

CHAPTER 3

HOUSING AND ENVIRONMENTAL HEALTH

INTRODUCTION

This Chapter focuses on the role the physical environment plays in the health of individuals and communities. For this purpose, the physical environment is defined as housing and health-related essential infrastructure, including the supply of electricity, safe drinking water and sewage removal. This group of topics are also collectively referred to as 'health hardware' (Commonwealth Department of Family and Community Services (FaCS) 1999, Territory Health Services (THS) 1999).

Not all Aboriginal and Torres Strait Islander persons, particularly those living in more remote areas, have access to the same basic level of housing and essential infrastructure, such as the supply of power and safe drinking water, and effective sewerage systems, that is generally taken for granted by the majority of the Australian population. A large body of international research supports the relationship between inadequate housing and essential infrastructure, and poor health outcomes, both historically, and within the Australian Indigenous context (Baillie & Runcie 2001; House of Representatives Standing Committee on Family and Community Affairs 2000; Commonwealth Grants Commission (CGC) 2001). The absence of functioning health hardware can result in a variety of infectious and parasitic diseases, including skin infections and infestations, eye and ear infections, respiratory infections, diarrhoeal diseases and rheumatic fever (FaCS 1999; Menzies School of Health Research 2000). There are also links between housing and essential infrastructure and other aspects of well-being, including mental health and so called 'lifestyle diseases', such as diabetes (Menzies School of Health Research 2000).

This Chapter describes the health hardware available to the Aboriginal and Torres Strait Islander population, in relation to tenure, accommodation adequacy (persons per dwelling), affordability, dwelling condition and essential infrastructure. Related information on access to housing services is provided in Chapter 4, and Chapter 11 outlines recent developments in the coordination of Indigenous housing and environmental health information. Data in this Chapter are drawn largely from the 2001 Census and the 2001 Community Housing and Infrastructure Needs Survey (CHINS). Box 3.1 provides a more detailed description of the CHINS, which collected information from all discrete Indigenous communities in Australia.

For the purpose of analysing Census information in this publication, households are separated into those containing at least one Indigenous person, and Other households. 'Households with Indigenous person(s)' include households in occupied private dwellings with at least one resident who has been identified as Indigenous, and who was enumerated at home on Census night. The other residents of the household may have been identified as Indigenous, non-Indigenous, or have Indigenous status unknown. Other households include households in occupied private dwellings where no resident was identified as Indigenous on Census night.

3.1 COMMUNITY HOUSING AND INFRASTRUCTURE NEEDS SURVEY (CHINS) — 2001

Background

The 2001 Community Housing and Infrastructure Needs Survey (CHINS) was the second CHINS to be conducted by the Australian Bureau of Statistics (ABS) on behalf of, and with funding from, the Aboriginal and Torres Strait Islander Commission (ATSIC). In common with the first CHINS conducted in 1999, the 2001 survey sought to collect data about all Aboriginal and Torres Strait Islander housing organisations and discrete Aboriginal and Torres Strait Islander communities in Australia. The CHINS is intended to assist in the evaluation of policies and programs designed to improve housing and infrastructure services for Aboriginal and Torres Strait Islander peoples living in both discrete communities and in other housing managed by Indigenous organisations.

The survey was conducted throughout Australia and collected details of the housing stock, management practices and financial arrangements of organisations that provided housing to Aboriginal and Torres Strait Islander peoples. Other information collected related to housing and infrastructure services such as water, electricity and sewerage systems, and the extent of community access to facilities such as education and health services.

Data quality issues

One of the principal information requirements of the 2001 CHINS was to provide information that could be used to assess changes since the 1999 CHINS in the housing situation in the Indigenous community housing sector as well as in the infrastructure in discrete Indigenous communities. Therefore, the 2001 CHINS content was kept as close as possible to the 1999 CHINS, with only minor changes which arose from the evaluation of the 1999 survey.

While comparisons of aggregate data between the two CHINS are considered to be satisfactory at a broad level of geography (including most ATSIC regions) to support the principal information requirements of the CHINS, the 2001 input validation processes revealed a degree of misunderstanding by respondents in the 1999 CHINS, or in the 2001 CHINS, or both, regarding the meaning of some items and response categories. Where identified, these misunderstandings were corrected in the 2001 data. Therefore, caution should be exercised in making comparisons for CHINS items at a fine level of geographic detail, or when only small numbers of discrete Indigenous communities or Indigenous Housing Organisations are involved.

Data quality issues are presented in more detail along with the summary results from the 2001 CHINS, in (ABS 2002d). Results of the 1999 CHINS are provided in (ABS 2000).

HOUSING

Homelessness Aboriginal and Torres Strait Islander peoples generally do not have the same levels of access to affordable, secure housing as non-Indigenous Australians. The higher levels of mobility resulting from the need for many Indigenous persons to leave their home to access services, or to observe cultural obligations, coupled with the absence of adequate temporary accommodation contribute to homelessness for Indigenous Australians (FaCS 1998).

Homelessness for Aboriginal and Torres Strait Islander peoples needs to be viewed in the context of the broader socioeconomic and health status of Indigenous Australians. However, the concept of homelessness is to some extent subjective, and depends on the prevailing community standards (Chamberlain 1999), and to date there has been no agreement on a single definition of homelessness. Measuring the extent of homelessness among Aboriginal and Torres Strait Islander peoples depends on both the definition used and the quality of the data collected about homeless people.

Although further work is required to refine concepts of homelessness for use within an Indigenous context, the Supported Accommodation Assistance Program (SAAP) National Coordination and Development Committee (CAD) recently agreed on a working model based on prevailing Australian community standards that encompasses three levels of homelessness:

- 'sleeping rough', for those people without shelter (primary homelessness)
- 'stop gap accommodation', for those in crisis but temporarily sheltered (secondary homelessness)
- 'marginal accommodation', for those in insecure accommodation (tertiary homelessness) (AIHW 2001a).

One measure of homelessness can be obtained from ABS Census of Population and Housing data which records people as living in 'improvised dwellings', a category which includes sheds, tents, humpies, caravans located in roadside parking areas and people sleeping on park benches or in other 'rough' accommodation (ABS 2001d). It should be noted that Census data are likely to underestimate the number of people without adequate housing because people staying with friends or relatives, or in shelters are not counted as 'homeless'. On the night of the 2001 Census, there were 7,782 households in improvised dwellings, of which 19% were households with Indigenous person(s).

The Census also provides other information that can, to some extent, be used to measure homelessness, such as people staying in boarding houses and using SAAP services (secondary homelessness) and persons staying with other families (tertiary homelessness). Research is currently being undertaken by recipients of Australian Census Analytic Program awards to provide further analysis of homelessness, using the wider range of data available from the 2001 Census. Use of SAAP services by Indigenous clients is examined in further detail in Chapter 5.

Homelessness *continued*

The 2001 CHINS used slightly different dwelling definitions than these used in the Census (see Glossary), and identified a total of 1,882 'occupied temporary dwellings', including caravans, tin sheds without dividing walls, 'humpies', 'dongas' and other makeshift shelters, within discrete Indigenous communities. These temporary dwellings were occupied by 5% of the usual population of discrete Indigenous communities. Almost all (91%) of the 5,602 people living in temporary dwellings in 2001 CHINS were reported as being in need of permanent housing (ABS 2002d).

Accommodation adequacy

Results from the 2001 Census show that households with Aboriginal and Torres Strait Islander person(s) are larger, on average, than Other households. The disparity increases with remoteness, with the average size of households with Indigenous person(s) increasing from 3.2 persons per household in Major Cities, to 5.3 persons per household in Very Remote Australia. By comparison, the size of Other households remains relatively constant across the geographic categories (table 3.2).

3.2 AVERAGE HOUSEHOLD SIZE, BY REMOTENESS(a) — 2001

	<i>Households with Indigenous person(s)</i>		<i>Other households</i>	
	<i>Dwellings</i>	<i>Average persons per dwelling</i>	<i>Dwellings</i>	<i>Average persons per dwelling</i>
Major Cities	54 916	3.2	4 550 931	2.6
Inner Regional	33 347	3.3	1 409 792	2.5
Outer Regional	32 756	3.4	689 503	2.5
Remote	10 193	3.6	100 839	2.5
Very Remote	13 520	5.3	32 434	2.5
Total	144 732	3.5	6 783 499	2.6

(a) Based on usual residence. Excludes non-private dwellings and visitor households. See Glossary for definition of households with Indigenous person(s) and Other households.

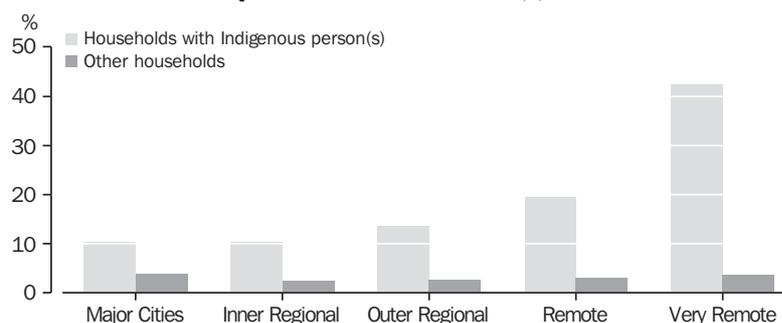
Source: ABS data available on request, 2001 Census of Population and Housing.

Inadequate accommodation remains a key health issue for some Aboriginal and Torres Strait Islander peoples. Crowded living conditions increase the risk of the spread of infectious diseases such as meningococcal disease, rheumatic fever, tuberculosis and respiratory infections (Waters 2001 in ABS & AIHW 2001).

Although there is no universally accepted definition of what constitutes adequate accommodation, data presented below use the Canadian National Occupancy Standard (see Glossary). This standard specifies who should reasonably be expected to share bedrooms, dependent on age and sex. Based on this definition, 15% of households with Indigenous person(s) were considered to be living in dwellings requiring at least one additional bedroom, compared to 4% of Other households.

The likelihood of needing additional bedrooms increased with remoteness for households with Indigenous person(s). In Major Cities, 11% of all households with Indigenous person(s) require at least one extra bedroom, compared with 42% of households with Indigenous person(s) in Very Remote Australia. The likelihood of needing additional bedrooms for Other households varied only slightly with the level of remoteness, fluctuating between 3% to 4% (graph 3.3).

3.3 HOUSEHOLDS REQUIRING AN EXTRA BEDROOM(a) — 2001



(a) In occupied private dwellings. See Glossary for definition of households with Indigenous person(s) and Other households.

Source: ABS data available on request, 2001 Census of Population and Housing.

Housing tenure

Home ownership provides the most secure housing tenure and is a common goal for many Australians. The 2001 Census results show that households with Indigenous person(s) were less likely than Other households to be in homes owned or being purchased by household members (graph 3.4).

3.4 HOUSEHOLDS, BY TENURE TYPE(a)(b) — 2001



(a) Households living in occupied private dwellings.

(b) Excludes those households where tenure was not known. See Glossary for definition of households with Indigenous person(s) and Other households.

Source: ABS data available on request, 2001 Census of Population and Housing.

Households with Indigenous person(s) were over twice as likely as Other households to be living in rental accommodation (63% compared with 27%). Among those renting their dwellings, 43% of households with Indigenous person(s) were renting privately, 32% were renting from a government agency and 17% were renting from community/cooperative housing agencies. The majority (73%) of Other households were rented privately.

The proportion of households with Indigenous person(s) that were renting increased with geographic remoteness, from 60% in Major Cities to 84% in Very Remote areas. The inverse was true for owner/purchaser households. The small proportion of owner/purchaser households in Very Remote areas (8%) reflects in part the types of tenure available on traditional Aboriginal and Torres Strait Islander lands.

Housing tenure *continued* The 2001 CHINS reported a total of 16,960 permanent dwellings located in 1,216 discrete Indigenous communities, an increase of 5% since the 1999 survey. Those permanent dwellings which were managed by Indigenous Housing Organisations (IHOs) and rented to tenants accounted for 90% of all permanent dwellings located in discrete communities, with the remainder being government owned and managed, privately owned, or owned by other organisations (ABS 2002d).

Housing affordability The cost of securing accommodation varies, in part, according to tenure type. The lowest housing costs are likely to be experienced by people owning their homes outright. In 2001, only 13% of households with Indigenous person(s) owned their home outright, compared with 40% of Other households. The following analysis of housing affordability focuses on households that are either renting their home or making housing loan payments.

In 2001, for households with Indigenous person(s) that were renting, the median weekly rent being paid was \$100, or two-thirds the median weekly rent being paid by Other households. In part, the lower rents paid, on average, by households with Indigenous person(s) reflects the greater proportion of such households in remote areas of Australia where rents are lower. The lower average rents also reflect the lower proportion of such households in the private rental market. For households with Indigenous person(s) the median monthly housing loan repayment was \$767, compared with \$867 for Other households. Again, the higher repayments for Other households reflects, in part, the higher proportion of these households in less remote areas where loan repayments are higher.

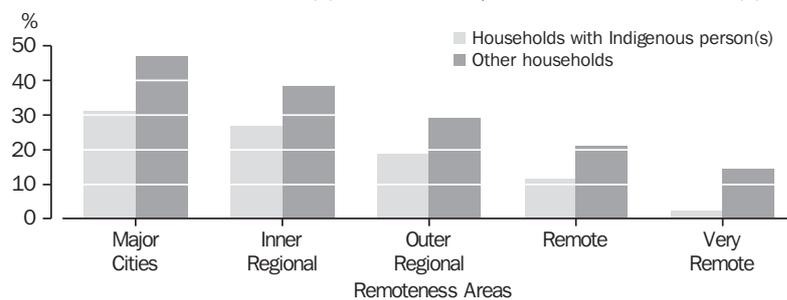
Housing affordability also takes into account income capacity to meet housing costs. Housing-related financial stress results when housing costs are high relative to household income. When a high proportion of income is needed to secure housing, the ability to purchase other essential goods or services is reduced. Analysis of housing affordability therefore generally focuses on lower income households, defined here as those people with equivalised household weekly incomes in the lowest 40% of all such household incomes in Australia (see Chapter 2 for a discussion of equivalised incomes). Housing-related stress (affordability problem) in this analysis is defined as housing costs in excess of 30% of gross household income.

At the 2001 Census, among residents that were renting, 80% of households with Indigenous person(s) were lower income households, compared to 54% of Other households.

However, lower income households with Indigenous person(s) were less likely to be experiencing 'housing-related financial stress' (19%) than were lower income Other households (43%). This difference, in part, reflects the relatively greater proportion of Other households (64%) renting in Major Cities, where rent costs are higher, than were households with Indigenous person(s) (28%). Similarly, very few Other households (less than 1%) were renting in Very Remote areas where rents are much lower than in other areas, compared with 22% of households with Indigenous person(s). The difference will also reflect, in part, the higher average size of households with Indigenous person(s), where the gross incomes of these households available to pay rent are boosted by the greater numbers of people receiving incomes in these households.

For lower income households with Indigenous person(s) reporting housing costs to be greater than 30% of income, the proportion was higher in Major Cities (31%) than in Remote and Very Remote areas, reflecting in part the greater availability of low cost accommodation in remote areas through Indigenous housing organisations. For other households there was a similar pattern of declining housing affordability problems as remoteness increased, declining from 47% of such households in Major Cities reporting housing costs above 30% of income, to 14% in Very Remote areas (graph 3.5).

3.5 HOUSING AFFORDABILITY(a) FOR RENTERS, Lower income households(b)



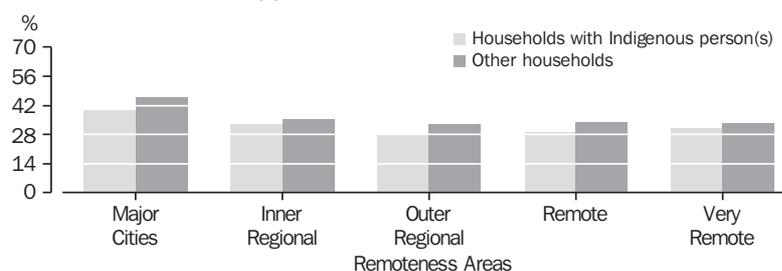
(a) Households in which residents were paying more than 30% of gross household income in rent payments.

(b) Households in the lowest or second income quintiles.

Source: ABS data available on request, 2001 Census of Population and Housing.

Among the residents of the 19% of households with Indigenous person(s) that were making housing loan repayments, 43% were in the bottom 40% of equivalised gross household incomes, compared with 29% of residents in Other households making housing loan repayments. Among these lower income households, 34% of those with Indigenous person(s) reported mortgage payments greater than 30% of their gross household incomes, compared with 41% for other households. The proportion of mortgage households in such housing affordability problems declined with increasing geographic remoteness.

3.6 HOUSING AFFORDABILITY (a) FOR HOME PURCHASERS,
Lower income households (b)



(a) Households in which residents were paying more than 30% of gross household income on loan repayments.

(b) Households in the lowest or second income quintiles.

Source: ABS data available on request, 2001 Census of Population and Housing.

While in both renter and mortgagor households the proportion of residents experiencing housing affordability problems was lower in households with Indigenous persons, average measures of housing affordability across the Indigenous and non-Indigenous populations will reflect the much higher proportion of full home ownership in the non-Indigenous population. When all full ownership, renter and mortgagor households are considered, 13% of residents in households with Indigenous person(s) are considered to be experiencing housing affordability problems, compared with 9% of residents in Other households.

Dwelling condition

While rents and mortgage repayments may be lower on average for households with Indigenous person(s), a key consideration is the standard of accommodation obtained, compared to housing payments made. Results from the 1999 Australian Housing Survey (AHS) (conducted in non-remote areas) show that Indigenous households (see Glossary for definition) were almost three times more likely than non-Indigenous households to report their homes to be in high need of repair (19% to 7% respectively) and a higher proportion of non-Indigenous households reported no need for repair (44% to 34% respectively) (ABS & AIHW 2001).

In the 2001 CHINS, 21,287 dwellings were identified as permanent dwellings, managed by Indigenous Housing Organisations (IHOs). The majority (70%) of these dwellings were located in Remote or Very Remote areas of Australia, of which 2,914 dwellings (19%) required major repair, and 1,461 (10%) required replacement (table 3.7). Housing condition has improved slightly since the 1999 survey, with the proportion of IHO managed permanent dwellings requiring major repair or replacement decreasing from 33% to 31% over that time (ABS 2002d).

3.7 CONDITION OF PERMANENT DWELLINGS(a), BY REMOTENESS — 2001

	<i>Minor or no repair</i>		<i>Major repairs</i>		<i>Replacement</i>		<i>Total(b)</i>	
	<i>no.</i>	<i>%</i>	<i>no.</i>	<i>%</i>	<i>no.</i>	<i>%</i>	<i>no.</i>	<i>%</i>
Major Cities	678	82.9	107	13.1	33	4.0	818	100.0
Inner Regional	1 417	77.5	370	20.2	41	2.2	1 828	100.0
Outer Regional	2 761	75.7	633	17.3	255	7.0	3 649	100.0
Remote	1 720	64.7	702	26.4	236	8.9	2 658	100.0
Very Remote	8 414	68.2	2 212	17.9	1 225	9.9	12 334	100.0
Australia	14 990	70.4	4 024	18.9	1 790	8.4	21 287	100.0

(a) All permanent dwellings managed by Indigenous housing organisations.

(b) Includes 'dwelling condition' not stated.

Source: ABS data available on request, 2001 Community Housing and Infrastructure Needs Survey.

INFRASTRUCTURE

This section presents information from the 2001 CHINS on the health hardware (infrastructure) in discrete Indigenous communities in Australia. About a quarter of the Aboriginal and Torres Strait Islander population live in such communities.

Community size A total of 1,216 discrete Indigenous communities were enumerated in the 2001 CHINS. Of these, 1,030 (85%) were located in Very Remote regions of Australia, with only five communities being located in Major Cities (table 3.8).

3.8 COMMUNITY SIZE, BY REMOTENESS — 2001

	<i>Communities with a population of</i>					<i>All communities</i>	<i>Reported usual population</i>
	<i>Less than 20</i>	<i>20 to 49</i>	<i>50 to 99</i>	<i>100 to 199</i>	<i>200 or more</i>		
Major Cities	—	—	1	3	1	5	645
Inner Regional	—	1	7	5	6	19	2 776
Outer Regional	6	8	13	12	14	53	11 838
Remote	33	36	17	9	14	109	12 146
Very Remote	577	228	64	51	110	1 030	80 680
Australia	616	273	102	80	145	1 216	108 085

Source: ABS 2002d.

The size and duration of temporary increases in a community's population can create stress on the infrastructure which is required to support visitors in addition to the usual population. Nearly three-quarters (73%) of discrete Indigenous communities with a usual population of 50 or more reported that, for a period of two weeks or more in the 12 months prior to the 2001 CHINS, and for a variety of reasons, the number of people staying in the community increased. The most common factors contributing to population increases were cultural reasons (71%), visitors over holiday periods (45%) and sporting/recreational events (33%). In 20% of the communities reporting a population increase sustained for two weeks or more, the number of visitors was at about, or more than, the size of the usual population of the community (ABS 2002d).

3.9 FIXING HOUSES FOR BETTER HEALTH (FHBH) PROJECTS

FaCS is funding Fixing Houses for Better Health 2 (FHBH2) projects to assess and fix 1500 houses in remote Indigenous communities over three years. FHBH2 projects improve the function of health hardware such as electrical fittings, taps, showers and drainage. Local Indigenous community members are trained in basic maintenance and cyclical maintenance systems are established. As part of the projects detailed data will be collected about the condition of Indigenous housing.

In July 2002, FHBH projects commenced in eleven remote Indigenous communities across Western Australia (5), the Northern Territory (3) and the Torres Strait region in Queensland (3). By May 2003, all projects had completed an initial survey of maintenance requirements and maintenance was undertaken (survey/fix 1), capital works were in progress in ten projects and survey/fix 2 had been completed in one project.

In the first survey/fix, a total of 1,826 plumbing and 968 electrical trade items were fixed out of 4,186 items checked and reported. Ninety six Indigenous people were employed on the projects and received training in the survey/fix process and basic maintenance.

Funds are used to employ Indigenous community members (around 80 per cent of survey/fix team are Indigenous people), electricians, plumbers and architects, to perform fix work and purchase health hardware and toolkits, and cover administration costs.

Results from survey/fix 1 show that:

- 66% of houses had power, water and waste systems connected
- 62% of houses had safe gas installation
- 11% had safe electrical systems
- 9% were structurally safe
- 51% had a working flush toilet
- 13% had all drains working
- 3% of houses enabled residents to store, prepare and cook food.

Ongoing cyclical maintenance will be put in place in communities through a project called Maintaining Houses for Better Health, which employs and trains local people to continually assess and repair critical health hardware. Community capacity building occurs through the transfer of skills in cyclical maintenance, contracting and overseeing trades work, ordering supplies and recording maintenance work on survey sheets.

Source: Indigenous Policy Unit, North Australia Office, Commonwealth Department of Family and Community Services.

Water supply Access to a reliable supply of clean water is a necessity for healthy living practices at an individual and community level. An adequate supply should meet domestic needs for drinking, food preparation, bathing and personal hygiene. Inadequate access to clean water can lead to serious illness and long-term health consequences. The most common and widespread health risks associated with drinking water result from the presence of micro-organisms, which can cause disease such as gastroenteritis, diarrhoea, hepatitis, and typhoid fever (ABS & AIHW 2001). For an Indigenous community, an adequate water supply may allow for dust suppression and the cultivation of local produce, which in turn will indirectly affect health outcomes (Bailie et al. 2002).

In the 2001 CHINS, bore water was reported as the main source of drinking water for 784 discrete Indigenous communities, representing 62% of the total population of discrete Indigenous communities. Communities with a usual population of 50 or more were more likely to be connected to a town supply (34%) than were smaller communities (8%). Town water was the main source of drinking water for 186 (15%) Indigenous communities, or 17% of the total population of discrete Indigenous communities (table 3.10).

More than one in three communities (35%) with a usual population of 50 or more experienced water restrictions in the 12 months prior to the 2001 CHINS. Equipment breakdown was a contributing factor for the majority (61%) of communities with water restrictions. This was more commonly reported than climatic reasons, such as normal dry season shortages (18%) or drought (5%). While the overall proportion of communities reporting water restrictions in 2001 was the same as in the 1999 survey, the proportion of people affected by these restrictions has increased from 35% to 42% since 1999 (ABS 2002d).

3.10 MAIN SOURCE OF DRINKING WATER, ALL COMMUNITIES — 2001

	Communities with a population of					Total	Reported usual population
	Less than 20	20 to 49	50 to 99	100 to 199	200 or more		
Main source of drinking water							
Connected to town supply	35	40	41	36	34	186	18 134
Bore water	426	188	53	33	84	754	66 531
Rain water tank(s)	27	10	5	4	7	53	4 017
River or reservoir	54	19	2	6	18	99	17 580
Well or spring	33	14	1	1	2	51	1 535
Other organised water supply	21	1	—	—	—	22	198
All communities with an organised drinking water supply	596	272	102	80	145	1 195	107 995
No organised water supply	20	1	—	—	—	21	90
All communities	616	273	102	80	145	1 216	108 085

Source: ABS 2002d.

Water supply *continued*

Water testing and water treatment are essential to ensure that water is free from micro-organisms hazardous to human health. Information on water treatment and testing was collected from 213 of the 216 Indigenous communities with a usual population of 50 or more which were not connected to a town water supply for their main source of drinking water. A fifth (20%) of these communities, representing 8% of the population of such communities, had drinking water that was not tested in the 12 months prior to the 2001 CHINS, and over a quarter (26%) of communities (22% of the population) had drinking water supplies that failed testing at least once in the 12 months prior to CHINS (table 3.11).

3.11 DRINKING WATER TESTING(a), COMMUNITIES NOT CONNECTED TO A TOWN WATER SUPPLY(b)

	2001				1999		
	Communities with a population of			Total	Reported usual population	Total	Reported usual population
	50 to 99	100 to 199	200 or more				
Drinking water sent away for testing							
Drinking water failed testing	14	14	28	56	17 028	58	25 322
Drinking water did not fail testing	20	19	71	110	52 144	100	36 918
All communities with drinking water sent away for testing(c)	34	34	101	169	70 542	169	65 829
Drinking water not sent away for testing	25	9	9	43	6 245	64	11 435
All communities(d)	59	43	111	213	78 087	233	77 264

(a) In the 12 months prior to the survey.

(b) Communities with a population of 50 or more.

(c) Includes 'Whether drinking water failed testing' not stated.

(d) Includes 'Whether drinking water sent away for testing' not stated.

Source: ABS 2002d.

Sewerage systems and drainage

Functioning sewerage systems provide a vital basis for the health of a community, decreasing the risk of various infectious and parasitic diseases, such as gastro-enteritis, hepatitis A, and strongyloidiasis (Bailie et al. 2002). In the 2001 CHINS, 7% of discrete Indigenous communities, representing 1% of the total reported population of all such communities, reported having no organised sewerage system. Septic tanks with a leach drain were the most common type of sewerage system in discrete Indigenous communities, being the main system used by almost half (49%) of all communities (representing 20% of the population in all communities). Community water-borne systems were used in communities representing 47% of the population of all communities, and were more common in larger communities (in 47% of communities with a usual population of 200 or more) (ABS 2002d).

Sewerage systems and
drainage *continued*

Sewerage system overflows or leakages in the 12 months prior to the 2001 CHINS occurred in just under half (48%) of the 327 Indigenous communities with a usual population of 50 or more, a decrease from 59% of communities in 1999. The main causes of reported overflows or leakages were blocked drains (51%), equipment failure (33%) and design or installation problems (28%) (ABS 2002d).

Communities with a population of 50 or more were asked whether areas within the community had been affected by ponding in the previous 12 month period. Ponding refers to areas where large pools of stagnant water collect and remain for more than a week. A major health risk associated with ponding is the increased risk of vector-borne diseases (i.e. diseases spread by insects, such as mosquitoes). Restriction of access and contamination by sewage are other important issues associated with ponding.

In the year prior to the conduct of the 2001 CHINS, ponding occurred in 137 (42%) communities with a usual population of 50 or more. For 46% of those communities, ponding occurred more than five times over that year, and 39% of communities experiencing ponding reported the longest duration to be 12 weeks or more (ABS 2002d).

Flooding also creates health-related problems through the disruption of essential health services, destruction of infrastructure and personal property, and possible drowning (Bailie et al. 2002). Flooding is defined as instances where water courses overflow and inundate either part or all sections of the community. Flooding occurred in 31% of discrete Indigenous communities with a usual population of 50 or more, affecting 3% of the permanent dwellings in communities of this size. Slightly over a third (35%) of communities affected by flooding reported that the longest period of flooding had lasted less than a week. However, 24% of communities affected by flooding reported that the longest period of flooding had lasted for four weeks or more (ABS 2002d).

Electricity

Adequate electricity supply is required for functioning of health-related infrastructure at both a household and community level. Temporary alternative sources of power can prove costly (e.g. generator fuel costs) and potentially injurious to health (e.g. open fires) (Bailie et al. 2002). No organised electricity supply was reported for 7% of communities in the 2001 CHINS, representing 0.6% of the total reported population of those communities (ABS 2002d).

Community or domestic generators were the main source of electricity reported for just over half (53%) of Indigenous communities, or 61% of the reported usual population of all Indigenous communities. Communities with a usual population of 50 or more were more likely to be connected to the state grid or a transmitted supply (46%) than were smaller communities (12%). The state grid or a transmitted supply was the main source of electricity for 260 Indigenous communities (21%), representing 34% of the total reported population of all discrete Indigenous communities in the 2001 CHINS (ABS 2002d).

Electricity <i>continued</i>	<p>Interruptions to the electricity supply in the 12 months prior to the 2001 CHINS occurred in 82% of the 327 discrete Indigenous communities with a usual population of 50 or more. While 37% of affected communities experienced less than five electricity interruptions, 20% reported experiencing 20 or more interruptions to the electricity supply in the year prior to the survey, a similar level to that reported in 1999. The main reasons reported for these interruptions were storms, equipment breakdown and planned outages for maintenance (ABS 2002d).</p>
Rubbish collection and disposal	<p>Adequate rubbish collection and disposal are important factors in preventing chemical and food poisoning, and infectious diseases spread by vermin and insects (Bailie et al. 2002). Organised rubbish collection was carried out in 94% of the 327 discrete Indigenous communities with a usual population of 50 or more. Rubbish was collected at least weekly in 97% of those communities with organised rubbish collection (309 communities). Some form of organised rubbish disposal was reported for all communities with a population of 50 or more, and 96% of discrete Indigenous communities overall. For the majority of all communities, however, rubbish disposal was in an unfenced community tip (53%) (ABS 2002d).</p>
Environmental health workers	<p>Environmental health workers play an important role in creating and maintaining health hardware in Indigenous communities. An environmental health worker is usually an Indigenous person from within the community whose roles include inspection of community infrastructure, reporting any environmental concerns to relevant government authorities, and taking an active role in the maintenance of the community infrastructure (e.g. rubbish collection, dog control).</p> <p>In the 2001 CHINS, one-third (33%) of discrete Indigenous communities with a usual population of 50 or more had environmental health workers working or training in the community. Two-thirds (67%) of discrete Indigenous communities with a usual population of 50 or more in Western Australia had existing, or training environmental health workers, compared to 8% in South Australia (table 3.12). The most common activities undertaken by environmental health workers were rubbish disposal and dog and/or pest control (ABS 2002d).</p>

3.12 ENVIRONMENTAL HEALTH WORKERS(a) — 2001

	<i>Communities with environmental health workers</i>			<i>No environmental health worker(s)</i>	<i>All communities(b)</i>
	<i>Working</i>	<i>Training</i>	<i>Total</i>		
New South Wales	5	—	5	44	49
Queensland	14	6	20	21	44
South Australia	2	—	2	24	26
Western Australia	48	6	54	27	81
Northern Territory	22	4	26	98	124
Australia(c)	91	17	108	216	327

(a) Communities with a population of 50 or more.

(b) Includes 'Whether environmental health worker(s) working or training in the community' not stated.

(c) Victoria and Tasmania included in Australia for confidentiality reasons.

Source: ABS 2002d.

Information from the 2001 CHINS regarding access to other health professionals is presented in Chapter 4.

SUMMARY

3.13 SELECTED HOUSING INDICATORS(a) — 2001

	<i>Units</i>	<i>Households with Indigenous person(s)</i>	<i>Other households</i>
Improvised dwellings(b)	%	1.0	0.1
Average household size (persons)	no.	3.6	2.6
Households requiring an extra bedroom(c)	%	15	3.7
Households renting(c)	%	63.5	26.6
Median weekly rent	\$	100	150
Households purchasing(c)	%	19.4	27.0
Median monthly housing loan repayment	\$	767	867
Households owning their dwelling(c)	%	12.6	40.4

(a) See Glossary for definition of households with Indigenous person(s) and Other households.

(b) Percentage of total dwellings.

(c) Percentage of total households.

Source: ABS data available on request, 2001 Census of Population and Housing.

A significant number of Aboriginal and Torres Strait Islander persons, particularly those in remote areas, are faced with a range of disadvantages in relation to housing. They are more likely to live in improvised dwellings, in dwellings with a greater number of persons, or in dwellings requiring an extra bedroom(s), and less likely to own their own homes (table 3.13). In discrete Indigenous communities, issues such as access to safe and reliable drinking water, adequate sewerage systems and drainage, electricity and rubbish collection impact on the ability of Indigenous persons to become, and stay healthy.

