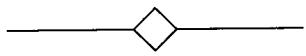

The health of overseas-born Australians, 1994–1996

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Abstract

Analysis of mortality, hospital separations and self-reported health indicators by country of birth group has confirmed that overseas-born populations are generally in better health than their Australian-born contemporaries. The better health of the overseas-born may be reflected in both the willingness and eligibility of individuals to emigrate.

Overseas-born individuals were placed into one of four groups according to place of birth. These included the United Kingdom and Ireland, Other Europe, Asia and Other. All population groups reported lower mortality and hospitalisation rates for all causes of disease combined. The Asian-born population had the lowest mortality rates with 38% less mortality for males and 30% less for females. Hospitalisation rates were also lower for the Asian-born, with males and females having 46% and 37% fewer hospital separations compared to the Australian-born population. However, diabetes mortality was greater for males and females from Other Europe, Asia and Other regions. Both males and females from the United Kingdom and Ireland group showed increased mortality from lung cancer. Mortality and hospitalisation for cervical cancer was also significantly higher for Asian-born and Other females.

The mortality and hospitalisation data corresponded well with self-reported prevalence of health-related risk factors. For example, self-reported diabetes prevalence was higher for the Other Europe, Asia and Other groups. Asian and Other females reported significantly less use of regular Pap smear tests, reflecting their increased mortality and hospitalisation for cervical cancer.

These results support the finding of past studies that the health of migrants is generally better than that of the Australian-born population and reflects a 'healthy migrant' effect.

Introduction

The 1996 Population Census found that almost one in four Australians were born overseas. These migrants to Australia come from diverse regions of the world but share a common feature on arrival – better health than both their compatriots and their Australian-born counterparts. The better health of immigrants is reflected in lower death and hospitalisation rates, as well as lower prevalence of certain lifestyle-related risk factors.

The 'healthy migrant effect', whereby those in good health are more likely to meet eligibility criteria and be willing to migrate, has been used to explain this phenomenon. Cross-sectional studies have confirmed this effect, which lasts several years after arrival in Australia (Young 1992; Kliewer & Jones 1997). However, this advantage is known to become smaller with increasing length of residence in Australia (Young 1992).

The profile of the health of the overseas-born presented here uses the labtest statistics on mortality, hospital separations, health risk factors and self-reported health status. No attempt has been made to adjust for the effect that length of residence may have on health outcomes. Similarly, no account has been taken of possible differences in reporting due to language limitations or cultural differences.

Data sources and analysis

Significant health heterogeneity exists between various groups of overseas-born Australians. To provide some insight into this diversity, the immigrants have been grouped into four broad birthplace groups: the United Kingdom and Ireland, Other Europe, Asia and Other. Other Europe includes Western and Eastern Europe, the former USSR and the Baltic States. Asia comprises Northeast, Southeast and Southern Asia. The Middle East, Northern and Southern Africa, the Americas, New Zealand and the Pacific Region represent Other. New Zealand is the largest source country for this group, accounting for 30% of the immigrant population. Birthplace information was extracted using codes from the Australian Bureau of Statistics' (ABS) Australian Standard Classification of Countries for Social Statistics.

Although each of the four migrant groups forms a similar proportion of the Australian population, the age structures of each group are quite different. Migrants from Australia's traditional source countries, the United Kingdom and Ireland, and Other Europe, have median ages of around 50 years. In contrast, migrants from Asia and Other regions are much younger, with large proportions aged between 20 and 44 years.

Mortality and morbidity data were obtained from the Australian Institute of Health and Welfare (AIHW) Mortality Database and the AIHW National Morbidity Database respectively. Cause of death and hospitalisation information was extracted using the International Classification of Diseases 9th revision, clinical modifications (ICD-9-CM). The ABS 1995 National Health Survey provided information on health risk factors and health-related actions for overseas-born and Australian-born populations. This self-reported survey includes questions on risk factors such as diabetes, body weight, hypertension, high serum cholesterol, smoking, and alcohol consumption, as well as health-related actions such as walking for exercise, frequency of Pap smear tests and use of sun protection measures.

Standardised ratios were used to compare the mortality, hospitalisation and self-reported health determinants for each of the four overseas-born populations to the Australian-born population. The ratios are based on age-specific rates and compare the measures observed in an immigrant group with those expected if that group experienced the age-specific rates of the Australian-born people (Young 1992). To facilitate comparison, the standardised ratios for the Australian-born population was set to 1.0, with values over 1.0 representing rates in the overseas-born population relative to the Australian-born population. Likewise, standardised ratios less than 1.0 indicated lower rates compared to the Australian-born population. Confidence intervals (95%) were used to verify whether or not the standardised rates for all causes of death and hospitalisation were significantly different from those for the Australian-born population. A chi-square test of significance was used to determine the statistical significance of the remaining ratios for each group.

Mortality

For all causes of death combined, the overseas-born populations experienced lower rates of mortality than Australian-born individuals in 1994–1996 (Table 1). Migrants born in Asia had the lowest standardised mortality ratios (SMRs), with rates 38% less for males and 30% less for females than would be expected if they had the mortality rates of the Australian-born population. The three other birthplace groups each had SMRs around 10% less than the expected value of 1.0.

Mortality by cause of death shows significant variation between overseas-born population groups. The mortality patterns for those born in the United Kingdom and Ireland and Other Europe regions are similar, except that diabetes mellitus mortality was much higher for people born in Other European countries (SMRs

Table 1: Standardised mortality ratios by cause of death, birthplace and sex, ages 15 years and over, 1994–1996

		Standardised mortality ratio (Australian-born = 1.0)			
Cause of death (ICD-9)	**Total deaths**	**UK & Ireland**	**Other Europe**	**Asia**	**Other**
Males					
Infectious and parasitic	2 128	0.82*	0.93	1.32*	1.34*
AIDS[a]	1 671	0.69*	0.60*	0.41*	1.32*
Cancers	58 194	0.97*	0.91*	0.62*	0.80*
Lung	14 165	1.23*	1.09*	0.59*	0.88*
Skin	2 562	0.48*	0.37*	0.14*	0.56*
Prostate	7 781	0.81*	0.60*	0.34*	0.82*
Diabetes mellitus	4 191	0.84*	1.32*	1.12	1.43*
Cardiovascular	79 091	0.89*	0.88*	0.63*	0.91*
Coronary heart disease	48 313	0.90*	0.87*	0.59*	0.90*
Stroke	15 428	0.85*	0.86*	0.80*	0.89*
Respiratory	16 620	0.96	0.58*	0.54*	0.67*
Digestive	5 848	0.88*	0.93*	0.52*	0.69*
Injury and poisoning	14 882	0.90*	0.99	0.59*	0.87*
Motor vehicle	3 927	0.89	1.06	0.73*	0.93
Suicide	5 568	0.99	1.00	0.37*	0.81*
Homicide	590	0.83	1.02	1.37*	1.31*
All causes	**196 361**	**0.92**	**0.87**	**0.62**	**0.85**
(95% confidence interval)		(0.90–0.93)	(0.85–0.89)	(0.59–0.64)	(0.82–0.88)
Females					
Infectious and parasitic	1 483	0.80*	1.13	1.67*	1.32*
AIDS	83	na	na	na	na
Cancers	44 576	1.06*	0.91*	0.71*	0.91*
Lung	5 906	1.50*	0.68*	0.70*	0.80*
Skin	1 263	0.62*	0.46*	0.13*	0.42*
Breast	7 875	1.08*	0.88*	0.62*	0.99
Cervical	962	0.91	0.95	1.15	1.19
Diabetes mellitus	4 181	0.89*	1.87*	1.37*	1.58*
Cardiovascular	81 876	0.88*	0.84*	0.71*	0.91*
Coronary heart disease	40 831	0.89*	0.85*	0.63*	0.90*
Stroke	22 610	0.85*	0.78*	0.86*	0.89*
Respiratory	12 547	1.01	0.53*	0.59*	0.70*
Digestive	5 619	0.96	0.76*	0.65*	0.75*
Injury and poisoning	6 025	1.07	0.98	0.94	1.04
Motor vehicle	1 601	1.19*	1.14	1.28*	1.25*
Suicide	1 366	1.21*	1.31*	0.91	1.03
Homicide	304	0.89	1.44*	0.93	1.28*
All causes	**174 631**	**0.94**	**0.84**	**0.70**	**0.89**
(95% confidence interval)		(0.92–0.96)	(0.82–0.86)	(0.67–0.73)	(0.85–0.93)

*$P < 0.05$.

Note: Ratios compiled from rates age-standardised to the Australian population at 30 June 1991.

(a) All deaths where AIDS is mentioned on the death certificate, regardless of whether or not it is identified as the primary cause of death.

Source: AIHW National Mortality Database.

of 1.32 and 1.87 for males and females respectively). Both groups had higher mortality rates from lung cancer among males (SMRs of 1.23 and 1.09 respectively). Females born in the United Kingdom and Ireland also had higher mortality rates due to lung cancer (SMR of 1.50), although this was not the case for females born in the Other Europe group. Since current and former smokers account for a large proportion of the individuals dying of lung cancer (Minna 1996), these smoking-related SMRs may reflect a higher level of smokers (or former smokers) in migrants from the United Kingdom and Ireland.

Although the overall numbers are small, the SMRs for infectious and parasitic diseases are much higher for those born in Asia and Other countries. This was also the case for mortality from diabetes mellitus, with rates 10% to 90% higher than for Australian-born persons. Cervical cancer mortality is also higher for females born in Asia and Other countries (SMRs of 1.15 and 1.19 respectively). These results may reflect differences in risk factors (Young 1996), but migrant women from these countries are also known to use preventive measures such as Pap smear screening less frequently (Ling et al. 1996).

Mortality due to skin cancer is very low among the overseas-born. The SMR for those born in Asia was only 14% of the value for the Australian-born population. Death rates for prostate cancer were also lower for overseas-born males. However, death rates for breast cancer were lower only among those born in Asia and Other European regions.

Hospitalisation

Standardised hospitalisation ratios (SHRs) for migrants were lower than for the Australian-born population for all causes of hospitalisation combined. Migrants from the United Kingdom and Ireland experienced rates closest to the Australian-born population, but were still 27% below the Australian-born rate for males and 20% below for females. Asian-born migrants had the lowest rates, being 46% and 37% lower than the corresponding male and female rates for the Australian-born population.

The pattern of hospital utilisation by principal diagnosis was similar to that noted for mortality by cause of death, with generally lower hospitalisation rates among the overseas-born (Table 2). However, there are some exceptions. Asian-born migrants had far higher hospitalisation rates for tuberculosis than other population groups. They also had the highest hospital separation rates for cervical cancer. On the other hand, migrants from the United Kingdom and Ireland had higher hospitalisation rates for respiratory disease than those from other countries. Females, in particular, had higher admissions rates for asthma.

Table 2: Standardised hospital separation ratios by principal diagnosis, birthplace and sex, ages 15 years and over, 1995–1996

Principal diagnosis (ICD-9)	Total admissions	Standardised hospital separation ratio (Australian-born = 1.0)			
		UK & Ireland	Other Europe	Asia	Other
Males					
Infectious	24 546	0.74*	0.67*	0.88*	1.03*
Tuberculosis	523	0.89	1.01	9.73*	1.93*
Cancers	165 402	0.67*	0.68*	0.41*	0.66*
Melanoma	3 316	0.35*	0.23*	0.05*	0.49*
Lung	11 071	0.96	1.12*	0.42*	0.97
Prostate	12 856	0.69*	0.57*	0.39*	0.64*
Diabetes	10 331	0.62*	0.72*	0.53*	0.69*
Mental	88 572	0.79*	0.60*	0.25*	0.55*
Cardiovascular	230 118	0.75*	0.82*	0.54*	0.87*
Ischaemic	99 546	0.74*	0.81*	0.60*	0.93*
Stroke	26 272	0.66*	0.77*	0.58*	0.78*
Respiratory	99 563	0.76*	0.71*	0.48*	0.74*
Asthma	9 678	0.66*	0.44*	0.46*	0.74*
Digestive	281 901	0.75*	0.79*	0.56*	0.76*
Injury	186 914	0.75*	0.61*	0.33*	0.69*
All causes	**2 041 224**	**0.73**	**0.79**	**0.54**	**0.82**
(95% confidence interval)		(0.72–0.75)	(0.78–0.80)	(0.53–0.54)	(0.81–0.83)
Females					
Infectious	23 426	0.85*	0.67*	0.73*	0.83*
Tuberculosis	427	0.65	1.74*	19.47*	3.58*
Cancers	172 916	0.81*	0.78*	0.58*	0.79*
Melanoma	2 663	0.48*	0.37*	0.04*	0.43*
Lung	4 835	1.30*	0.59*	0.69*	0.84*
Breast	16 452	0.88*	0.86*	0.52*	0.82*
Cervix	1 948	0.90	0.99	1.43*	1.16
Diabetes	9 362	0.56*	0.84	0.52*	0.80*
Mental	95 867	0.85*	0.60*	0.27*	0.55*
Cardiovascular	180 634	0.77*	0.87*	0.55*	0.88*
Ischaemic	53 175	0.78*	0.82*	0.58*	0.93*
Stroke	24 841	0.70*	0.74*	0.68*	0.76*
Respiratory	94 522	0.83*	0.58*	0.42*	0.73*
Asthma	19 367	0.83*	0.40*	0.35*	0.67*
Digestive	302 890	0.78*	0.77*	0.50*	0.74*
Injury	138 664	0.79*	0.64*	0.45*	0.72*
All causes	**2 579 213**	**0.80**	**0.81**	**0.63**	**0.84**
(95% confidence interval)		(0.79–0.81)	(0.80–0.82)	(0.62–0.63)	(0.83–0.85)

*P < 0.05.

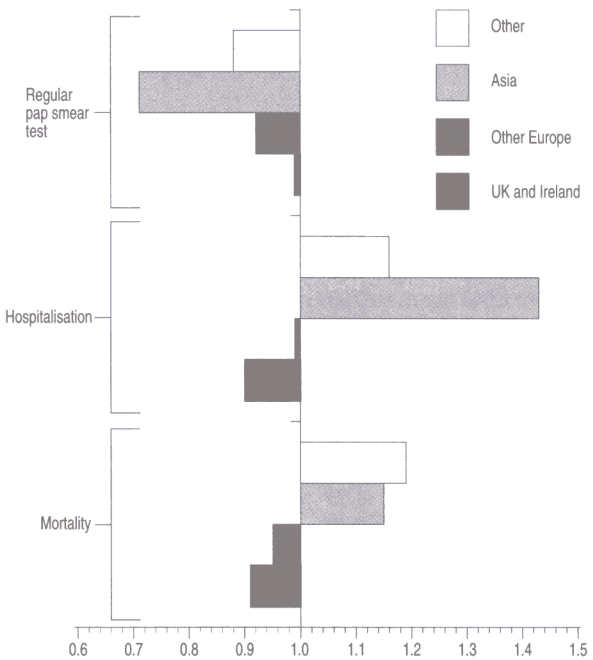
Note: Ratios compiled from rates age-standardised to the Australian population as at 30 June 1991.

Source: AIHW National Morbidity Database.

One of the most notable differences was the hospitalisation rate for melanoma, which was more than twice as high among Australian-born residents than for migrants. Risk factors for melanomas include increased exposure to sun early in life, fair complexion, red or blond hair, blue eyes, freckles and ease of sunburn. Immigrants arriving after childhood years have lower melanoma rates than those who migrated before age 10 (Sober et al. 1996). Factors such as arrival in Australia as adults as well as skin less susceptible to sun damage are reflected in the lower SHRs for migrants.

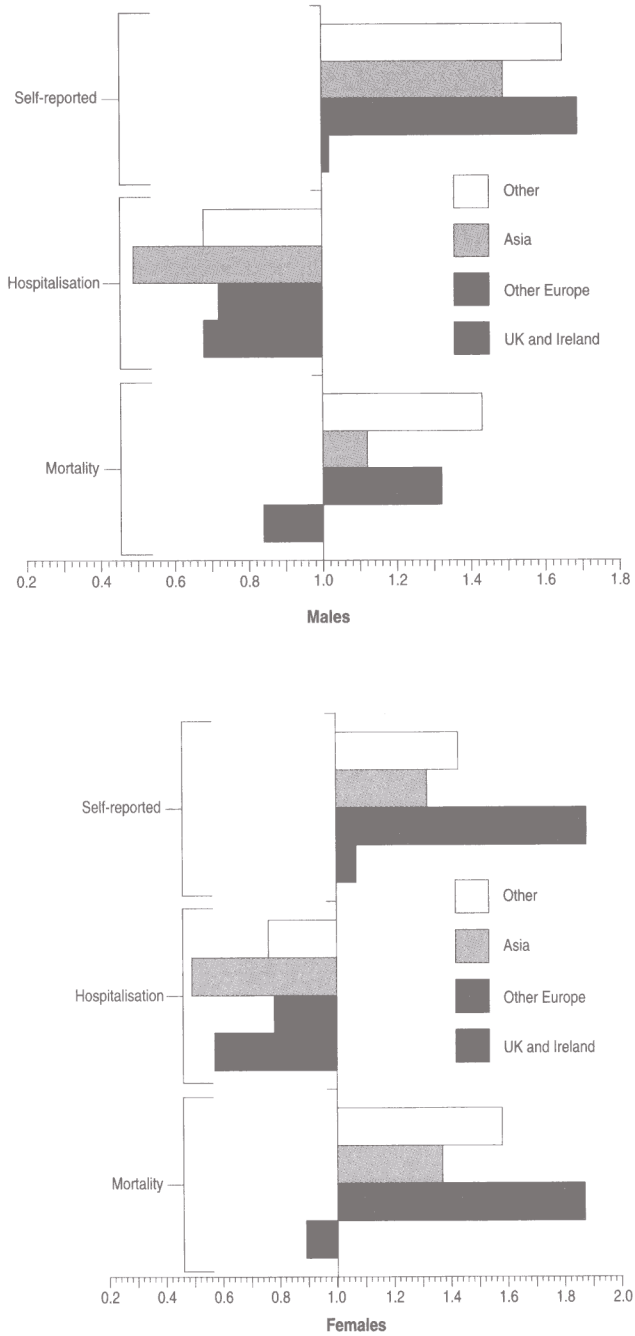
Health determinants and risk factors

Several self-reported health indicators mirror the mortality and hospitalisation patterns (Table 3). The lower proportion of Asian-born women who have had regular Pap smear tests appears to be reflected in both their relatively high mortality and hospitalisation rates for cervical cancer. The Other birthplace group also reports a lower proportion having a regular Pap smear test. This group also experiences relatively high mortality and hospitalisation rates for cervical cancer (Figure 1).



[a]The Australian-born population represents the standard or 1.0 on the graph.
Source: AIHW Mortality and Morbidity Databases and ABS National Health Survey 1995.

Figure 1: A comparison of standardised ratios for cervical cancer for mortality, hospitalisation and self-reported regularity of Pap smear tests[a]



[a]The Australian-born population represents the standard or 1.0 on the graph.
Source: AIHW Mortality and Morbidity Databases and ABS National Health Survey 1995.

Figure 2: A comparison of standardised ratios for diabetes for mortality, hospitalisation and self-reported prevalence[a]

Table 3: Standardised prevalence ratios for self-reported health indicators, by birthplace, and sex, ages 15 years and over, 1995

	Standardised prevalence ratio (Australian-born = 1.0)							
	Males				Females			
Indicator	UK & Ireland	Other Europe	Asia	Other	UK & Ireland	Other Europe	Asia	Other
Diabetes	1.02	1.69	1.49	1.65	1.07	1.88	1.32	1.43
Overweight	0.91	1.03	0.50*	1.03	0.86	1.12	0.45*	1.03
High blood pressure	0.88	0.85	0.79	0.92	0.78	0.93	0.77	0.93
High serum cholesterol	0.96	1.18	0.98	0.93	0.93	1.22	1.15	1.12
Tobacco smoking	1.03	1.09	0.66	1.02	1.10	0.80	0.17*	0.89
Excess alcohol consumption	0.92	0.41	0.16	0.99	1.51	0.22	0.23	0.87
No sun protection	0.93	1.69*	1.96*	1.64*	0.89	1.74*	2.02*	1.80*
Walking for exercise	1.12	0.91	0.85	1.00	1.01	0.87	0.73	0.90
Regular Pap smear test	na	na	na	na	0.99	0.92	0.71*	0.88
Regular breast examination	na	na	na	na	0.81	0.82	0.57*	0.93

*P < 0.05
Note: Ratios compiled from rates age-standardised to the Australian population as at 30 June 1991.
Source: 1995 ABS National Health Survey.

The prevalence of diabetes was found to be high for those migrants born in Asia, Other Europe, and Other countries; consistent with the pattern exhibited in the mortality statistics (Figure 2). In contrast, both males and females from these countries are hospitalised less frequently for diabetes, which raises the question: Do these groups manage their condition better so that they do not require hospitalisation or does less hospitalisation eventually result in increased complications from diabetes? Further information about the management of diabetes may help elucidate possible problems with diabetes care among the overseas-born populations.

A much smaller proportion of Asian migrants reported being overweight, smoking, and having high alcohol consumption than did the rest of the birthplace groups, but were less likely to walk for exercise, use sun protection or to have a regular Pap smear test or breast examination. Migrants from the United Kingdom and Ireland provided similar responses to the Australian-born population, although there was a higher prevalence of smoking among both the sexes. This is reflected in migrants from the United Kingdom and Ireland having higher mortality rates from lung cancer and higher hospital separation rates for respiratory diseases than the remaining birthplace groups, including Australia.

Conclusions

This analysis of the latest mortality, morbidity and National Health Survey data supports the findings of past studies on the health of overseas-born Australians (Kliewer & Jones 1997). Generally the health of overseas-born Australians is better than that of the Australian-born population, reflecting the 'healthy migrant effect'. However, diabetes, cervical cancer and lung cancer represent examples of diseases that are more prevalent among some overseas-born population groups than among the Australian-born population. Information provided here may help to target population groups at risk for some of these specific causes of mortality and morbidity.

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