

**Estimating Indigenous housing  
need for public funding allocation:  
a multi-measure approach**

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## Summary

This paper advocates a multi-measure approach to Indigenous housing need for the purposes of public funding allocation. It has been developed from three reports examining Indigenous housing need undertaken in 1998 and 1999. The first part of the paper elaborates on the context in which those reports were undertaken, including the concerns of Indigenous people in southern/urban areas that some dimensions of their needs were not being captured by earlier exercises emphasising bedroom need measures. It outlines our multi-measure approach intended to pick up on some of these other dimensions of housing need.

The second section of the paper reports on homelessness, overcrowding, and affordability need measures in different parts of Australia, as estimated from the 1996 Census. It finds that these measures do have very different geographic distributions, thus vindicating the concerns of southern/urban Indigenous people. This section also costs the homelessness, overcrowding and affordability measures of housing need for Indigenous Australians in different parts of Australia in comparable terms.

The third section of the paper examines the incidence of these three need measures across different housing tenures, from owning and buying to private, public and community rental. These too are costed in comparable terms. The fourth section of the paper compares Indigenous and non-Indigenous housing need according to the homelessness, overcrowding and affordability measures using data from the 1996 Census. The fifth section examines Indigenous housing need as measured from the 1991 and 1996 Censuses.

The final section of this paper reflects on some limits and limitations of allocating Indigenous housing funding according to need, even with a multi-measure approach. It notes several other dimensions of housing need in which we have not yet been able to estimate nationwide measures. It notes the policy paradox that some measures of need may go up, while others, through policy intervention, go down. Also it notes that the standards used in this needs analysis are drawn from non-Indigenous social circumstances and may not reflect the aspirations or values of all Indigenous Australians. Finally it notes that to fund always on the basis of need may, over time, be to penalise those who are doing best at addressing need and reward those who are not. Some countervailing principle of public funding allocation on the basis of 'capacity to deliver' may also be required.

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## **Introduction**

The idea that public expenditure on housing, or any other function, should be allocated between geographic areas or programs on the basis of need is common and unexceptional. Indeed it is difficult to see how one could take issue with such an idea. However, need is not a simple concept. It is, in many ways, both socially and culturally constructed, and relating it to the desirable allocation of public funds between different geographic areas or programs is no simple task.

These were the challenges which faced us in 1998 when we were asked by the Department of Social Security to provide an analysis of Indigenous housing need which might guide the allocation of public funds in Indigenous housing between States and Territories, and possibly also between intra-State regions and different housing programs. One of us had undertaken a previous analysis of Indigenous housing need based on 1991 Census data (Jones 1994), while another had written on some of the inadequacies of earlier attempts to measure Indigenous housing need (Sanders 1990, 1993).

The first part of this paper elaborates a little more on the policy context and describes the methods we used in making a multi-measure assessment of housing need among Indigenous Australians. The second part reports the distribution of the measures of need between different geographic parts of Australia and, in the light of this distribution, makes some further comments in defence of a multi-measure approach. The third part of the paper reports the distribution of each measure across the various housing tenures and makes some suggestions for what this may mean for the distribution of funds between programs. The fourth part of the paper makes some comparisons between levels of housing need among Indigenous and non-Indigenous Australians, while the fifth looks at changes in Indigenous housing need from 1991 to 1996. The sixth and final part of the paper contains some broader critical reflections on the limits and limitations of the idea of allocating public funds according to need in Indigenous housing.

## **Context and method**

The challenge of measuring Indigenous housing need for public funding allocation had many facets, which we argued to and fro in 1998. Should we attempt to derive some specifically Indigenous standards and measures of housing need? Should we try to distinguish between Indigenous people in different circumstances in different parts of the Australian continent and apply different standards and measures to each? We decided that these were untenable approaches. Despite differences both from non-Indigenous Australians and among themselves, Indigenous people would not, we believed, accept either being treated differently among themselves or being set apart from non-Indigenous Australians in any housing needs analysis. Our solution was to adopt an Australia-wide multi-measure approach to housing need. This took its standards of need from the circumstances of the dominant non-Indigenous community in

Australia. But it would look at several measures, in the anticipation that these might reveal different aspects of Indigenous housing need in different geographic circumstances.

Jones's (1994) Indigenous housing need analysis had already been based on a multi-measure approach, providing homelessness, overcrowding and affordability measures. However, allocating authorities had only taken up a combination of the homelessness and overcrowding measures. This was perhaps because only these measures, and not the affordability measure, could be directly costed using Jones's results. This time we decided that we would try to come up with more than just three measures and that we would also try to quantify the cost of meeting all of the measures estimated on some comparable basis. This required us to develop a way of measuring the depth of unmet affordability deficit.<sup>1</sup>

The combined homelessness and overcrowding measure taken up by allocating authorities as a result of Jones's earlier analysis showed that much Indigenous housing need was in rural and remote areas. This evoked some response from Indigenous people in urban areas who felt that their housing needs were not being captured by this measure.<sup>2</sup> Our improved, costable affordability measure was partly intended to pick up on this uncaptured housing need perceived by Indigenous people in urban areas. And, as we shall see later, it did indeed do just that.

What follows is a brief summary of estimates of Indigenous housing need which derive from three reports produced in 1998–99 (Jones, Neutze and Sanders 1998; Jones 1998, 1999). We initially identified four dimensions of housing need—adequacy, affordability, cultural appropriateness, and security of tenure—which could be applied to both Indigenous and non-Indigenous housing, Australia-wide. Adequacy was disaggregated into overcrowding, homelessness, services in the housing, and housing condition, giving seven dimensions in which need could be measured.

The methods and data required to derive estimates of these measures of need are discussed in Jones, Neutze and Sanders (1998). Jones (1998) uses the 1996 Census to develop experimental estimates of the measures of homelessness, overcrowding, affordability of all housing, and of the condition and services deficit of private rental housing. Jones (1998) also develops measures of services and stock condition of community housing using data from the 1992 Housing and Community Infrastructure Needs Survey (HCINS) and the 1997 Western Australian Environmental Health Needs Survey (WAEHNS), with supporting analyses from the 1994 National Aboriginal and Torres Strait Islander Survey (NATSIS). The recently completed Community Housing and Infrastructure Needs Survey (CHINS) is expected to provide much better and more comprehensive data on the service needs and condition of Indigenous community housing.

In this paper we focus discussion on just three dimensions of unmet need: homelessness, overcrowding, and affordability. Measures in these three dimensions were constructed from information available from the 1996 census,



which allowed comparability both across Australia and between Indigenous and non-Indigenous Australians.

The *homelessness* measures identified the needs of people living in improvised dwellings and people living in hostels for the homeless, night shelters, and refuges in the 1996 Census.<sup>3</sup> The need was measured as the capital cost of three and four bedroom houses, to be either purchased or constructed, and supplied to groups of homeless people in accordance with the following occupancy standards: one bedroom for each couple and for each single, non-dependent adult, with dependent children sharing bedrooms at a maximum of two per bedroom.<sup>4</sup>

The *overcrowding* measure compared numbers of people in private non-improvised dwellings with numbers of bedrooms according to the same occupancy standards outlined above.<sup>5</sup> The cost of meeting this overcrowding need was estimated as the capital cost of moving a household from its current dwelling to one that is large enough for it. We used Australian Valuation Office (AVO) data on the cost of houses of different size in different parts of Australia to calculate the additional estimated capital cost of an adequate dwelling compared with the household's current dwelling.<sup>6</sup>

The *affordability* measure looked at income left for housing after other basic needs had been met in accordance with the Henderson Poverty Line. Some households have no income left for housing after other basic needs have been met, and so their 'housing affordability deficit' equals the total cost of renting an adequate house in their location for their size of household. Others however, can afford to pay part of the cost of their housing, which leaves an affordability deficit equating to only part of the cost of renting an adequate house. The estimate includes only the affordability of a dwelling that is adequate for each household.<sup>7</sup>

This multi-measure approach to Indigenous housing need is in line with recent developments in the general measurement of housing need. The Australian Institute of Health and Welfare has recently developed an approach which measures both the financial (affordability) and non-financial (adequacy) aspects of housing need (AIHW 1995: 48–60). Our approach is congruent with and builds on this AIHW approach.

## **Needs in different parts of Australia**

### **Homelessness**

The estimates of need arising from homelessness are shown in Tables 1 and 2. Table 1 shows the number of bedrooms needed in different parts of Australia to provide homeless Indigenous families with adequate housing. The measure is given both as total bedroom need and as bedroom need per 100 family-households in the geographic areas concerned—a measure of the intensity or depth of need. The 5,799 additional bedrooms needed Australia-wide equates to 7.47 bedrooms per 100 Indigenous family-households. Most of these additional

bedrooms, 5,087, are needed in rural areas, where the need per 100 Indigenous family-households is 30.44 bedrooms, or four times the national average. In Northern Territory rural areas, where improvised dwellings are still quite common, the need arising from Indigenous family homelessness was 124.60 bedrooms per 100 Indigenous family-households, or 17 times the national average.

**Table 1. Bedrooms needed to house homeless Indigenous families by location, total number, and per 100 family-households<sup>a</sup>**

	Major urban	Other urban	Rural	All areas	Total b'room needs
New South Wales	0.07	0.11	3.09	0.55	140
Victoria	0.00	0.00	0.50	0.07	4
Queensland	0.00	2.52	15.71	4.57	964
South Australia	0.00	1.23	14.71	2.86	123
Western Australia	0.00	2.01	26.95	7.54	752
Tasmania	0.00	0.00	0.42	0.14	6
Northern Territory	0.00	10.57	124.60	63.48	3,810
ACT	0.00		0.00	0.00	0
Australia-wide	0.03	2.05	30.44	7.47	5,799
Total bedroom need	7	705	5,087	5,799	

Note: a. Households living in improvised dwellings are excluded from the denominator for these ratios.

Source: Jones (1999) Tables 2.2, 3.4.

Table 2 shows the number of bedrooms needed in different parts of Australia to house single adults who reported in the Census that they were living in temporary accommodation such as hostels and refuges. This is again given as total bedrooms needed and also as bedrooms needed per 100 Indigenous single adults living in lone-person or group housing in the geographic areas concerned. There were 1,218 additional bedrooms needed Australia-wide to house these single adult Indigenous people, which is a rate of 6.35 bedrooms per 100 single Indigenous adults. This need is much more evenly spread across urban and rural areas than the need arising from Indigenous family homelessness, shown in Table 1. However, the need in rural areas nationally per 100 single Indigenous adults (13.02) is still twice the overall national average, and that in Northern Territory rural areas (41.64) more than six times the national average.

**Table 2. Bedrooms needed to house homeless Indigenous single adults by location, total number, and per 100 Indigenous persons in group and lone-person households**

	Major urban	Other urban	Rural	All areas	Total b'room needs
New South Wales	4.84	3.52	3.02	4.13	274
Victoria	3.30	3.58	2.02	3.25	60
Queensland	4.32	4.93	9.81	5.46	273
South Australia	3.02	4.28	10.43	4.28	58
Western Australia	6.98	16.18	28.63	14.76	317
Tasmania	1.92	3.06	1.54	2.41	22
Northern Territory		10.01	41.64	19.92	194
ACT	6.73		0.00	6.54	20
Australia-wide	4.57	5.82	13.02	6.35	1,218
Total bedroom need	405	428	385	1,218	

Source: Jones (1999) Tables 2.3, 6.9, 6.10, 6.15.

### Overcrowding

Given the occupancy standard used, lone person households, cannot be overcrowded. There is no equivalent in this section, therefore, to the measures in Table 2 under homelessness. There are only measures relating to group and family Indigenous households. Table 3 shows numbers and percentages of these households in different parts of Australia which are overcrowded. A total of 14,858 or 17.8 per cent of Indigenous family and group households were overcrowded nationally, with a range from 64.0 per cent in Northern Territory rural areas to 5.6 per cent in Tasmanian urban areas. Of the national total, 3,385 (or 23%) of the overcrowded Indigenous households were in major urban areas, 6,264 (or 42%) were in other urban areas and 5,216 (or 35%) were in rural areas.

Table 4 shows the extent of this overcrowding in Indigenous family and group households in terms of additional bedrooms needed to satisfy the occupancy standard outlined above. An additional 28,580 bedrooms were needed Australia-wide, or 0.34 bedrooms per Indigenous family and group household. The range of additional bedrooms needed per Indigenous group and family household in different parts of Australia was from a high of 2.18 in rural areas of the Northern Territory to a low of 0.06 in the major urban areas of Tasmania. This measure shows major need in rural areas, with 13,452 or almost half of the additional bedrooms being needed in these areas. The rate of need in rural areas is also highest, at 0.78 additional bedrooms per Indigenous family or group household, or more than twice the national average of 0.34. However it is also notable that there is substantial need in urban areas. A total of 4,384 additional bedrooms are required in major urban areas, at a rate of 0.15 bedrooms per Indigenous family and group household, and 10,744 bedrooms are needed in

other urban areas, at a rate of 0.29 bedrooms per Indigenous family and group household.

**Table 3. Overcrowded family and group Indigenous households by location, total number, and percentage**

	Major urban	Other urban	Rural	All areas	Total o'crowded h'holds
New South Wales	10.7	12.5	16.1	12.3	3,425
Victoria	10.2	9.9	11.1	10.2	625
Queensland	12.7	21.4	27.7	19.9	4,537
South Australia	11.0	16.7	23.9	14.9	692
Western Australia	14.0	19.8	41.8	23.1	2,442
Tasmania	5.6	5.6	6.0	5.7	263
Northern Territory		29.5	64.0	45.1	2,815
ACT	6.5		21.3	7.3	66
Australia-wide	11.3	17.2	30.1	17.8	14,865
Total o'crowded h'holds	3,385	6,264	5,216	14,865	

Sources: Jones (1999) Tables 3.4, 3.5.

The last rows of Tables 1, 2 and 4 could be added together to give a measure of additional bedrooms needed against the adopted occupancy standard to overcome both overcrowding and homelessness. Comparing these rows it is evident that four times the additional bedrooms are required to overcome overcrowding as to overcome homelessness: 28,580 compared to 7,017.

**Table 4. Bedrooms needed to eliminate overcrowding by location, total number, and per Indigenous family and group household**

	Major urban	Other urban	Rural	All areas	Total b'room needs
New South Wales	0.13	0.17	0.22	0.16	4,492
Victoria	0.12	0.13	0.15	0.13	791
Queensland	0.17	0.37	0.61	0.36	8,108
South Australia	0.15	0.25	0.62	0.26	1,184
Western Australia	0.20	0.31	1.11	0.46	4,903
Tasmania	0.06	0.07	0.07	0.07	309
Northern Territory		0.75	2.18	1.40	8,715
ACT & Other Terrs <sup>a</sup>	0.08		0.25	0.09	78
Australia-wide	0.15	0.29	0.78	0.34	28,580
Total bedroom need	4,384	10,744	13,452	28,580	

Note: a. The Major Urban and Rural distribution is estimated from Jones (1999) Tables 4.4 and 4.5.

Source: Jones (1999) Tables 3.4, 4.1, 4.2.

## Affordability

Table 5 shows the affordability deficit measured in dollars per year per Indigenous household and in million dollars per year for all Indigenous households. The first notable feature of the estimates is that, compared with overcrowding and homelessness, the affordability deficit measure does show far greater urban levels of need. Only \$10.38m (or 15%) of the total affordability deficit of \$69.13m Australia-wide was in rural areas. Even on a per household basis, rural affordability need (\$538 per year nationally) was lower than major urban and other urban affordability need (\$745 and \$794 per year respectively). Among the States and Territories, the Northern Territory had the lowest affordability deficit per Indigenous household (\$484 per year) and the second lowest total affordability deficit for Indigenous households (\$3.30m, above Tasmania's \$2.60m). New South Wales (\$25.55m) and Queensland (\$19.38m), on the other hand, account together for nearly two-thirds of the total affordability deficit and also have the highest affordability deficits per Indigenous household (\$799 and \$754 per year respectively). These results are in stark contrast to those for overcrowding need. They justify the concerns of Indigenous people in urban areas who were worried about using only the combined measure of homelessness and overcrowding in the allocation of housing funds. They also vindicate more broadly the idea of a multi-measure approach, since if two measures can be so differently distributed, reliance on any one measure may be unwise.

**Table 5. Affordability deficit in \$ per year per Indigenous household, and \$m per year for all Indigenous households**

	Major Urban \$ per year	Other Urban \$ per year	Rural \$ per year	All areas \$ per year	Total \$m per year
New South Wales	767	890	628	799	25.55
Victoria	632	799	514	678	4.90
Queensland	782	806	590	754	19.38
South Australia	765	778	533	733	4.07
Western Australia	753	790	622	737	8.75
Tasmania	638	557	321	499	2.60
Northern Territory		579	363	484	3.30
ACT	555			526	0.57
Australia-wide	745	794	538	724	69.13
Total \$m per year	26.03	32.72	10.38	69.13	

Source: Jones (1999) Tables 3.1, 8.6.

## Costing measures to compare cumulative needs

While we adopted a multi-measure approach in the anticipation that it would indeed show different geographic distributions of different dimensions of housing need, we were aware also of the desire of the public authorities to bring measures together in some common or comparable way. Expressing all measures of need in

terms of the cost of overcoming the need provided the only way to make them comparable. Given that some of our measures were couched in capital cost and others in annual cost, either we had to capitalise the annual affordability deficit, or we had to annualise the capital cost of providing additional space to remove homelessness and overcrowding.

**Table 6. Geographic distribution of three costed measures of annual Indigenous housing need**

Cost of eliminating:	Homelessness \$m	Overcrowding \$m	Affordability deficit \$m	All 3 need measures \$m	All 3 per household \$	All 3 per person \$
<b>Major urban</b>						
New South Wales	0.60	5.39	10.50	16.49	1,212	407
Victoria	0.12	1.17	2.23	3.52	1,004	349
Queensland	0.26	3.42	6.66	10.33	1,218	389
South Australia	0.06	0.68	2.20	2.94	1,032	325
Western Australia	0.18	1.80	3.19	5.18	1,231	346
Tasmania	0.01	0.08	0.69	0.78	725	274
ACT	0.07	0.23	0.57	0.87	848	304
Australia-wide	1.30	12.77	26.03	40.10	1,154	375
<b>Other urban</b>						
New South Wales	0.34	7.27	12.11	19.72	1,457	439
Victoria	0.06	0.99	2.16	3.21	1,199	378
Queensland	1.22	10.27	9.61	21.09	1,777	468
South Australia	0.11	0.91	1.42	2.44	1,338	
Western Australia	0.46	3.68	3.81	7.96	1,660	416
Tasmania	0.03	0.24	1.40	1.67	663	247
Northern Territory	1.22	5.64	2.21	9.08	2,400	495
Australia-wide	3.44	29.00	32.72	65.16	1,590	437
<b>Rural</b>						
New South Wales	0.46	2.90	2.95	6.31	1,356	395
Victoria	0.03	0.37	0.51	0.91	929	316
Queensland	2.36	7.55	3.11	13.02	2,488	547
South Australia	0.28	0.88	0.46	1.62	1,874	333
Western Australia	2.11	6.59	1.75	10.46	3,740	627
Tasmania	0.02	0.16	0.52	0.70	433	164
Northern Territory	8.54	13.85	1.09	23.48	7,878	841

**Table 6 (continued)**

Australia-wide	13.80	32.30	10.38	56.48	2,954	586
All areas						
New South Wales	1.40	15.56	25.55	42.51	1,337	419
Victoria	0.21	2.53	4.90	7.64	1,067	356
Queensland	3.83	21.24	19.38	44.44	1,737	465
South Australia	0.44	2.48	4.08	6.99	1,264	342
Western Australia	2.76	12.08	8.75	23.59	2,000	465
Tasmania	0.06	0.47	2.60	3.13	602	226
Northern Territory	9.76	19.50	3.30	32.56	4,815	704
ACT	0.07	0.23	0.57	0.87	848	301
Australia-wide	18.54	74.08	69.13	161.74	1,705	459

Sources: Cols 1 & 2: Jones (1998) Tables 1.3, 2.2 annualised at 6 per cent;

Col. 3: Jones (1998) Table 5.4;

Cols 5 & 6: Column 4 and Jones (1999) Table 7.5; Australian Bureau of Statistics (ABS) (1998) Table 1.4.

We chose the latter course, using an assumption about the ratio between the capital value of a house (to relieve overcrowding or homelessness) and its rental (to reduce the affordability deficit). Such ratios can be observed in the housing market: private rents usually run around 6 to 7 per cent of capital value, depending on the anticipated rate of inflation and the rate of interest. In the low interest and inflation rate environment of the end of the twentieth century we added 6 per cent of the capital cost of providing additional bedrooms to the annual cost of removing the affordability deficit. Seven per cent would give a slightly higher weight to the overcrowding and homelessness parts of the measure.

Table 6 indicates that cumulative Indigenous housing need captured in our three measures was costed in absolute terms at \$161.74m per annum. Cost per annum to cater for these estimated needs was fairly evenly spread across urban and rural areas: \$56.48m in rural, \$65.16m in other urban, and \$40.10m in major urban areas. The spread across States and Territories was less even, ranging from \$44.44m for Queensland, \$42.51m for New South Wales, and \$32.56m for the Northern Territory, to \$3.13m for Tasmania and \$0.87m for the Australian Capital Territory.

If these absolute cost figures are converted to dollars per Indigenous household or person, differences between rural and urban areas become more marked, while those between the States and Territories become less so, the Northern Territory apart. Rural need is \$2,954 per household and \$586 per person, compared to major urban need of \$1,154 per household and \$375 per person, with the other urban category in between, but closer to major urban than to rural. New South Wales, Victoria, Queensland, South Australia and Western

Australia all have needs costed in the range of \$1,000–\$2,000 per household, or \$340–\$470 per capita, with the Australian Capital Territory and Tasmania having slightly lower need and the Northern Territory much higher need at \$4,815 per household and \$704 per capita.

A consideration of the component parts of this need costing, however, reinforces once again the value of a multi-measure approach. Of the total need of \$40.10m in major urban areas, \$26.03m (or 65%) comes from the affordability measure. In rural areas, by contrast, of the total need of \$56.48 m only \$10.38m (or 18%) comes from affordability and \$32.30m (or 57%) comes from overcrowding.

The multi-measure approach suggests that Indigenous housing needs of quite different kinds and magnitudes are found in different geographic areas. This vindicates the multi-measure approach and further suggests that component measures need to be debated, added to, and refined, and not just accepted as given.

### **Needs in different housing tenures**

Public expenditure on Indigenous housing is delivered through programs which are specific to particular tenures. The two programs whose funding allocations were in question in our research were the Aboriginal Rental Housing Program (ARHP), run by the Commonwealth housing portfolio in conjunction with the State and Territory housing authorities, and the Community Housing and Infrastructure Program (CHIP), run by the Aboriginal and Torres Strait Islander Commission in conjunction with community-based Indigenous housing organisations. In the past, funds from these programs have been primarily spent on the provision of new housing stock either in the community rental or public rental sectors, or on major renovations in the community rental sector. There are, however, other housing assistance programs available to Indigenous people in these and other tenures, the allocation of funds from which was not under question in our research. Thus Rent Assistance is available to people renting from private landlords and community housing organisations who are in receipt of social security payments, rent rebates are available to State and Territory housing tenants, and home purchase assistance and various tax and social security advantages are available to owner-occupiers (Neutze, Sanders, and Jones 1999).

Because housing program expenditure is directed to households and dwellings in particular types of tenure, it is important to have some idea of the extent of need in each tenure. This does not lead in any easy prescriptive way to suggestions about the funding of particular programs or tenures. But it does at least inform debate about the different 'tenure incidences' of need.

Because homeless people do not have a housing tenure—they could be housed in any tenure—they are not included in the first part of this analysis. Table 7 shows indicators of the intensity of the other two measures of need, overcrowding and affordability, in housing in each tenure class. The measures



again provide strikingly different assessments. Overcrowding is far more common and severe in community housing than in any other tenure, and is remarkably low in owner occupied and privately rented housing: nearly half the overcrowded dwellings are in the community sector and nearly half of its dwellings are overcrowded. The second most overcrowded tenure is the public rental sector, where about a fifth of dwellings are overcrowded.

The tenure incidence of affordability deficits is somewhat different. While over a third of community housing residents cannot afford their costs, the average deficit per dwelling is relatively low. One of the main reasons for the existence of community and public rental housing is to provide affordable housing for those who cannot afford to rent or buy in the private sector. It is perhaps surprising then to find that 42 per cent of public tenants cannot afford their rents. This result arises mainly because public rents are set as a percentage of income rather than at a level occupants can afford after paying their estimated non-housing living costs—which is the standard we have adopted.<sup>8</sup>

**Table 7. Measures of housing need in different tenures**

	Owned/ buying <sup>a</sup>	Private rental	Public rental	Community rental	Other	All tenures
Overcrowding						
Overcrowded (%)	7.68	14.42	19.07	47.86	22.84	17.76
Total bedroom needs	3,071	3,906	5,976	12,846	2,782	28,581
Bedroom needs per h'hold	0.11	0.18	0.30	1.37	0.44	0.34
Affordability						
Dwellings not affordable	2,445	7,724	9,409	3,694	1,324	24,596
Percentage of total	14.3	30.0	42.1	36.6	18.1	25.9
Afford. deficit \$pa/dwell.	488	1,028	1,078	721	403	729

Note: a. The affordability rows of this column apply only to buying households.

Sources: Overcrowding: Jones (1999) Tables 3.4, 3.5, 4.3.

Affordability: Jones (1999) Tables 3.3, 8.5, 8.6.

The three measures of housing need are costed and compared for each tenure in Table 8, in the same way as they are for different geographic areas in Table 6. In line with its high incidence and level of overcrowding, community rental housing dominates measures of the cost of removing overcrowding, accounting for about 45 per cent of the total. But community rental housing is responsible for only about a tenth of the affordability deficit, most of which comes almost equally from the public and private rental sectors. It follows that an examination of the rent rebate policies of the public sector and the rental allowances available to Indigenous people in the private rental sector appear to be priorities in dealing with affordability. Alleviation of overcrowding requires that more resources be devoted to, or used more effectively in, the provision and

maintenance of housing in the community rental sector. The three rental tenures—public, community and private—are roughly equal contributors to unmet Indigenous housing needs identified in our three costed measures, with much smaller contributions coming from homelessness and unmet needs among owners, buyers and households in other tenures.

**Table 8. Tenure distribution of three costed measures of annual Indigenous housing need**

Cost of eliminating:	Homeless- ness \$m	Over- crowding <sup>a</sup> \$m	Affordability deficit \$m	All 3 need measures \$m	All 3 per household <sup>b</sup> \$
Owner		4.53	0.0	4.53	370
Buyer		3.43	8.35	11.77	688
Private rental		10.12	26.48	36.69	1,421
Public rental		15.49	24.07	39.56	1,771
Community rental		33.30	7.29	40.59	4,016
Other tenures		7.21	2.95	10.16	1,391
Total	18.54	74.08	69.13	161.74	1,705

Notes: a. This column was estimated on the assumption of a uniform cost per additional bedroom.

b. Only the total row in these columns include the cost of dealing with homelessness. Without that cost the total need is \$143.21m per year and the average cost per household is \$1,510.

Sources: Jones (1999) Tables 4.3, 7.5, 8.6; Table 6, above.

## Non-Indigenous comparison

It will come as no surprise that Indigenous housing is more overcrowded than non-Indigenous housing. But the size of the differences may surprise. Table 9 shows that the proportion of overcrowded Indigenous households is nearly five times as great (17.8% compared to 3.8%), while the elimination of overcrowding in Indigenous housing requires nearly eight times as many additional bedrooms per 100 existing dwellings as in the non-Indigenous case (34.1 compared to 4.4). Using the same measure (additional bedrooms needed per 100 dwellings), non-Indigenous overcrowding is more common in the major urban areas than in other urban or rural areas (4.9 compared to 3.2 and 4.0). By contrast, the concentration of Indigenous overcrowding is in the rural areas: 77.5 additional bedrooms are needed per 100 Indigenous households compared to 29.4 in other urban and 14.6 in major urban areas. Indigenous overcrowding is particularly concentrated in the rural areas of sparsely settled remote Australia (e.g. 217 additional bedrooms are needed per 100 Indigenous households in the rural areas of the Northern Territory, compared to 12.1 for non-Indigenous households in these areas, while in Western Australia the figures are 110.7 and 3.1 respectively). Thus in rural and remote parts of Australia there are still very stark differences between the housing conditions of the colonised Indigenous population and the colonising non-Indigenous population.

Because Indigenous–non-Indigenous comparisons were not a part of the original consultancy brief, estimates do not include affordability deficits for the non-Indigenous population.<sup>9</sup> According to a more basic uncostable affordability measure—whether household incomes are above or below the Henderson Poverty Line after housing costs—differences in affordability are somewhat smaller than for overcrowding. Australia-wide, the proportion of Indigenous households who cannot afford their housing is a little over four times as high as for non-Indigenous (25.9% compared to 6.1%). Lack of affordability is also much less variable between geographic areas for both the Indigenous and the non-Indigenous. In all areas, between 16.1 and 31.7 per cent of Indigenous households, and between 3.1 and 7.4 per cent of non-Indigenous households, cannot afford their dwelling.

### **Indigenous housing need in 1991 and 1996**

Between 1991 and 1996 there was a considerable increase in the number of people identifying in the census context as Indigenous. Research has shown, however, that there were no great economic and social differences between those who identified in the two censuses (Taylor 1997; Hunter 1998). It is therefore useful to compare, where possible, the level of Indigenous overcrowding and affordability at the two dates. Different methods were used to assess both overcrowding and affordability in the exercises following the 1991 and 1996 censuses. In order to make the results comparable, Table 10 compares housing need at the two dates, employing the approaches used after 1991.

Whether assessed on the basis of bedrooms needed per person or bedrooms needed per household, the level of overcrowding appears to have fallen significantly between the two dates. The fall occurred in all States. In the Northern Territory, where needs are high, and the ACT, where needs are low, there was no significant change. There was a larger fall in major urban (35% per person and 32% per household) than in rural areas (16% and 18% respectively), with other urban between the two. The results were different for various tenure groups; bedroom need fell for owner-occupied housing and for private and community rental (combined), but not for public rental.<sup>10</sup>

Affordability changed in a quite different way. First the proportion who could not afford their housing rose modestly in most parts of Australia, with the exception of Western Australia. The largest rise (2.6%) was in the major urban areas, which also experienced the largest fall in level of overcrowding. Again the changes were more varied across tenures. The proportion of Indigenous owners who could not afford their dwelling actually decreased (-0.5%), while home buyers had the biggest increase (5.2%) in not being able to afford their dwelling. Renters were closer to the national average of 2.1 per cent in their changes in affordability.

These results again justify the use of the multi-measure approach. Not only are the various measures of need different in different locations and different tenures, but they change in different directions over time. It has not been possible

to calculate the measures on comparable (dollar) values over time, but it is clear that affordability became more significant relative to overcrowding during between 1991 and 1996, and that the decrease in affordability, like the decrease in overcrowding, was largest in the major urban areas and smallest in rural areas.

**Table 9. Overcrowding and affordability of Indigenous and non-Indigenous housing**

	Overcrowding				Affordability	
	Households overcrowded (%)		Bedroom need per 100 households		Households cannot afford their dwelling (%)	
	Indigenous	Non-Indig.	Indigenous	Non-Indig.	Indigenous	Non-Indig.
Major urban						
New South Wales	10.7	5.9	13.2	6.9	24.2	6.3
Victoria	10.3	4.4	12.3	5.2	19.7	5.1
Queensland	12.7	3.0	17.2	3.4	24.6	6.3
South Australia	11.0	2.5	14.7	2.9	27.7	6.6
Australia						
Western Australia	14.0	2.1	19.9	2.4	27.1	5.7
Tasmania	5.6	2.9	6.0	3.4	22.3	6.2
ACT	6.5	1.7	7.4	1.9	21.7	5.4
Australia-wide	11.3	4.2	14.6	4.9	24.4	5.9
Other urban						
New South Wales	12.5	2.7	16.9	3.1	31.0	7.2
Victoria	10.0	2.7	13.0	3.0	28.9	7.0
Queensland	21.4	3.1	37.1	3.5	26.8	7.2
South Australia	16.7	1.9	24.7	2.2	31.7	7.1
Australia						
Western Australia	19.8	2.3	31.1	2.7	27.2	6.2
Tasmania	5.6	2.6	6.8	2.9	21.9	7.4
Northern Territory	29.5	5.9	75.4	7.0	20.5	4.9
Australia-wide	17.2	2.8	29.4	3.2	27.7	7.0
Rural						
New South Wales	16.1	3.9	22.3	4.6	23.0	5.0
Victoria	11.2	2.9	14.8	3.3	18.9	4.6
Queensland	27.7	3.7	60.7	4.4	24.0	5.6
South Australia	23.9	2.5	61.7	2.9	26.7	4.6
Australia						
Western Australia	41.8	2.6	110.7	3.1	29.9	4.0
Tasmania	6.0	3.0	7.1	3.4	16.1	5.0

**Table 9 (continued)**

Northern Territory	64.0	9.3	217.5	12.1	31.6	3.1
Australia-wide	30.0	3.4	77.5	4.0	25.0	4.9
All areas						
New South Wales	12.3	5.0	16.1	5.8	26.9	6.4
Victoria	10.3	3.9	13.0	4.5	23.0	5.4
Queensland	19.9	3.1	35.6	3.6	25.5	6.4
South Australia	14.9	2.4	25.5	2.7	28.8	6.4
Australia						
Western Australia	23.1	2.2	46.4	2.5	27.8	5.6
Tasmania	5.7	2.8	6.7	3.2	20.2	6.5
Northern Territory	45.1	6.3	139.8	7.5	25.4	4.7
ACT	6.2	1.7	7.0	1.9	21.7	5.4
Australia-wide	17.8	3.8	34.1	4.4	25.9	6.1

Source: Jones (1999) Tables 3.4, 3.5 (Col. 1), Tables 9.2, 9.3 (Col. 2), Table 4.2 (Col. 3), Tables 9.2, 9.5 (Col. 4), Tables 7.5, 8.5 (Col. 5), Tables 9.9, 9.10 (Col. 6).

**Table 10. Indigenous overcrowding and affordability: 1991 and 1996**

	Overcrowding				Affordability	
	Bedrooms needed per person		Bedrooms needed per household		Households cannot afford their dwellings (%)	
	1991	1996	1991	1996	1991	1996
New South Wales	0.068	0.044	0.22	0.14	28.4	30.8
Victoria	0.052	0.033	0.15	0.10	26.0	27.9
Queensland	0.141	0.094	0.55	0.35	27.0	29.2
South Australia	0.115	0.065	0.43	0.24	27.8	32.2
Western Australia	0.148	0.116	0.67	0.50	30.8	30.4
Tasmania	0.030	0.020	0.08	0.05	21.1	24.2
Northern Territory	0.285	0.276	1.83	1.89	26.2	28.4
ACT	0.036	0.031	0.09	0.09	16.4	23.2
Australia-wide	0.133	0.098	0.51	0.36	27.5	29.6
Major urban	0.058	0.038	0.17	0.12	25.1	27.7
Other urban	0.101	0.077	0.38	0.28	28.8	31.1
Rural	0.235	0.197	1.22	0.99	28.4	29.6
Owner			0.27	0.14	8.1	7.6
Buyer			0.12	0.07	14.2	19.4
Public rental			0.26	0.27	38.0	42.5
Private & community rental			0.75	0.44	30.9	33.6

Sources: Jones (1999) Tables 5.3, 5.4, 5.8, 7.11; ABS (1998) Table 1.4.

## **Critical reflections: Some limits and limitations of allocating funding according to need**

We began by noting that the idea of allocating public funds in housing, or any other function, on the basis of need between areas or programs is common and unexceptional. However, having tried to provide some measures of need from which such an allocation might proceed, we are conscious of the limits and limitations of such an exercise.

One limit is our inability to estimate the extent and national distribution of need arising from four of the seven dimensions of housing need we identified in principle: poor condition, absence of services, cultural inappropriateness, and insecurity of tenure. Further research and data collection could add to the measures used in this paper.

A second limit is that the standards we have used are drawn from the non-Indigenous world. Indigenous Australians may not all aspire to these standards or value housing in quite the way implied in them. It is difficult to know to what extent differences in housing conditions may be a result of these different aspirations and values, as opposed to differences in opportunity and capacity to pay.

One further consequence of measuring Indigenous housing need against non-Indigenous standards is that it tends to result in very large estimates of need, often conceived of as a large capital supply backlog. Although superficially attractive, this can be a rather unhelpful way of defining need (see Sanders 1990). We have partly dealt with this problem by annualising, rather than capitalising, the costs of our need measures. Despite the likelihood that these annualised measures still give inadequate attention to the operating and maintenance costs of housing, they do draw attention to the idea that housing need is not simply a capital supply backlog.

It is possible and likely that Indigenous housing need, as we have measured it, will continue at much same level for many years to come, even given existing program efforts. Our estimates of Indigenous housing need for 1996, compared with 1991, are consistent with such a view. While overcrowding has gone down in this period, need measured in terms of affordability has gone up. As the supply of housing has increased, lessening overcrowding, the annual affordability deficit of those occupying that increased supply of housing has gone up. We are faced, therefore, with the policy paradox that program success in reducing one measure of need may in fact increase another measure of need (Stone 1988). This is a reflection of the general principle in housing that one way to overcome affordability problems is to live in overcrowded conditions, with many people contributing to housing and other costs. If overcrowding is reduced through capital policy interventions, affordability need may well increase unless addressed through accompanying recurrent policy interventions.

Another limitation is that allocating funding purely on the basis of need may, over time, penalise those geographic areas, or programs, which are making

the best efforts to overcome need. If needs measures decreased in these areas or programs over time, they would, on a strict needs funding allocation basis, lose funds. Perversely, the recipients of those funds would be those areas or programs which were not doing well in eliminating need and whose needs measures were rising. Some countervailing principle of public funding allocation on the basis of 'capacity to deliver' is required, if this conundrum arising from purely needs based funding allocation over time is to be avoided.

Allocating public funds for programs such as housing between areas or programs on the basis of need is not, therefore, as unexceptional an idea as it first appears, even if a multi-measure approach is adopted. Estimating need is no substitute for good open public policy debate. Estimates of need should be used to promote and enhance such debate, not to stifle or end it. Indigenous people in urban areas were rightly worried about the reliance on the single, overly simple 'bedroom need' measure in attempts to re-allocate Indigenous housing funds after 1994, and were right to encourage public policy debate around the issue. We hope that our results provide material which can encourage and enhance such debate.

## Notes

1. We also made estimates of the extent to which rent rebates and rent allowance were relieving those affordability deficits, but they are not reported here.
2. A paper prepared by Aboriginal Affairs Victoria, for the meeting of the Ministerial Council for Aboriginal and Torres Strait Islander Affairs held in Perth on 15 August 1997, summarised these concerns.
3. Only about one-third of all homeless people identified by a special ABS (1999) study were in these two categories. Many of the other two-thirds will be identified as living in overcrowded dwellings in our estimates.
4. These standards are one-room lower for two classes of household than the Council of Australian Government (COAG) standards, and will produce slightly lower estimates of need than if COAG standards had been used.
5. Under both COAG and the adopted standards, since census definitions are used in which no dwelling can have less than one bedroom, single person households cannot be overcrowded.
6. Alternative methods discussed by Jones (1998, ch. 2) would all give higher estimates.
7. To measure the affordability deficit of a household (Jones, Neutze and Sanders 1998, paras 5.40–5.49; Jones 1998, ch. 5) we define 'norm-rent' as the rent needed to pay for a dwelling of adequate quality and size according to our occupancy standards. If the dwelling occupied is smaller than the standard, the norm rent for that size is used. The inadequacy of its size shows a need to remove overcrowding rather than an affordability deficit and is included in the overcrowding measure. The affordability deficit is the additional income the household would need to pay its norm-rent and also meet its non-housing needs as shown in the Henderson Poverty Line.

8. Two-thirds of the 'Other' category in Table 7 are those renting from other landlords, including some who live rent free. Smaller numbers have not stated their tenure, or are in other tenures. It is not surprising that the average overcrowding is relatively high, but affordability deficits relatively low in this group.
9. The data are available from the Census but the cost of the computer runs necessary to make the estimates according to geographical area is very high.
10. The 1991 Census did not distinguish between private and community rental.

## References

- Australian Bureau of Statistics (ABS) 1998. *Census of Population and Housing: Aboriginal and Torres Strait Islander People*, cat. no. 2034, ABS, Canberra.
- Australian Institute of Health and Welfare 1995. *Australia's Welfare: Services and Assistance*, Australian Government Publishing Service, Canberra.
- Hunter, B. 1998. 'Assessing the utility of the 1996 Census data on Indigenous Australians', *CAEPR Discussion Paper No. 154*, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Jones, R. 1994. *The Housing Needs of Indigenous Australians, 1991*, Research Monograph No. 8, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Jones, R., Neutze, M., and Sanders, W. 1998. Measures of Indigenous Housing Need and Resource Allocation in the ARHP and CHIP, Report prepared for the Indigenous Policy Unit, Department of Social Security, Canberra.
- Jones, R. 1998. Experimental Measures of Indigenous Housing Need, Consultancy report prepared for the Indigenous Policy Unit, Department of Social Security, Canberra.
- Jones, R. 1999. Indigenous Housing 1996 Census Analysis, Consultancy report prepared for the Housing, Infrastructure, Health, and Heritage Branch, Aboriginal and Torres Strait Islander Commission, Canberra.
- Neutze, M., Sanders, W., and Jones, G. 1999. 'Public expenditure on services for Indigenous people: Education, employment, health and housing', *Discussion Paper No. 24*, Australia Institute, Canberra.
- Sanders, W. 1990. 'Reconstructing Aboriginal housing policy for remote areas: How much room for manoeuvre?', *Australian Journal of Public Administration*, 49 (1): 38-50.
- Sanders, W. 1993. 'Aboriginal housing', in C. Paris, *Housing Australia*, Macmillan, Melbourne.
- Stone, D.A. 1988. *Policy Paradox and Political Reason*, Scott, Foresman, and Company, Glenview, Ill.
- Taylor, J. 1997. 'Changing numbers, changing needs? A preliminary assessment of Indigenous population growth 1991-96', *CAEPR Discussion Paper No. 143*, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.



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