Kings Park            | 287          | 74.1        | 0.96        |
| St Albans - South/ Sunshine North        | 230          | 76.8        | 0.99        |
| Sydenham                                 | 86           | 82.7        | 1.07        |
| Taylors Lakes                            | 159          | 83.6        | 1.08        |
| <b>Brimbank City</b>                     | <b>1,678</b> | <b>77.4</b> | <b>1.00</b> |

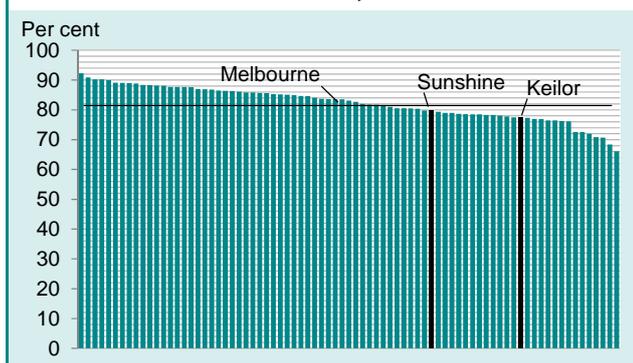
#RR is the ratio of the percentage in the area to the percentage for Brimbank City

### Regional comparisons

#### Physical health and wellbeing domain

Although both the SLAs of Sunshine and Keilor had proportions below the Melbourne average, they were not among the lowest SLAs (Figure 45, overleaf).

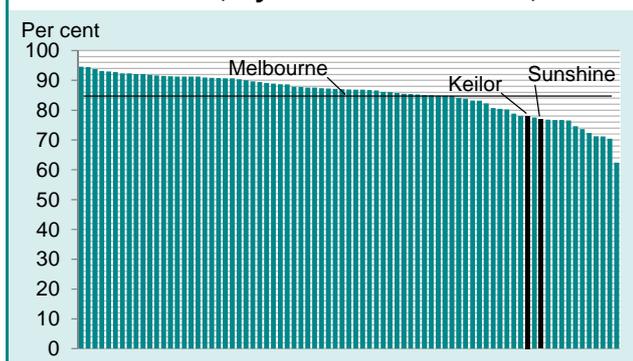
**Figure 45: Children developmentally on track under the physical health and wellbeing domain, by SLA in Melbourne, 2012**



### Language and cognitive skills (school-based) domain

Compared with children in other SLAs in Melbourne, fewer children in both Sunshine and Keilor were assessed as being on track under this domain than under the physical health and wellbeing domain (Figure 46).

**Figure 46: Children developmentally on track under the language and cognitive skills domain, by SLA in Melbourne, 2012**



## Correlations

### Physical health and wellbeing domain

There is a very strong correlation at the SLA level across Melbourne between this indicator and socioeconomic advantage, as measured by the IRSD; conversely, there are strong or very strong inverse correlations with the individual indicators of socioeconomic disadvantage, of children living in jobless families and children in families where the mother has low educational attainment.

There were strong inverse correlations with the health and wellbeing indicators for women smoking during pregnancy, self-assessed fair or poor health, high or very high psychological distress, estimated prevalence of diabetes mellitus, male smokers, and obese females.

Very strong correlations were also found with the following indicators of education and child development: preschool participation and children developmentally on track in the language and cognitive skills domain of the AEDC. Conversely, there is a very strong inverse correlation with children developmentally assessed as vulnerable on one or more domains of the AEDC.

Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

### Language and cognitive skills (school-based) domain

There is a very strong correlation between this indicator and socioeconomic advantage, as measured by the IRSD; therefore, there are very strong inverse correlations with the individual indicators of socioeconomic disadvantage, of children living in jobless families, children in families where the mother has low educational attainment and people working as labourers. There was also a very strong correlation between this indicator and young people learning or earning.

Very strong correlations were also found with the following indicators of education and child development: preschool participation and children assessed as being developmentally on track in the physical health and wellbeing domain of the AEDC. In line with this finding, relatively fewer children were assessed as being developmentally vulnerable on one or more domains of the AEDC. Very strong inverse correlations were present for self-assessed fair or poor health, females with high or very high psychological distress, and male smokers. Similar outcomes were also evident for many of these indicators in Brimbank and its component areas.

## Data sources, references and notes

1. Centre for Community Child Health (CCCH), Telethon Institute for Child Health Research (TICHR). A snapshot of early childhood development in Australia: Australian Early Development Index (AEDI) National Report 2009. Canberra, ACT: Australian Government, 2009.
2. The Royal Children's Hospital (RCH), Melbourne. Uses for the AEDI. [Website - updated 19 March 2013]. At [http://www.rch.org.au/aedi/resources/Uses\\_for\\_the\\_AEDI/](http://www.rch.org.au/aedi/resources/Uses_for_the_AEDI/) (accessed 17 April 2014).

*This page intentionally left blank*

## Australian Early Development Census: children developmentally vulnerable

In 2009, the Australian Early Development Index (AEDI), which provides information on early childhood development outcomes, was undertaken nationwide.<sup>1</sup> Information was collected on children in their first year of full-time formal school (average age of five years and seven months), using a teacher-completed checklist. The AEDI data collection was repeated in 2012; and in 2014, it was renamed the Australian Early Development Census (AEDC).

AEDC data help communities to assess how well they support young children and their families.<sup>2</sup> The results from the AEDC provide information about how local children have developed by the time they start school, measured across five areas (domains) of early child development: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills (school-based), and communication skills and general knowledge.<sup>2</sup>

**Indicator definition:** Children who were assessed as being developmentally vulnerable on one or more domains, expressed as a proportion of all children for whom a checklist was completed.

### Key points

- Over one quarter of children in Brimbank were assessed as being developmentally vulnerable on one or more of the AEDC developmental domains; this was markedly above the proportion in Melbourne overall.
- Both Sunshine and Keilor had relatively high proportions of children in their first year of school assessed as developmentally vulnerable on one or more domains, when compared with all SLAs in Melbourne.

### Geographic variation

Despite the relatively high proportions of children assessed as being on track in the domains discussed above, over one quarter of children in Brimbank were assessed as being developmentally vulnerable on one or more of the domains of the AEDC (Table 85). This figure, of 27.7% of children in their first year of school who were assessed, was higher than in Australia overall (22.0%), and markedly higher than in Melbourne (19.3%).

The proportion in Brimbank - Sunshine (28.5%) was slightly higher than that in - Keilor (26.6%).

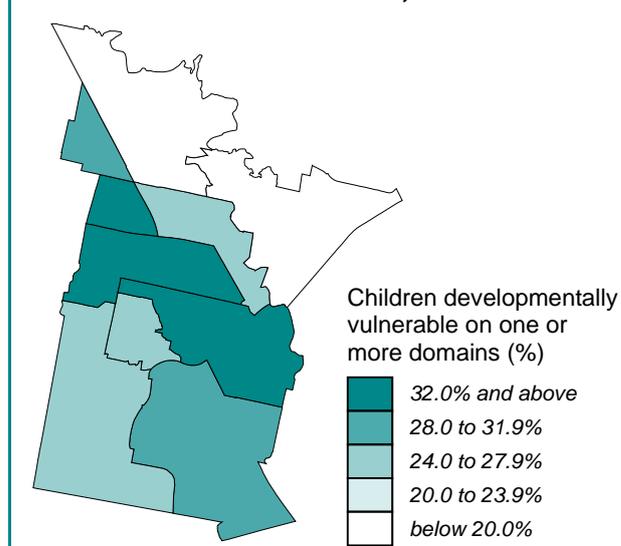
**Table 85: Children developmentally vulnerable on one or more domains, Brimbank and comparators, 2012**

| Region                     | No.           | %           | RR#         |
|----------------------------|---------------|-------------|-------------|
| <b>Brimbank - Keilor</b>   | <b>249</b>    | <b>26.6</b> | <b>1.21</b> |
| <b>Brimbank - Sunshine</b> | <b>345</b>    | <b>28.5</b> | <b>1.29</b> |
| <b>Brimbank City</b>       | <b>594</b>    | <b>27.7</b> | <b>1.26</b> |
| Melbourne - West           | 1,843         | 23.9        | 1.09        |
| Melbourne                  | 8,234         | 19.3        | 0.88        |
| Country Victoria           | 4,165         | 19.8        | 0.90        |
| Victoria                   | 12,399        | 19.5        | 0.89        |
| <b>Australia</b>           | <b>59,902</b> | <b>22.0</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Australia

At the PHA level, there was a wide range in the proportions of young children assessed as being developmentally vulnerable on one or more AEDC domains (Map 42 and Table 86).

**Map 42: Children developmentally vulnerable on one or more domains, by PHA in Brimbank, 2012**



Proportions ranged from just over half the City's average in Taylors Lakes (a rate ratio of 0.54) and Keilor (0.56), to one quarter above the average in Delahey (a rate ratio of 1.25). St Albans - South/ Sunshine North (with a rate ratio of 1.20, or 20% more of these children

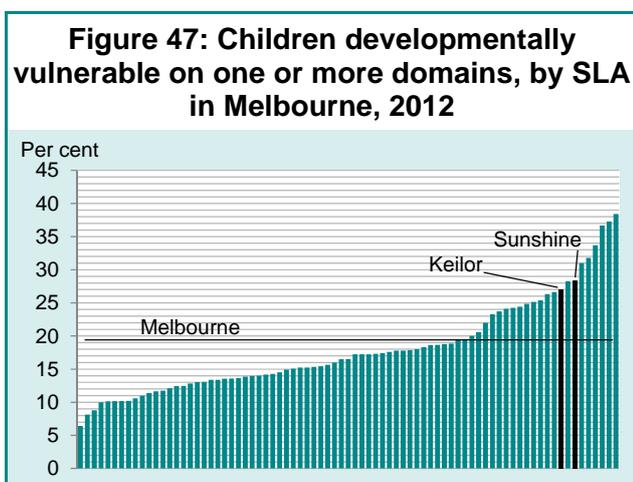
**Table 86: Children developmentally vulnerable on one or more domains, by PHA in Brimbank, 2012**

| PHA                                      | No.        | %           | RR#         |
|--|------------|-------------|-------------|
| Keilor                                   | 13         | 15.4        | 0.56        |
| Ardeer - Albion/ Sunshine/ Sunshine West | 96         | 29.3        | 1.06        |
| Cairnlea                                 | 36         | 26.7        | 0.96        |
| Deer Park - Derrimut                     | 97         | 24.8        | 0.90        |
| Delahey                                  | 37         | 34.6        | 1.25        |
| Keilor Downs                             | 34         | 26.2        | 0.95        |
| St Albans - North/ Kings Park            | 125        | 32.4        | 1.17        |
| St Albans - South/ Sunshine North        | 98         | 33.1        | 1.20        |
| Sydenham                                 | 30         | 28.8        | 1.04        |
| Taylors Lakes                            | 28         | 15.1        | 0.54        |
| <b>Brimbank City</b>                     | <b>594</b> | <b>27.7</b> | <b>1.00</b> |

#RR is the ratio of the percentage in the area to the percentage for Brimbank City

### Regional comparisons

Both Sunshine and Keilor have relatively high proportions of children assessed as developmentally vulnerable on one or more domains under the AEDC in their first year of school, being ranked seventh and ninth, respectively when compared with all SLAs in Melbourne (Figure 47).



### Correlations

There are very strong correlations at the SLA level across Melbourne between high proportions of children being developmentally vulnerable on one or more domains and socioeconomic disadvantage, as measured by the IRSD: correlations with the individual indicators of socioeconomic disadvantage were most evident with children living in jobless families, children in families where the mother has low educational attainment, low income households under financial stress from rent or mortgage payments, unemployment and people working as labourers.

Very strong inverse correlations were found between this indicator and participation in preschool, and children assessed as being developmentally on track in the physical health and wellbeing domain and the language and cognitive skills domains of the AEDC.

For the health and wellbeing indicators, there are very strong correlations with the indicators for self-assessed fair or poor health, and females with high or very high psychological distress. Strong correlations are evident for the estimated prevalence of diabetes mellitus, males with high or very high psychological distress, male smokers and obese females; and also for hospitalisations of people aged 15 years and over for ambulatory care-sensitive conditions, indicating relatively poorer access to adequate and timely primary health care.

Relatively poor outcomes are also evident for many of these indicators in Brimbank and its component areas.

### Data sources, references and notes

1. Centre for Community Child Health (CCCH), Telethon Institute for Child Health Research (TICHR). A snapshot of early childhood development in Australia: Australian Early Development Index (AEDI) National Report 2009. Canberra, ACT: Australian Government, 2009.
2. The Royal Children's Hospital (RCH), Melbourne. Uses for the AEDI. [Website - updated 19 March 2013]. At [http://www.rch.org.au/aedi/resources/Uses\\_for\\_the\\_AEDI/](http://www.rch.org.au/aedi/resources/Uses_for_the_AEDI/) (accessed 17 April 2014).

*This page intentionally left blank*

## Summary

### Populations identified in the atlas as potentially vulnerable

There is a great deal of information in the text, tables, maps and graphs describing the indicators that Brimbank Council and its community may wish to respond to, or use to expand supportive initiatives already in place. Having worked with these data for some time, we suggest focusing on the following groups across the Brimbank population, where there are certain clustering of indicators:

- infants and children (including mothers who smoke during pregnancy, infant mortality and low birthweight; children living with disability; hospitalisations for ACSCs; children who live in jobless families or have mothers with low educational attainment; and low preschool participation, AEDC vulnerability, and low NAPLAN scores);
- young people (including early school leavers, those who are unemployed; with no Internet access at home; those not participating in secondary school or VET programs; and those not learning or earning);
- women (where there is low female workforce participation, poor English proficiency, low educational attainment, and no access to Internet; and high prevalence of self-assessed health as fair or poor, or high or very high psychological distress, smoking in pregnancy, obesity and diabetes mellitus);
- men (with high levels of unemployment and poor English proficiency, no access to the Internet and working as a labourer; and high prevalence of self-assessed health as fair or poor, obesity, smoking, and diabetes mellitus);
- disadvantaged households (under financial stress from rent or mortgage payments; welfare dependent; experience delays in accessing services or in purchasing prescribed medication because of cost; high levels of disability, and no Internet access in nearly one in five households).

### Opportunities/strengths

Childhood immunisation rates are consistent with the rate across Melbourne, although these could be improved to cover the ten per cent of children who have not been fully immunised.

Rates of smoking in pregnancy are generally low when compared with the average rate for Melbourne, but in some parts of Brimbank, they are markedly higher.

Participation rates of young people in VET programs are higher in Sunshine compared to the average rate for Melbourne, but are lower than this in Keilor, and may be able to be improved for more young people living there. Participation rates for young people in full-time secondary school education are generally consistent with the average for Melbourne, with the exception of Sunshine, which is slightly lower. Rates for school leavers admitted to university are also consistent or higher than this average. However, rates of youth unemployment, which are higher than the average for Melbourne, need further attention.

The higher proportions of people from non-English speaking countries who live in Brimbank contribute to a vibrant, multicultural community, which enhances the City as a cultural precinct. While the rate of undertaking voluntary work through an organisation is lower, the rates of providing support to relatives and others outside the household are consistent with the average for the Melbourne SLAs.

### Challenges/ further efforts

Proportions of young children who are developmentally vulnerable on one or more domains of the AEDC are significantly higher than the average for Melbourne, and rates of preschool participation are much lower than this average. There are also higher proportions of children living in families where the mother has low educational attainment and/or are in jobless families. Opportunities to improve developmental outcomes for young children, especially through targeted, subsidised preschool programs should be considered, and are likely to improve their readiness to learn at school entry and beyond. Similarly, proportions of students in Years 3 and 9 with NAPLAN scores in reading and numeracy outcomes below the national minimum standard are generally higher than the average for Melbourne, and need improving.

Women with low educational attainment, poor proficiency in English and no Internet access at home, face substantial barriers to finding employment, which is likely reflected in the

low female workforce participation rate for Brimbank, compared to the Melbourne average. Higher rates of high or very high levels of psychological distress and obesity, and average rates of premature mortality also contribute to their poorer health and wellbeing, the likelihood of living in low income, welfare-dependent and jobless households, and financial stress from rent or mortgage payments. Interventions to increase women's proficiency in English and their educational outcomes should improve their chances to participate in the workforce. Better health literacy will also provide greater understanding of their health and that of their children, as will timely access to culturally responsive primary health care.

Men who are unemployed and unskilled, and have poor proficiency in English and no access to the Internet at home also face additional challenges in finding employment. Rates of poorer health and wellbeing are reflected in higher than the Melbourne average rates of smoking and obesity, which contribute to the estimated prevalence of diabetes mellitus and rates of premature mortality for men seen in Brimbank, which are also considerably higher. Generally higher than average rates of hospitalisations for ambulatory care-sensitive conditions also indicate relatively poorer access to timely, effective primary health care.

There are higher proportions of households in Brimbank which are significantly disadvantaged because of low incomes, lack of employment, welfare dependency, financial stress from rent or mortgage payments, and high levels of disability than for Melbourne's SLAs. Such households also more likely to experience difficulty in accessing services, and delay attending medical consultations or purchasing prescribed medications because of the costs, compared to the Melbourne average.

Inequalities in outcomes span populations, so it is important to consider the differences across all population subgroups. Examining patterns in disaggregated data, such as those represented by the indicators in this atlas, helps to identify the most appropriate approaches to tackling avoidable inequalities. Interventions, particularly those that focus on the determinants of health, learning, development and wellbeing, and which address the lack of opportunities that many other households in Melbourne already enjoy,

are needed across the life course, to ensure that all residents can lead flourishing, productive and fulfilled lives, and contribute to a sustainable and prosperous future for Brimbank City.