Chapter 5 Implications of Demographic Change for the Territory

Introduction

Population plays a substantial role in influencing the medium and long-term fiscal and economic outlook for the Territory.

Population projections are used to explore the likely extent of future population changes and ageing in the Territory, and the possible effect on various areas of the economy, government services and other areas of social demand. Analysis of how the Territory's population has changed in the last 30 years has been used to assist the development of population projections.

Population ageing refers to the increasing proportions of older people and the corresponding decreasing proportions of young people in a population. Ageing is occurring because of long-term declines in birth rates and improvements in life expectancy. The populations of almost all countries in the world are currently undergoing or soon to commence rapid ageing at a scale probably not previously experienced in human history.

As populations age, there are likely to be a variety of economic implications and fiscal pressures. These include a reduction in the working age population and lower labour force participation as the working population progressively ages; increased health and aged care costs associated with longevity; reduced education costs because there are proportionally fewer young people in the population; and the higher cost of supporting the aged population placed on fewer wage earners.

The Territory, with its unique population composition and drivers of growth, is expected to age differently to the rest of Australia and its ageing is likely to have different consequences than in other states and territories.

There are a number of uncertainties and measurement issues that complicate the use and analysis of population statistics particularly for the Territory. These are outlined in Appendix A.

Ageing in the Territory 1971-2001

Over the 30 years from 1971 to 2001, the Territory's population has increased by 130 per cent. While the Territory's Indigenous population has doubled from 29 000 to 56 900 people, the non-Indigenous population increased by 150 per cent from 56 700 to 140 900 over the same period. The increase in the Territory's non-Indigenous population is due in part to net interstate migration that has occurred over this period.

Because of different characteristics of the Indigenous and non-Indigenous population in the Territory, changes in population and population projections for the Territory need to encompass separate analyses for the Indigenous and non-Indigenous population groups. Chart 5.1a shows the size and age distributions of the Territory's population at 10-yearly intervals from 1971 to 2001, and Chart 5.1b shows the changes that have occurred during the three decades from 1971 to 2001.

Changes in the Territory's Indigenous population are almost entirely due to natural increase (births and deaths). Indigenous women have high birth rates but these have declined over recent decades. As a consequence the Indigenous population has gained relatively few children aged 0-9 during each of the three decades (Charts 5.1b-1 to 5.1b-3). The age composition of the adult population has also been influenced by ageing. In the 1970s the Indigenous population grew by the greatest numbers in the age range 5-29 years (Chart 5.1b-1). In the next decade, numbers increased most among the 15-39 year olds (Chart 5.1b-2), but, by the 1990s, the largest increases in the Indigenous population were occurring in the 25-49 year age range (Chart 5.1b-3).

Changes in the Territory's non-Indigenous population are quite different and more complex than the Indigenous population. This is primarily because of the very important role that interstate migration of 20-29 year olds has played in the growth of the Territory's non-Indigenous population over the last 30 years. Charts 5.1b-1 to 5.1b-3 show that the dominant feature in the age distribution for non-Indigenous Territorians has been the ageing of the cohort aged 30-34 year olds in 1971-81 (Chart 5.1b-1). This was an exceptionally large cohort, with many people coming to the Territory during the rebuilding of Darwin following Cyclone Tracy and then the expansion of government services following Self Government. Charts 5.1b-2 and 5.1b-3 show the ageing of this group from 1971 to 2001. It is probable that this cohort will continue to progress through the Territory's population age groups in future decades.

Although the Territory's population has more than doubled over the last 30 years, this increase has been far from uniform across all age groups. The smallest percentage increases in the non-Indigenous population were in the number of infants (aged 0-4 years) and young adults (20-29 years). For both these groups, the population increased by about 50 per cent over the 30 year period. This compares with increases of 400-600 per cent in the population of 50-60 year olds over the same period.

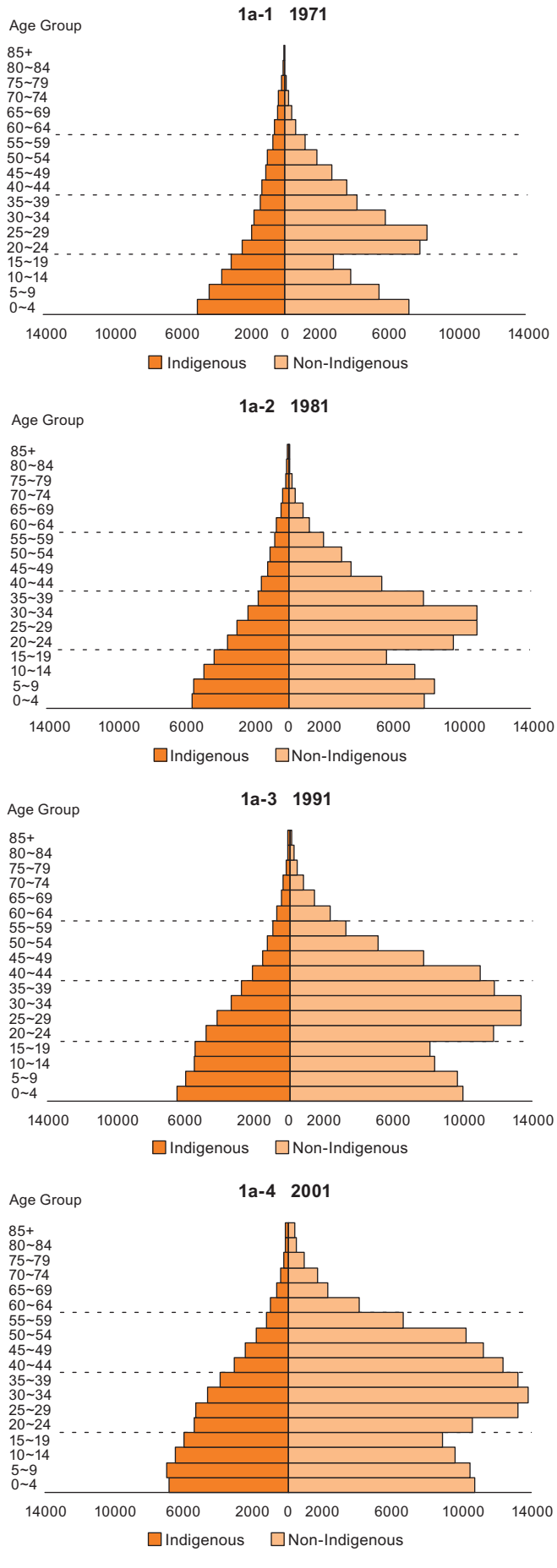
For the Territory's Indigenous population, the percentage increase in infants was even smaller than the non-Indigenous population, at just 25 per cent over 1971-2001. The increase for most other Indigenous adult age groups was upwards of 200 per cent. The relative increases in the Territory's older age groups has been extraordinary by any standards. The relatively small increases in numbers of young people and large increases in the older age groups indicate that significant ageing has occurred in both the Indigenous and non-Indigenous Territory populations over the past 30 years.

Projections of the Territory's Population

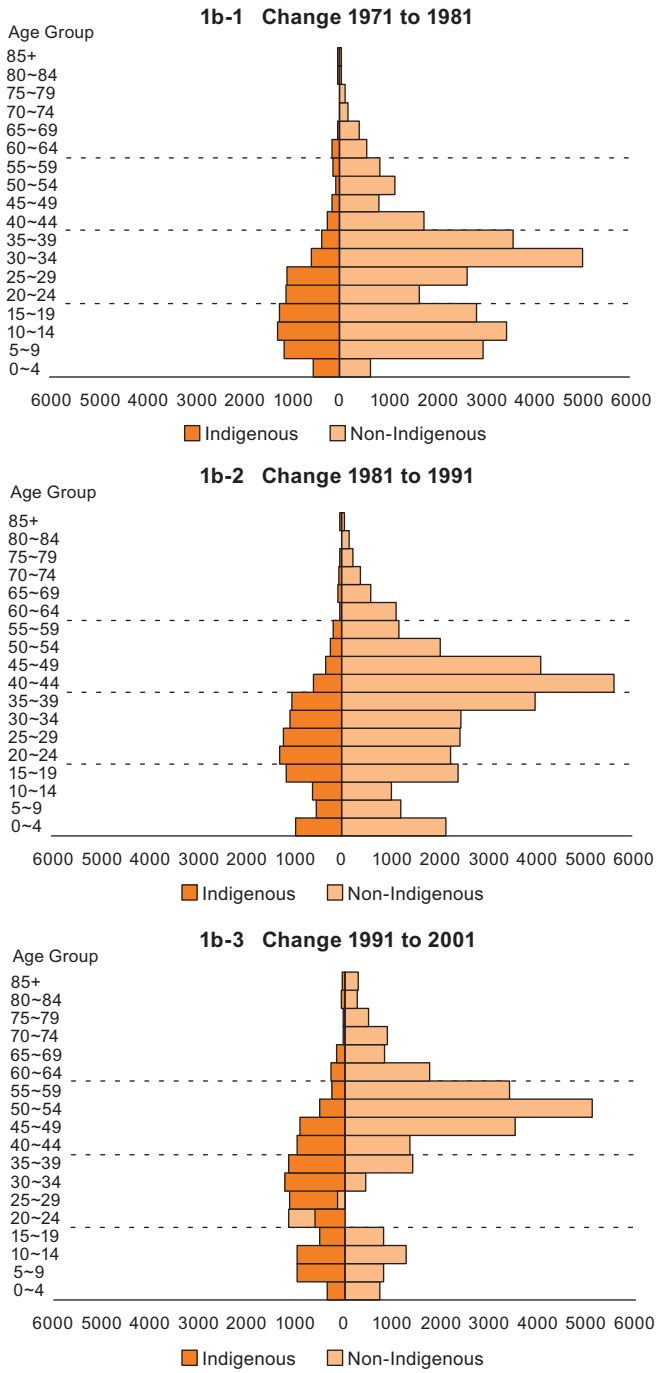
Population projections have recently been developed by the Northern Territory Government (NTG) and Charles Darwin University (CDU) using a 'components of growth' population projection model that simultaneously projects both the Territory's Indigenous and non-Indigenous populations from the 2001 Australian Bureau of Statistics (ABS) population estimates. The projections are currently unpublished and are undergoing a process of consultation, review and possible refinement before being endorsed for whole of government use. See Appendix B for more information.

Chart 5.1: Changes to the Indigenous and Non-Indigenous Populations of the Territory from 1971 to 2001

(a) Population Age Distribution, Northern Territory 1971-2001



(b) Net Change in Population Age Distribution Between Decades

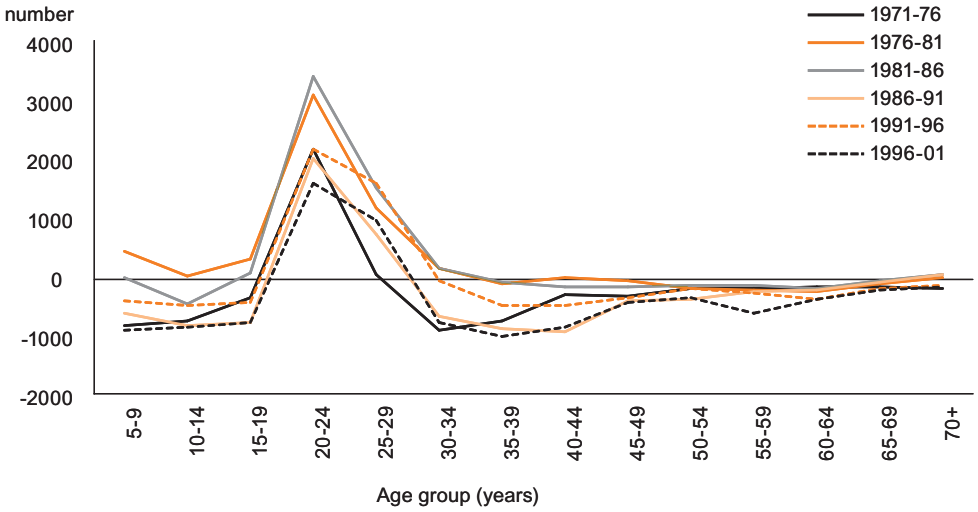


Note: Between 1991 and 2001 there was a net decrease in the non-Indigenous population aged 20-24 years (-1157) and a net decrease of non-Indigenous persons aged 25-29 years (-136). During 1991-2001 the change in the Indigenous population aged 20-24 years was 603 persons.

Source: Condon JR, Barnes T, Cunningham J, Smith L. 2004. Demographic Characteristics and Trends of the Northern Territory Indigenous Population, 1996 to 2001. Cooperative Research Centre for Aboriginal Health, Darwin.

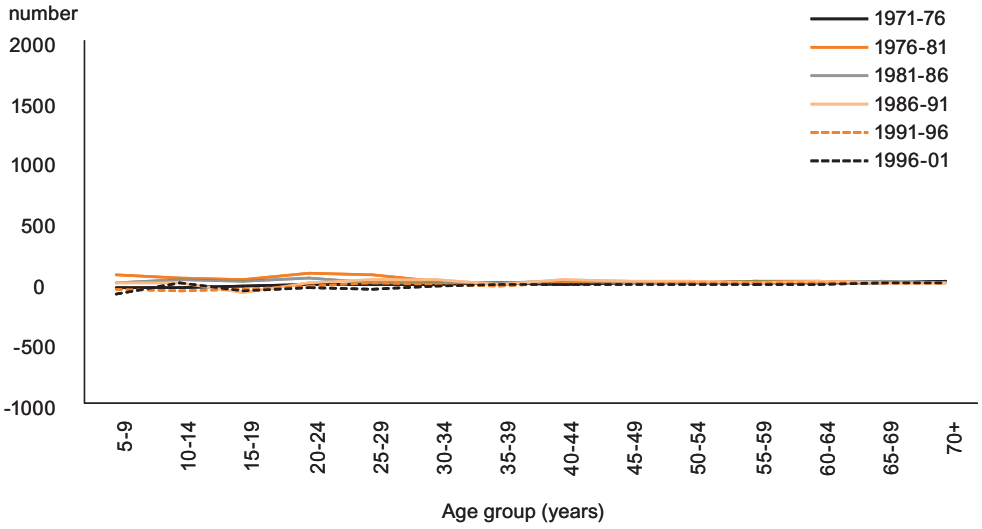
The model's parameter assumptions for the growth components of fertility, mortality and migration have been based on the most likely future trends, based on past experiences. Of these growth components, interstate migration is the most volatile and difficult to predict. The Territory's annual gross interstate migration is proportionately greater than for other jurisdictions. Examination of these past trends in migration show that non-Indigenous net migration to the Territory has consistently been relatively large and positive for people in their 20s, but small and negative or near zero for all other age groups (Chart 5.2). On the other hand, net migration of Indigenous people to and from the Territory has been effectively zero at all ages (Chart 5.3). These important phenomena are key elements of the population projection model.

Chart 5.2: Non-Indigenous Net Interstate Migration to the Territory By Age Group, 1971-2001



Source: ABS Census 1971-2001.

Chart 5.3: Indigenous Net Interstate Migration to the Territory By Age Group, 1971-2001



Source: ABS Census 1971-2001.

Future Ageing in the Territory

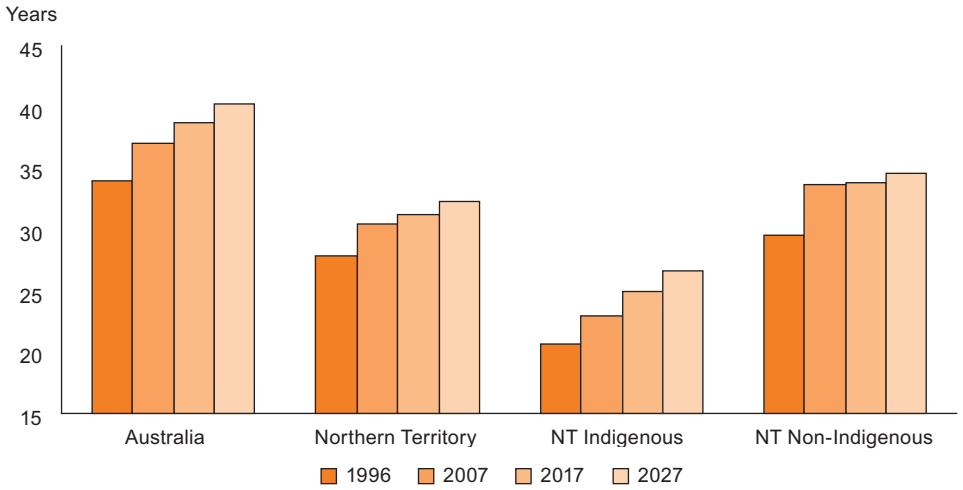
Table 5.1 and Chart 5.4 set out estimated changes in Territory and Australian populations between 1996 and 2027. Over the period 1996-2007, the median age of the Australian and Territory populations increased by 3 years and 2.6 years respectively. These increases are considered very large by any historical standards. The Territory's non-Indigenous population showed an even larger increase of 4.2 years over this period. The Indigenous increase was slightly less at 2.3 years (Chart 5.4).

Table 5.1: Median Age, Northern Territory and Australia 1996 to 2027

	1996	2007	2017	2027
Australia	34.0	37.0	38.7	40.2
Northern Territory	27.8	30.4	31.3	32.3
NT Indigenous	20.6	22.9	25.0	26.6
NT Non-Indigenous	29.5	33.7	33.9	34.6

Source: ABS Cat. Nos. 3238.0, 3201.0; Northern Territory Government-Charles Darwin University (NTG-CDU) population projections.

Chart 5.4: Median Age, Northern Territory and Australia, 1996 to 2007



Source: ABS Cat. Nos. 3238.0, 3201.0; NTG-CDU population projections.

Large increases in the median age are expected in the decade beyond 2007, at 1.7 years for Australia and 2.1 years for the Territory's Indigenous populations but only 0.2 years for the Territory's non-Indigenous population. This increase is smaller than for the previous decade.

Between 2017 and 2027, the median age of the non-Indigenous population is projected to rise only moderately, by 0.7 years, while the Australian population's median age rises by 1.5 years. These lower than expected increases for the Territory non-Indigenous population suggests that much of the rapid ageing in the non-Indigenous Territory population may have already occurred.

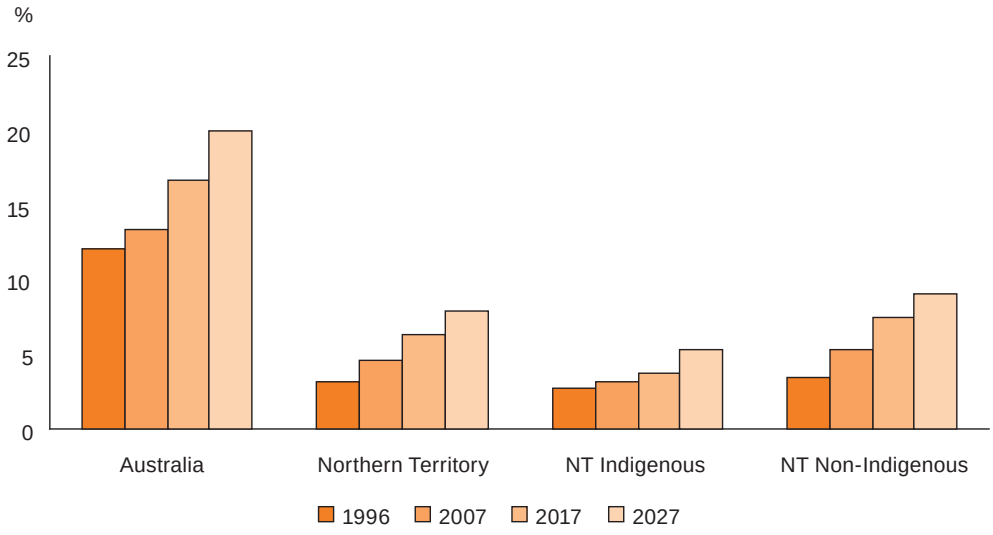
The proportion of the population aged 65 years or over tells a slightly different story, indicating less dramatic, but still substantial changes (Table 5.2 and Chart 5.5). Smaller future increases are expected in the Territory than the Australian population. However, starting from a very small base, the proportion of the Territory population over 65 is projected to be 70 per cent higher in 2027 than in 2007. The most noticeable difference in the proportion aged over 65 years occurs in the Territory's non-Indigenous population, with an equally large increase in the proportion of the population aged 65 years and over in both 1996-2007 and 2007-2017.

Table 5.2: Proportion of the Population Aged 65 and Over, 1996 to 2027

	1996	2007	2017	2027
	%	%	%	%
Australia	12.0	13.4	16.7	19.9
Northern Territory	3.2	4.6	6.3	7.9
NT Indigenous	2.8	3.1	3.8	5.3
NT Non-Indigenous	3.4	5.3	7.4	9.0

Source: ABS Cat Nos. 3238.0, 3201.0 and NTG-CDU population projections.

Chart 5.5: Proportion of the Population Aged 65 and Over, 1996 to 2027



Source: ABS Cat. Nos. 3238.0, 3201.0; NTG-CDU population projections.

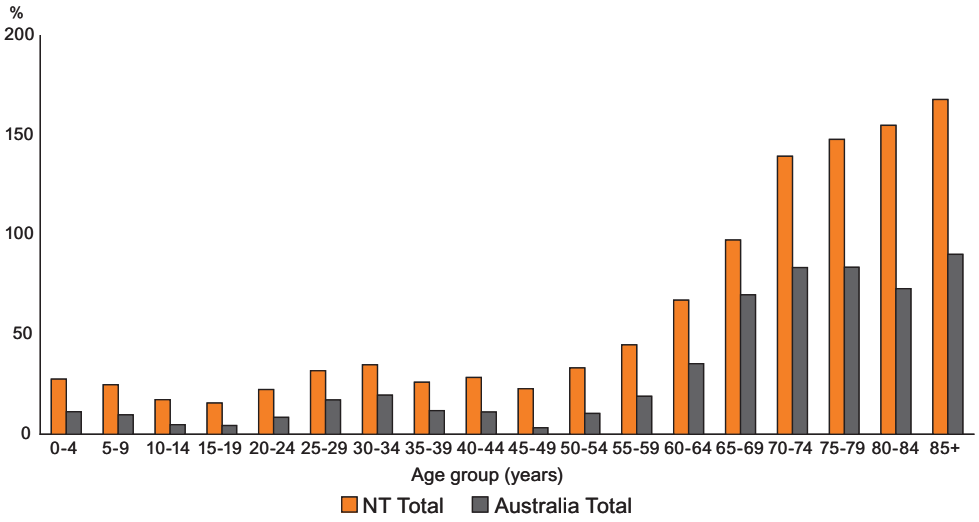
The two summary measures of ageing (median age and proportion aged 65 years and over) appear to indicate slightly contradictory expectations for ageing for the Territory's non-Indigenous population. This reflects the highly non-standard composition and growth dynamics of this section of the Territory's population. For this reason, it is necessary to consider changes over the whole age range rather than relying solely on summary measures when considering the full magnitude of ageing and its effects within the Territory.

Charts 5.6 and 5.7 and Table 5.3 show the expected population increases in each age group for the total Territory and Australian populations from 2007 to 2027 and for the Territory's Indigenous and non-Indigenous population.

Chart 5.6 shows that in every age group, the increase in the Territory population is expected to be higher than in the Australian population. The Australian population is projected to increase by more than 75 per cent for ages 70 years and above compared with about a 150 per cent increase for the Territory population.

Chart 5.7 shows the major growth is expected to occur in ages beyond 50 years for Indigenous Territorians and beyond 65 for non-Indigenous Territorians, with the numbers in these age groups projected to increase by at least 100 per cent.

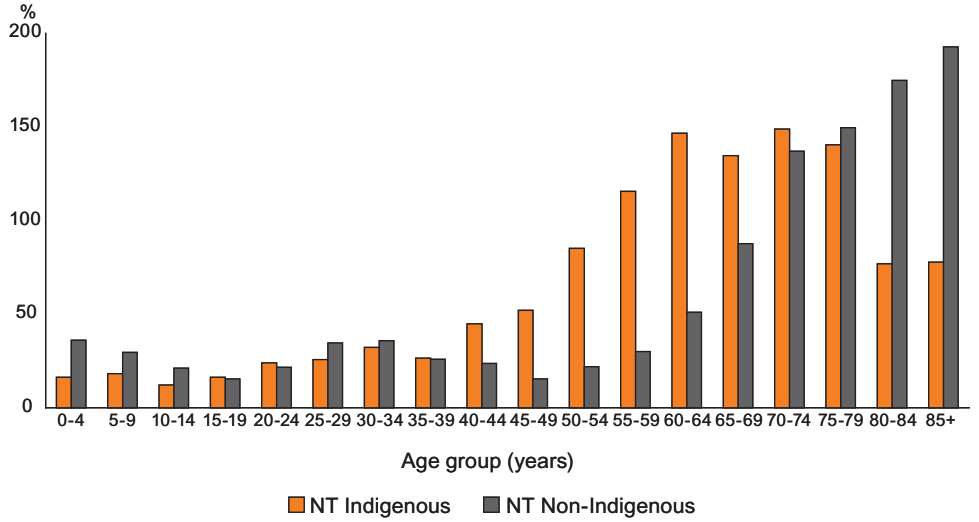
Chart 5.6: Projected Percentage Increases for Each Age Group in the Territory and Australian Populations, 2007 to 2027



Source: Northern Territory Treasury, calculated from NTG-CDU population projections.

Chart 5.7 also shows much smaller population increases are expected in both the Indigenous and non-Indigenous sectors of the Territory's population below the age of 40 years (between 15 to 30 per cent from 2007 to 2027). The non-Indigenous population shows slightly greater increases in ages up to 14 years than the Indigenous population, a result not immediately expected given higher Indigenous birth rates. This is largely due to the expected net gains of people in their 20s and 30s projected to occur through migration, who come with children or parent children after their arrival. The growth rates in these younger age groups also partly explain the slower rise in median age for the non-Indigenous population after 2007, as seen in Table 5.1.

Chart 5.7: Projected Percentage Increases for Each Age Group in the Indigenous and Non-Indigenous Populations, 2007 to 2027



Source: Northern Territory Treasury, calculated from NTG-CDU population projections.

Table 5.3: Population Increase, Northern Territory and Australia (%), 2007-2027

	Northern Territory			
Age Group	Indigenous	Non-Indigenous	Total	Australia
0-4	16.2	36.0	27.7	11.3
5-9	18.2	29.5	24.8	9.7
10-14	12.1	21.1	17.3	4.8
15-19	16.3	15.3	15.7	4.4
20-24	23.9	21.6	22.4	8.4
25-29	25.7	34.6	31.9	17.2
30-34	32.2	35.8	34.8	19.6
35-39	26.4	25.9	26.1	11.8
40-44	44.8	23.6	28.5	11.1
45-49	52.1	15.3	22.9	3.3
50-54	85.2	21.9	33.3	10.4
55-59	115.6	30.0	44.9	19.0
60-64	146.6	51.0	67.3	35.4
65-69	134.6	87.7	97.4	70.0
70-74	148.8	137.1	139.5	83.7
75-79	140.5	149.6	147.9	83.8
80-84	76.9	174.9	155.0	73.1
85+	77.8	192.8	168.0	90.3

Source: Northern Territory Treasury, calculated from NTG-CDU population projections.

Impacts of Demographic Change

As discussed, the Territory's Indigenous and non-Indigenous populations, and the Australian population will experience vastly different demographic change and ageing over the next 20 years. The NTG-CDU population projections have been used to demonstrate the possible effect of this demographic change on workforce growth, and demand for social services in key areas from 2007 to 2027. Although cost of services has not been examined, the likely increase in demand for a service based on population growth is one of the inputs to cost. Any conclusions drawn must be considered tentative, in part because of the considerable uncertainty about the population projections, and in part because of the very simple form of the indicators used.

The areas explored are the size of the labour force, demand for health and aged care services, school education, housing and corrective services. The indicators assume that demographic change (age, sex, Indigenous status) is the only driver of demand or capacity.

Assumptions underlying the summary indicators include:

- Labour force – the projected number of people aged 15 years and over in 2007 and 2027, weighted by age, sex and Indigenous-specific participation rates from the 2001 Census. This assumes that participation rates from 2007 to 2027 remain constant at 2001 Census levels.
- Health services – the number of hospital separations (including those for renal dialysis as a proxy for the level of chronic disease in the population), as the main driver of health costs, has been used as the indicator for health services demand. Age and Indigenous-specific hospitalisation rates from 2003-04 (Australia) and 2002-06 (the Territory) have been used to weight the projected populations in 2007 and 2027, to estimate the level of demand for health services.
- Aged care – the number of non-Indigenous people aged 70 years and over in 2007 and 2027 is used as an indicator of the demand for aged care services for the non-Indigenous population. For the Indigenous population, the number of people aged 50 years and over has been used, because Indigenous people require aged care services at younger ages because of poorer health. These indicators are used by the Australian Government for aged care planning. Use of these indicators in the projection analysis assumes that these age groups will remain reasonable indicators for the demand for aged care from 2007 to 2027.
- School education – the number of children aged 5-18 years in the projected populations for 2007 and 2027 has been used as an indicator for the demand for school education services. This assumes full participation in school education of all 5-18 year olds.
- Housing demand – housing demand (public and private) is driven by the number of households in society. This in turn is largely driven by the number of adults in the population. The number of adults (aged 18 years and over) in the 2007 and 2027 populations has been used as an indicator for housing demand. This indicator includes all housing (not just public housing), so has implications wider than government expenditure.
- Corrective services – the number of prisoners in prisons is the main driver of corrective services costs. This indicator projects the demand for future corrective services by using age, sex and Indigenous-specific imprisonment rates (2006 Prisoner Census) to weight the projected populations in 2007 and 2027. This assumes that imprisonment rates remain at their constant levels between 2007 and 2027.

The changes in the indicators described above between 2007 and 2027 are shown in Table 5.4 and displayed in Chart 5.8. The effects on the Australian, total Northern Territory, and Territory Indigenous and non-Indigenous populations are shown separately. The percentage increases in the projected total populations are also shown for comparison purposes.

It can be seen that between 2007 and 2027, the increase in all indicators is greater for the Territory than for Australia. This is expected because of the greater projected growth in the total population of the Territory (32.8 per cent compared with 21.2 per cent for Australia). Likewise, for all indicators, the difference between the increase in Territory and national indicators is greater than the difference between the increase in Territory and Australian population, indicating that the Territory may generally undergo greater relative growth in demand for social services than Australia as a whole.

Not surprisingly, given the proportional increases in population shown in Table 5.2, the largest relative increase for services in Australia and the Territory is projected to occur in the aged care sector. Between 2007 and 2027, the indicator for demand for aged care increases by 129 per cent in the Territory, compared to 83 per cent in Australia.

The indicator for health services, based on current hospitalisation rates (including renal dialysis) shows a more modest, but still very large, increase, considerably larger than the increase in the total population. The indicator for the Territory's non-Indigenous population is substantially larger than for the Indigenous population, which in turn, is larger than for Australia.

Slighty smaller but still substantial projected increases are indicated in the increase in demand for housing. The Territory increases are substantially above those projected for Australia. Housing demand, as indicated by the number of adults (18+) in the population, is projected to increase by 37 per cent between 2007 and 2027 in the Territory, compared to only 25 per cent in Australia. In the Territory, this increase is due to the relatively high projected growth rate of the Indigenous adult population. If this indicator is an appropriate proxy for housing demand, this projected increase has significant public policy implications, particularly given the current housing shortage in Indigenous communities.

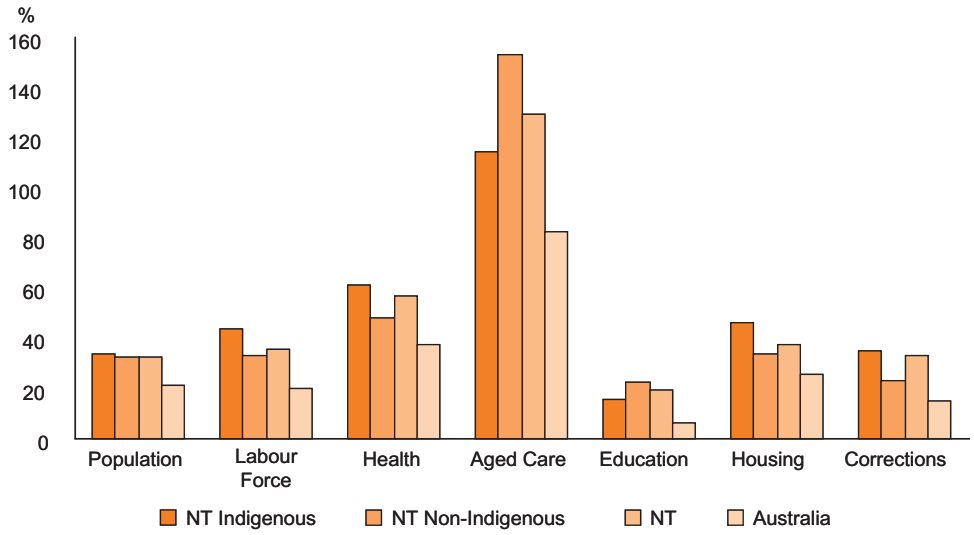
More modest increases, though substantially larger in the Territory than Australia, are projected for school education services in line with the smaller increases in the growth of the population of children. School education needs are projected to increase by almost 20 per cent in the Territory as a result of demographic change, compared to 6 per cent nationally.

Table 5.4: Projected Growth in Territory Population, and Increase in Selected Indicators (%), 2007-2027

	Northern Territory			
	Indigenous	Non-Indigenous	Total	Australia
Total population growth	34.0	32.2	32.8	21.2
Economic capacity				
Labour force	43.6	33.0	35.8	20.0
Social service area				
Health	61.1	48.2	57.0	37.6
Aged care	114.6	153.4	129.4	82.8
School education	15.5	22.5	19.5	6.2
Housing	46.5	34.0	37.2	25.4
Corrections	35.0	23.1	32.9	15.1

Source: NTG-CDU population projections 2007-2027; ABS, 2006, Prisoners in Australia, ABS Cat. No. 4517.0; ABS 2001 Census; Department of Health and Community Services hospital separations data.

Chart 5.8: Projected Growth in Territory Population, and Increase in Selected Indicators (%), 2007-2027



Source: Northern Territory Treasury.

Table 5.4 also indicates the projected increase in the demand for correctional services (number of prisoners) based on the growth and changing age, sex and Indigenous profile of the population alone. Assuming constant imprisonment rates for these groups, the result indicates that the prison population and demand for correctional services is expected to increase by 33 per cent in the Territory compared to an increase of 15 per cent in Australia. As with other areas of social services, it is unrealistic to assume, as these indicators do, that there will be no non-demographic changes over the next 20 years which might influence cost. However, the simple indicator does serve the purpose of demonstrating that, on demographic grounds alone, the demand for correctional services in the Territory over the next 20 years may increase at twice the rate of the rest of Australia.

The number of people participating in the economy through employment, as one of the inputs to production capacity, has been used in this model as an indicator for potential capacity of the economy to grow. Based on 2001 labour force participation rates, the labour force was projected to 2007 and 2027. The results in Table 5.4 and Chart 5.8 show that the number of people participating in employment is projected to grow by 36 per cent in the Territory over this period, compared to 20 per cent in Australia. Among the Indigenous Territory population, the projected increase is 44 per cent compared with 33 per cent for non-Indigenous Territorians. Whether the projected greater increase amongst Indigenous Territorians converts into correspondingly greater increases in employed Indigenous people than currently occurs will depend in part on the extent to which education and skills training outcomes are improved over the next two decades.

Implications for the Territory

The indicators explored in the previous section should not be interpreted as the likely future cost increases in these social areas. They are constructed to show the possible implications of direct demographic change on increases in demand. They do not take into account indirect changes likely to occur in association with demographic change such as changes in the prevalence of chronic disease, changes in the quality and nature of health care and housing, and changes in future cost structures of providing social services.

The above analysis indicates that despite its younger population, the Territory may experience greater growth in per capita demand for social services associated with ageing than Australia as a whole. This perhaps unexpected result can be attributed, in part, to the unique demographic drivers of the Territory's population, namely high population 'churn' among the young working non-Indigenous population and their offspring, and high natural increase among the Indigenous population, and in part to the rapidly increasing proportion of older people in the Territory's population relative to Australia.

As noted, making population projections for the Territory is particularly difficult. This chapter attempts to project increases in demand due only to demographic change while, in reality, the drivers of increasing demand and costs are generally much more complex. Unmet demand and inadequate service levels are likely to lead to greater requirements for services in the future than those indicated in Table 5.4 and Chart 5.8.

The indicators do not provide a basis to distinguish cost pressures between Australian government, jurisdictional government and non-government costs. The Productivity Commission (PC) in its 2005 Research Report on the Economic Implications of an Ageing Australia explored some of the possible future consequences for state and territory governments of ageing in the population of the different Australian jurisdictions.

The Australian Treasury has recently released its second Intergenerational Report (IGR) which provides an update of long-term demographic, economic and spending projections and the implications for the sustainability of fiscal policy for the Australian Government.

Analyses exploring the implications of ageing by all Governments will contribute to better long-term planning and, in so doing, to improved future outcomes for Australia.

Appendix A: Measurement of Australian Official Population Statistics

The Australian Bureau of Statistics (ABS) is the national agency responsible for developing estimates of the population for use in a range of official purposes. ABS estimates are required to be used in determining how the annual GST revenues should be distributed between states and territories. The distribution of GST for any financial year depends on the size of the population as at 31 December of the previous year.

Population size is calculated by using a 'components of growth' methodology. This is a deceptively simple equation that adjusts a base population for natural increase and net migration to arrive at a new population at a later date. Difficulties lie in uncertainty around the accuracy of the base population, and in the measurement of the growth components of births, deaths and migration.

The base population is the Census year Estimated Resident Population (ERP). ERPs are rebased every five years on population counts derived from a new Census, the most recent of which was conducted in August 2006. Accurate ERP depends on accurate results from the Census, and the Post Enumeration Survey (PES) – a survey designed to allow undercounting in the Census to be estimated.

The Territory's unique geography and demography make obtaining accurate results from these data collections a particularly challenging task. In addition, the PES has been extended to remote areas for the first time in 2006. It is uncertain what the exact impact of this will be on the Territory population estimates, however it is likely to be much greater than in other jurisdictions.

Growth components are either taken directly from official figures (eg. births and death registrations) or are estimated indirectly from other data (eg. Medicare address movements for interstate migration, and passenger departure card reconciliations for overseas migrations). The quality of births and deaths registration data in the Territory is high, and better than in most other jurisdictions particularly in the area of Indigenous identification, however the estimation of migration remains an area of concern for the Territory.

The ABS calculates interstate migration flows using Medicare changes of address records provided by Medicare Australia. The ABS makes adjustments to the raw records for time lags between a person moving interstate and updating their Medicare record, and for other factors such as failure to update Medicare records by certain segments of the population. The Territory Government is uncertain about the ability of Medicare data to accurately capture interstate movements, and about the accuracy of the adjustments ABS makes to this data to compensate for its shortcomings.

The ABS is developing new methods of estimating net overseas migration and the first results will be incorporated into the 30 June 2006 ERP to be released on 5 June 2007. At this stage, it is unclear what impact the adjustments will have on the Territory ERP. Under the new methods, migrants must reside in Australia or elsewhere (for those who left Australia) for at least 12 months over a 16 month period to be included in or excluded from the resident population. Previously, a person had to remain in/stay out of Australia for a continuous 12 month period before a change in residency was recognised by ABS. One consequence of the change is that it will take longer for the ABS to produce revised estimates of ERP.

An added complication to population measurement is that the ABS produces a number of different ERP figures at different times – preliminary, revised and final – as the quality of the input data improves. The figures used in determining GST revenue distribution are the preliminary figures, released on 31 December each year. These figures can be revised significantly in the following months. This creates uncertainty not just about the size of the population but also its growth from one period to another.

Estimated Resident Population at 31 December 2006

The ABS preliminary ERP for 31 December 2006 will be used by the Australian Treasurer to determine the distribution of GST revenues between jurisdictions for 2007-08. ABS will release these preliminary estimates on 5 June 2007. There is greater uncertainty with forecasting this 2006 estimate than usual because of the above-mentioned issues of the rebasing of population estimates on the 2006 Census, the new methodology for the PES, and the introduction of the new approach for net overseas migration. These developments have the potential to introduce substantial corrections, either positive or negative, to current Territory estimates.

Appendix B: NTG-CDU Population Projections Model

The Northern Territory Government (NTG) and the Charles Darwin University (CDU) have developed a population projections model that separately projects the Territory Indigenous and non-Indigenous populations by single year of age and sex to 2050-51 for the Territory as a whole. The projections are currently unpublished and are undergoing a review and consultation process before being recommended for whole of government use.

The NTG-CDU projection model is created as a 'components of growth' model. This methodology is the basis of most population projection models at the country or state and territory level. ABS also uses this approach in its own population projection model. However, because the Indigenous and non-Indigenous populations are projected separately, the NTG-CDU model has a distinct advantage over the ABS models for exploring possible future growth scenarios of the Territory's Indigenous and non-Indigenous populations.

The model considers Australia to be divided into two geographies, the Northern Territory and the rest of Australia and assumes two co-existing populations, the Indigenous and non-Indigenous populations. Age-sex specific migration between the two geographic regions is allowed, as is age-sex specific migration into and out of Australia through either of the regions. Fertility (including paternal fertility to allow for varying mixed marriage rates and associated differences in Indigenous identification among off-spring) and mortality are flexibly catered for and even direct migration between the two populations is allowed (simulating changes in a person's Indigenous status).

The model currently has a set of parameter assumptions based on careful examination by CDU and Territory Government stakeholders of current and, what is believed to be, the most likely future trends. Different assumptions around parameters representing fertility, mortality and migration may be readily entered into the model to explore alternative scenarios.

Indigenous Population Assumptions (Base Scenario)

There is some uncertainty around future trends in Indigenous fertility as the most recent data have suggested an increase in the total fertility rate (TFR) after a long period of decline. However, dramatic fluctuations are not expected. The assumptions are based on a continuing trend for fertility to remain strong but, in the long run, some decline is anticipated. Small improvements in life expectancy, and therefore mortality, are predicted. Both net interstate and overseas migration are assumed to be negligible for the Territory Indigenous population. Although this is a reasonable assumption to make based on past evidence, it will be important to analyse the 2006 Census results to see if there have been any changes.

Non-Indigenous Population Assumptions (Base Scenario)

Territory non-Indigenous fertility and life expectancy are both expected to be similar to that of the total Australian population. Both net interstate and overseas migration have been based on the long run average of past trends (-500 and +660 per annum respectively). However net interstate migration is extremely volatile and over the past 20 years annual net interstate migration has ranged from -3400 to +1700. The chosen parameters, although based on past evidence, are not necessarily good predictors of the future. The age and sex distribution of interstate migrants is an important factor in determining the future growth through natural increase of the population. Age and sex distributions of Territory 'in' and 'out' migrants have been assumed to follow the very stable patterns of recent years which have been observed in Census data.

Rest of Australia (Base Scenario)

Although not the primary concern of the model, it requires 'rest of Australia' population component growth assumptions to be made. These are assumed to closely follow the ABS medium projections series for the total Australian non-Indigenous population and the ABS experimental projections for the total Australian Indigenous population.

Model results are presented here for 2007 and 2027. By 2027, the Territory total, Indigenous and non-Indigenous populations would increase in size by one-third over 2007 levels, while the Australian population would increase by 21 per cent (Table 5.5). Table 5.6 presents the projected populations by age group for 2007 and 2027 used in this study.

Table 5.5: Base Scenario Total Population Projections, 2007 and 2027

	population			%
	2007	2027	Change	Change
Australia (million)	20.8	25.2	4.4	21.2
Northern Territory	209 150	277 660	68 510	32.8
NT Indigenous	63 500	85 100	21 600	34.0
NT Non-Indigenous	145 650	192 580	46 930	32.2

Source: NTG-CDU population projections 2007-2027.

Table 5.6: Population Age Distribution 2007 and 2027

Age Group	2007				2027			
	Northern Territory			Australia	Northern Territory			Australia
	Indigenous	Non-Indigenous	Total		Indigenous	Non-Indigenous	Total	
0-4	7 580	10 612	18 193	1 289 662	8 807	14 432	23 238	1 434 882
5-9	7 103	9 921	17 024	1 319 112	8 394	12 849	21 243	1 447 222
10-14	7 007	9 422	16 428	1 389 648	7 855	11 409	19 264	1 455 809
15-19	6 511	9 192	15 703	1 453 600	7 570	10 602	18 172	1 517 546
20-24	6 017	11 830	17 847	1 488 868	7 458	14 387	21 845	1 614 122
25-29	5 498	12 538	18 035	1 423 465	6 909	16 881	23 790	1 668 329
30-34	5 052	12 733	17 784	1 427 380	6 676	17 293	23 970	1 707 360
35-39	4 779	13 198	17 977	1 527 792	6 042	16 621	22 664	1 708 777
40-44	3 740	12 441	16 181	1 494 533	5 417	15 373	20 790	1 660 168
45-49	3 135	12 023	15 158	1 506 081	4 769	13 863	18 632	1 555 927
50-54	2 268	10 344	12 611	1 361 098	4 201	12 608	16 809	1 502 432
55-59	1 749	8 324	10 074	1 273 062	3 771	10 826	14 597	1 514 469
60-64	1 106	5 374	6 480	1 054 947	2 728	8 116	10 844	1 428 815
65-69	861	3 333	4 194	810 656	2 019	6 258	8 276	1 378 230
70-74	481	1 872	2 353	646 852	1 197	4 439	5 636	1 188 061
75-79	293	1 282	1 575	551 907	703	3 200	3 904	1 014 477
80-84	179	703	882	415 570	317	1 932	2 249	719 529
85+	140	510	650	372 646	249	1 493	1 742	709 220

Note: These projections are not formally endorsed by the Northern Territory Government.
Source: NTG-CDU population projections 2007-2027.