Appendix 6: Methodology for estimating Aboriginal and Torres Strait Islander expenditure through State and Territory programs

New South Wales

Methodology for estimating Aboriginal and Torres Strait Islander expenditure

Data for New South Wales were compiled at the area health service level and can be split into metropolitan, rural and remote regions. Three sets of estimates of recurrent expenditure for Aboriginal and Torres Strait Islander people were derived by New South Wales based on alternate assumptions of under-identification. The 'medium' estimates of expenditure are presented in this report, and this gives a total of $211.3m. The 'high' assumptions give an estimate 9% higher of $230m and the 'low' assumptions gave an estimate 7% lower of $196m.

The New South Wales Health Department provided detailed data for this project. A number of adjustments were made by AIHW; the methodology is described below.

Acute-care admitted patient services

Separations for Aboriginal and Torres Strait Islander patients were adjusted firstly for under-identification. Based on estimates from linked data analysis for each of the Area Health Services, the identified separations were first increased by 13% (State average). Then in addition to this under-identification it was clear there was additional under-identification that the linked data analysis was not picking up. This was modelled using low, medium and high expansion factors of 15%, 20% and 25%. For the medium estimate this led to a 36% expansion factor which is 27% under-identification. In addition the data linkage estimated that cases not being identified tended to have a higher cost weight, so the under-identification was increased to 30%. The low and high under-identification estimates used in the sensitivity analysis described above were based on the 15% and 25% expansion factors.

Further adjustment was made based on an assumption of 5% higher costs for Aboriginal and Torres Strait Islander patients across all Diagnostic Related Groups after adjusting for casemix.

A similar methodology was applied to nursing home type patients although based on bed days rather than cost-weighted separations. The assumption of additional costs for Aboriginal and Torres Strait Islander patients was not applied in this case.

Acute-care non-admitted patient services

For outpatient services, this was based on the Aboriginal and Torres Strait Islander share of total separations adjusted for under-identification, i.e. 3.2%. For emergency department services, a 1998 survey which indicated that 1.65% of weighted presentations were for Aboriginal and Torres Strait Islander people was used. This was then adjusted for under-identification to give a proportion of 2.3%.

Mental health institutions

This was based on recorded bed day usage by Aboriginal and Torres Strait Islander patients and adjusted for under-identification. This gave an estimated 4.1% of mental health institution bed days for Aboriginal and Torres Strait Islander people.

High-care residential aged care

It was assumed that the utilisation rate for Aboriginal and Torres Strait Islander residents in State Government high-care residential aged care was the same rate (1.9%) as for the New South Wales residential aged care sector as a whole.

Patient transport

The proportion of total patient transport expenditure accruing to Aboriginal and Torres Strait Islander people was assumed to be similar to that for cost-weighted hospital separations after adjusting for under-identification.

Costs for Aboriginal and Torres Strait Islander people under the Isolated Patients Travel Assistance and Accommodation Scheme (IPTAAS) were based on the proportion of payments accruing to Aboriginal and Torres Strait Islander people derived from a 1998 survey of IPTAAS claims.

Community and public health services

Community health services (not elsewhere classified) includes a combination of expenditure on Aboriginal and Torres Strait Islander specific community health programs (under the State's Aboriginal health services program); and also includes mainstream funding apportioned on the basis of population at the area health service level. Expenditure on the Red Cross Blood Transfusion Service was based on cost-weighted separations with an adjustment only for under-identification, not additional cost.

Dental services expenditure was calculated based on Aboriginal and Torres Strait Islander people as a proportion of the local population for each area health service multiplied by area health service expenditure.

Community mental health was calculated as a combination of spending targeted specifically at Aboriginal and Torres Strait Islander people plus mainstream funding apportioned on the basis of population at the area health service level.

Public health covered a combination of funding targeted specifically at Aboriginal and Torres Strait Islander people plus a component of mainstream expenditure apportioned on the basis of population at the area health service level. The

Aboriginal and Torres Strait Islander specific expenditures were grants for HIV/AIDS programs and alcohol and drug treatment services.

Health research

This was based on the Aboriginal and Torres Strait Islander proportion of the State's total population.

Health administration

Health administration expenditure was estimated based on an average of an allocation according to population and an allocation according to programs. The overall proportion across all programs (excluding administration) is 2.9%, while the population proportion is 1.8%. These were averaged and applied to total administration costs.

Other explanatory notes

Three alternative figures for State-level expenditure were provided by New South Wales. The AIHW decided to use a gross expenditure approach in accord with Australian Bureau of Statistics Government Finance Statistics conventions. This is different from the Commonwealth Grants Commission approach (which was used by New South Wales Health) whereby all revenues other than patient fees are netted off against gross expenses.

Apportioning expenditure by area (ABS Government Purpose Classification) has been based on the 1998–99 New South Wales unaudited annual returns (UAR) for each area health service.

Victoria

Methodology for estimating Aboriginal and Torres Strait Islander expenditure

The Victorian Department of Human Services (DHS) provided the data on which the figures in Table 5.2 are based, with a number of adjustments made by AIHW. The DHS identified expenditures accruing to Aboriginal and Torres Strait Islander people via key word searches (e.g. Koori, Aboriginal, Indigenous) of the Department's grants database. This was in addition to expenditure on acute-care admitted patient services and a number of specific Aboriginal and Torres Strait Islander programs run by the Koori Health Unit and other areas of the Department.

There are five Aboriginal and Torres Strait Islander specific health activities in Victoria, some of which are managed by the Koori Health Unit. These activities are as follows:

- Koori maternity enhancement
- Koori community resource centres
- Koori community alcohol and drug worker

- Koori Health Unit
- Aboriginal hospital liaison officers program.

Depreciation expenses are not included in the data below.

Acute-care admitted patient services

An adjustment by AIHW was made for under-identification of 25% based on an analysis of the Department's study of the correctness of identification in the Victorian in-patient minimum database (VIMD). The AIHW estimate of expenditure on admitted patient services in acute-care hospitals for Aboriginal and Torres Strait Islander people based on the hospital morbidity costing model with a 5% cost loading was $19 million.

Within the hospital sector there have been significant data developments more recently. One such example—surveys undertaken by the Koori Health Unit to assess the accuracy of identification amongst people who have been hospitalised several times—is documented in Appendix 5, in the section entitled 'Investigations of reporting accuracy' (p.150).

Acute-care non-admitted patient services

Expenditures for 'accident and emergency' and 'non-admitted patients' have been allocated to Aboriginal and Torres Strait Islander people in proportion to the expenditure on admitted patient services.

Mental health institutions

Victorian expenditure on institutional mental health care is included in admitted patient services for acute-care institutions.

High-care residential aged care

The Aboriginal and Torres Strait Islander share of State Government high-care residential aged care facility expenditure was estimated from the Koori proportion of high-intensity aged care service for all Victorian aged care residential facilities.

Community health services

Detailed information about specific Koori community health service expenditure was available, and this was estimated to be $1.9m. In addition, it was assumed that 0.5% (the Koori population proportion) of mainstream community health services were for Koori people ($1.5m).

Dental services

It was assumed that 0.5% of dental services were for Koori people ($0.3m).

Community mental health

This was estimated in the same way as 'community health services'. Specific Koori community mental health service expenditure was estimated to be $1.4m. The expenditure for Koori use of mainstream services was assumed to be $1.1m.

Patient transport

This expenditure was allocated according to the share of admitted patient expenditure estimated for Aboriginal and Torres Strait Islander people (0.77%).

Public health

This was based on data about specific Aboriginal and Torres Strait Islander programs with a public health focus.

Health research

Research expenditure was allocated to Koori people in proportion to the Koori population (0.5%).

Health administration

Administration is included with program costs and cannot be separately identified. There is therefore no health administration category in the tables. DHS estimated administration for Aboriginal and Torres Strait Islander people to be 3% of recurrent funding. The Koori-specific activities (except for Koori maternity enhancement) were an exception as recurrent costs were already included in the administration, so the 3% corporate services allocation was not applied.

Queensland

Methodology for estimating Aboriginal and Torres Strait Islander expenditure

The figures in Table 5.3 are based on data provided by the Queensland Health Department with a number of adjustments made by AIHW in some areas of expenditure. The methods are described below.

Acute-care admitted patient services

Queensland estimated the proportion of cost-weighted separations for Aboriginal and Torres Strait Islander patients to all cost-weighted separations, with an adjustment for under-identification based on the assumption that 80% of Aboriginal and Torres Strait Islander patients are correctly identified in the Queensland hospital admitted patient data collection. This was based on surveys from selected Queensland hospitals and small area analysis of recording of Indigenous status for hospital separations.

The AIHW estimate of expenditure on admitted patient services in acute-care hospitals for Aboriginal and Torres Strait Islander people based on the hospital morbidity costing model with a 5% cost loading was $119 million.

(Note that the assumed level of identification of Aboriginal and Torres Strait Islander people for 1995–96 was 85%, which was based on an average of 70% identification in urban areas of the State and complete identification in rural and remote areas.)

Acute-care non-admitted patient services

This figure was derived from the sum of expenditure on non-admitted patient services in acute-care hospitals servicing specific Aboriginal and Torres Strait Islander communities, in addition to 4.9% of the expenditure on acute-care non-admitted patient services in all other hospitals, which gives a proportion overall of 8.9%. The proportion of cases identified as Aboriginal and Torres Strait Islander in emergency departments within sentinel sites across metropolitan, rural and remote areas in 1999 was 4.9%.

Mental health institutions

This was based on expenditure on specific programs for Aboriginal and Torres Strait Islander people and the estimated expenditure of Aboriginal and Torres Strait Islander people accessing mainstream services.

High-care residential aged care

Expenditure was allocated according to the proportion of high-care residential aged care facility residents identified as Aboriginal and Torres Strait Islander.

Patient transport

The portion of expenditure funded by Queensland Health was estimated by taking district expenditure multiplied by the proportion of the district population who are Aboriginal and Torres Strait Islander. The balance, which was expenditure funded by Queensland Emergency Services (QES), was estimated by multiplying total QES net expenditure by the overall population proportion of 3.2%.

Community and public health services

Community health services not elsewhere classified were estimated by AIHW by assuming the same proportion as for acute-care non-admitted patient services, i.e. 8.92%.

Dental services were based on the proportion of courses of care for Aboriginal and Torres Strait Islander people in public sector dental clinics during 1997 and 1998, which was 3.1%.

Community mental health was based on expenditure on specific programs for Aboriginal and Torres Strait Islander people and estimated expenditure on Aboriginal and Torres Strait Islander people in mainstream services. The funding proportion applying to Aboriginal and Torres Strait Islander people is the same as for mental health institutions, i.e. 8.67%.

Public health expenditure was derived from a proportion of 9.62% applied to part of public health services expenditure and the Aboriginal and Torres Strait Islander population proportion applied to all other public health funding.

Health research

This was based on the Aboriginal and Torres Strait Islander proportion of the State's population.

Health administration

This was calculated according to an Institute estimate based on an average of an allocation according to population and an allocation according to programs. The overall proportion across all programs (excluding administration) is 7.6%, while the population proportion is 3.2%. These have been averaged and then applied to total administration costs.

Other explanatory notes

As funding is allocated according to districts and not specifically to Aboriginal and Torres Strait Islander people, there is some degree of inaccuracy in the attribution of health expenditures to Aboriginal and Torres Strait Islander people.

Revenue excludes administered revenue, Commonwealth specific purpose payments and grants from industry bodies.

Western Australia

Methodology for estimating Aboriginal and Torres Strait Islander expenditure

Most data, except for the allocation of health administration expenses and admitted patient expenses, are as reported by the Health Department of Western Australia (HDWA), but with an adjustment for accrual costs.

Recurrent expenditure represents the total gross operating expenditure, and as such may include some capital expenditure.

The Institute made an adjustment for accrual costs so that the 1998–99 numbers are more comparable with the 1995–96 cash numbers. This adjustment reduces the original Western Australia 1998–99 expenditures by 8%.

The general methodology adopted by HDWA to estimate the Aboriginal and Torres Strait Islander cost component was as follows:

- a definition of health outlays was formulated which would allow for an acceptable fit with the ABS GPC categories;
- a description of utilisation in terms of population, morbidity and outpatient activity was formulated; and
- a relevant unit costing used for the output measures.

The first phase involved generating expenditure by program (and by area, for example acute-care institutions, high-care residential aged care homes) using information provided by each health service for 1998–99 and an analysis of expenses from the HDWA annual report.

The second phase relied on HDWA utilisation studies. The data was sourced from databases such as the hospital morbidity database to assist with the dissection of expenses defined in phase one.

For most areas of expenditure the allocation of costs to Aboriginal and Torres Strait Islander people was based on population (as expenditure could not be allocated to

individuals), utilisation factors and information sourced from the hospital morbidity database. The proportion of Aboriginal and Torres Strait Islander people to the total population in each health service location was then applied to the total expenditure.

Acute-care admitted patient services

The Western Australia health department allocation of costs to Aboriginal and Torres Strait Islander patients was based on the proportion of Aboriginal and Torres Strait Islander cost-weighted separations to total cost-weighted separations, with a length of stay adjustment. This gave a result very similar to the AIHW estimate of expenditure on acute-care admitted patient services for Aboriginal and Torres Strait Islander people based on the AIHW hospital morbidity costing model. In addition a cost loading of 5% was added to allow for the higher cost intensity of treating Aboriginal and Torres Strait Islander patients.

Acute-care non-admitted patient services

These were estimated using a recent outpatients survey which indicated the proportion of clients who were Aboriginal and Torres Strait Islander. This survey was used in conjunction with hospital morbidity cost data and other sources of unit cost data for outpatients to calculate non-admitted patient expenditure.

Mental health institutions

This was based on the results from the 1998–99 HDWA mental health survey after separating funding for mental health institutions from community mental health spending. The proportion of expenditure apportioned to Aboriginal and Torres Strait Islander people was calculated according to the applicable population and utilisation factors.

High-care residential aged care

This was calculated according to the population share and adjusted for specific utilisation factors applying to Aboriginal and Torres Strait Islander residents.

Patient transport

This was based on the population share and adjusted for utilisation factors applying to Aboriginal and Torres Strait Islander people. Total expenditure was obtained from rural health services, metropolitan hospitals and HDWA funding of ambulance services.

Community and public health services

Community health services not elsewhere classified were based on the proportion of Aboriginal and Torres Strait Islander people to the total population in each health service, applied to total community health services expenditure. It is unclear exactly what utilisation factors have been used.

Dental services was based on the proportion of Aboriginal and Torres Strait Islander people to the total population in each health service, applied to total dental expenditure.

Community mental health was based on the results from the HDWA 1998–99 mental health survey after separating funding for mental health institutions from community mental health spending. The proportion of expenditure apportioned to Aboriginal and Torres Strait Islander people was done according to population and utilisation factors applying to Aboriginal and Torres Strait Islander people.

Public health expenditure was based on the proportion of Aboriginal and Torres Strait Islander people to the total population in each health service, applied to total public health expenditure.

Health research

Total expenditure was sourced from the records of major metropolitan teaching hospitals with the estimated component accruing to Aboriginal and Torres Strait Islander people based on population and utilisation factors.

Health administration

Health administration expenditure was derived from an Institute estimate based on an average of an allocation according to population and an allocation according to programs. The overall proportion across all programs (excluding administration) is 9.3%, while the population proportion is 3.2%. These were averaged and applied to total administration costs.

South Australia

Data quality

The data available in respect of health expenditures by the State Government on services provided to Aboriginal and Torres Strait Islander people is poor. Detailed data with regard to specific Indigenous expenditures were provided but, except for admitted and non-admitted patient services, there were no estimates of expenditure on mainstream health services used by Aboriginal and Torres Strait Islander people. There were also very little data on State Government expenditure on health services by GPC category for the population as a whole.

Methodology for estimating Aboriginal and Torres Strait Islander expenditure

A combination of data sourced from the South Australian Department of Human Services and from the Australian Institute of Health and Welfare (AIHW) Health Expenditure Database was used to derive the estimates of expenditure through the State Government's programs.

The methods used in the estimations are described below.

Acute-care admitted patient services

Expenditure on acute-care hospital admitted patient services for the total State population was estimated by applying an admitted patient fraction of 0.8 to the gross

operating costs of non-psychiatric hospitals in South Australia reported in *Australian Hospital Statistics 1998–99* (excluding depreciation) (AIHW 2000a).

Separations for Aboriginal and Torres Strait Islander patients recorded in the hospital morbidity database were adjusted for under-identification, which was assumed to be 10% (this was the under-identification factor used in the first report). The proportion of admitted patient expenditure that related to Aboriginal and Torres Strait Islander patients was then estimated using the AIHW hospital morbidity-costing model, with a 5% cost loading for the higher cost intensity of treating Aboriginal and Torres Strait Islander people.

Acute-care non-admitted patient services

Expenditure on non-admitted patient services for the total population was estimated by the Institute by subtracting the estimated expenditure on admitted patient services (see above) from gross operating costs of non-psychiatric hospitals in South Australia reported in *Australian Hospital Statistics 1998–99* (excluding depreciation) (AIHW 2000a).

The South Australian Department provided specified Aboriginal and Torres Strait Islander expenditure on non-admitted services, but were not able to provide information on use of mainstream non-admitted services. It was assumed that there was the same expenditure on mainstream services as on specified services.

Table A6.1: Specific non-admitted acute-care services for Aboriginal and Torres Strait Islander people included in South Australia data

Service name	Service name
Mid North—Health Worker	Riverland—Aboriginal Women's Health
Mid North—Cervix Screening	Murray Bridge—Aboriginal Health Worker
Sth East—Cervix Screening	Murray Bridge—Dom. Midwife
Sth East—Health Workers	Aboriginal Immunisation Program
Sth East—Diabetes & Asthma	Inner Southern—Nunga Diabetes
Pt. Augusta—Aboriginal Health Unit	SHINE—Northern Metro Clinics
Pt. Augusta—Aboriginal Health Worker	Ceduna—Cervix Screening
Whyalla—Aboriginal Diabetes Program	Child & Youth Health—Aboriginal Health Workers
Whyalla—Aboriginal Paediatrician Program	Northern Metro—Cervix screening
Riverland—Aboriginal Health Workers	Northern Metro—Young Nunga Mums

Mental health institutions

Estimated expenditure on mental health institutions for the total population of South Australia was taken from the data used in *Australian Hospital Statistics 1998–99* (AIHW 2000a). The number used was the gross operating costs of public psychiatric hospitals, less depreciation.

Expenditure on mental health institution services in respect of Aboriginal and Torres Strait Islander patients was estimated by the Institute by applying the identified mental health institution separation proportion with an adjustment for under-identification of 10%.

High-care residential aged care

Expenditure on government high-care residential aged care in respect of the total population was provided by the State. Aboriginal and Torres Strait Islander expenditure was estimated using the proportion of benefits paid for South Australia high-intensity aged care provided to Aboriginal and Torres Strait Islander people, which was 0.4%.

Patient transport

The Institute estimated expenditure on patient transport for the total population. The figure for 1998–99 was based on the 1997–98 expenditure obtained from the AIHW Health Expenditure Database multiplied by a growth factor of 1% between 1997–98 and 1998–99. The 1% growth factor was the Commonwealth Grants Commission's (CGC's) figure for growth in total health funding for South Australia between the two years (*Source:* Commonwealth Grants Commission, Report on General Revenue Grant Relativities, 2000 update).

Costs for Aboriginal and Torres Strait Islander patients were estimated by applying the admitted patient proportion to total patient transport costs.

Community and public health services

Expenditure on the total population was estimated by the Institute with the figure for 1998–99 based on the 1997–98 expenditure obtained from the AIHW Health Expenditure Database then scaled up by the CGC growth factor.

An estimate of expenditure on community and public health services for Aboriginal and Torres Strait Islander patients was provided by the State. These were only services that were specifically targeted at Aboriginal and Torres Strait Islander populations (Table A6.2).

Table A6.2: Specific community and public health services for Aboriginal and Torres Strait Islander people included in South Australia data

Service name	Service name
Ceduna-Koonibba AHS	Murray Bridge—Community Health
Nganampa Health	Adelaide Central—Aboriginal Health Team
Kalparrin Clinic	Inner Southern—Community Drop In
Pika Wiya Health Service	Inner Southern—Referral Service
Mid-North Social & Emotional Well-Being	Northern Metro—Regional Health Team
Southern Fleurieu—Community Health	Noarlunga Health services—Aboriginal Comm
Murray Bridge—Social Work Support	

Health research

The Institute estimated expenditure on the total population by scaling up the 1997–98 expenditure obtained from the AIHW Health Expenditure Database by the CGC growth factor. Health research for the Aboriginal and Torres Strait Islander population was assumed to be in proportion to the Indigenous population proportion (1.6%).

Health administration

Health administration expenditure was estimated based on an average of an allocation according to population and an allocation according to programs. The overall proportion across all programs (excluding administration) is 3.2%, while the population proportion is 1.6%. These have been averaged and then applied to total administration costs.

Tasmania

Data quality

A major deficiency occurred in relation to expenditure on State Government high-care residential aged care. Advice received indicated that the data provided by the State for 'Aged, rural and community health care' included high-care residential aged care. However, discussions with the Tasmanian department specified that the Tasmanian Government's high-care residential aged care homes are co-located with acute-care institutions and the State's accounting practices make it no longer possible to accurately split expenditure between the different types of care and facilities.

For the purposes of estimating gross expenditure on government high-care residential aged care homes, the establishments data provided for *Australian Hospital Statistics 1998–99* (AIHW 2000a) were used. The only institution whose data appeared to resemble that of a high-care residential aged care facility was Woodhouse in New Town. Therefore, the change in occupied bed-days for Woodhouse between 1997–98 and 1998–99 was used to project forward the 1997–98 expenditure on high-care residential aged care for Tasmania, which was provided by the State department in 1999.

The amount calculated as relating to government high-care residential aged care was deducted from the data provided by the State for 'Aged, rural and community health care'. The balance was assumed to be community health care plus home and community care. The part that would have related to HACC was assumed to be equivalent to the Commonwealth Government's grants to Tasmania for HACC, as reported in the Commonwealth Treasury document *Final Budget Outcome 1998–99*.

Methodology for estimating Aboriginal and Torres Strait Islander expenditure

The figures in Table 5.6 are based on data provided by the Tasmanian Department of Health and Human Services (DHHS). After DHHS consultation a number of adjustments were made by AIHW. The methodology is described below.

Acute-care admitted patient services

The *Australian Hospital Statistics 1998–99* (AHS) data provided information on utilisation by both Aboriginals and Torres Strait Islander populations. It indicated that there were a total of 252 separations in respect of patients who were identified as Aboriginal and/or Torres Strait Islander people. There were a total of 80,517

separations from public hospitals in Tasmania in 1998–99. Almost two-thirds of these separations did not report Aboriginal status. If it was assumed that Aboriginals and Torres Strait Islander people made up the same proportion of the 53,391 separations not reporting Aboriginal status as they did of those reporting Aboriginality, the total number of separations attributable to Aboriginal and Torres Strait Islander people in 1998–99 would have been 750. This represents 0.9% of all separations from public hospitals in Tasmania during 1998–99 and was far lower than would be expected, given that Aboriginal and Torres Strait Islander people make up 3.4% of the Tasmanian population.

In relation to the quality of Aboriginal and Torres Strait Islander status data for hospital morbidity, *Australian Hospital Statistics 1998–99* (AIHW 2000a) noted that 'The Tasmanian Department of Human Services reports that its 1998–99 data were in need of improvement.' For 66% of separations, Indigenous status was not recorded. Therefore, after discussion between AIHW and DHHS it was decided not to use the Aboriginal and Torres Strait Islander data from *Australian Hospital Statistics 1998–99* (AIHW 2000a). Instead, admitted patient services costs were allocated using a distribution formula calculated from a 1997 survey of outpatient services in Tasmanian hospitals. According to that study, 7.1% of outpatient services related to Aboriginal and Torres Strait Islander people.

Acute-care non-admitted patient services

The attribution of expenditure on acute-care non-admitted patient services to Aboriginal and Torres Strait Islander patients was based on the proportion of 7.1%.

Mental health institutions

Neither DHHS nor *Australian Hospital Statistics 1998–99* (AIHW 2000a) identified expenditure on mental health institutions. The costs associated with publicly provided institution-based mental health services have been incorporated in the costs of acute-care institutions.

High-care residential aged care

There are no recent data that identify the Aboriginal status of residents in high-care residential aged care homes. Therefore, the estimation of costs attributable to Aboriginal and Torres Strait Islander people in high-care residential aged care homes operated by or on behalf of the State Government was based on two surveys of similar types of services that were conducted in 1994. These were:

- a Home and Community Care (HACC) survey, conducted over a four-week period; and
- a two-week community options survey.

These surveys indicated that 3.3% of expenditure on aged care services were associated with services provided to Aboriginal and Torres Strait Islander people. That proportion was applied to total government high-care residential aged care facility costs.

Patient transport

Expenditure on patient transport services provided to Aboriginal and Torres Strait Islander people was calculated at 7.1% of total expenditure on patient transport services. This was based on the proportion identified in the 1997 hospital outpatient survey (see 'Acute-care non-admitted patient services' above).

Community and public health services

Community health services not elsewhere classified were calculated by applying the ratio of 5.25% (see below) to the total expenditure on family, child and youth health services plus the balance of expenditure on 'Aged, rural and community health' after estimates of expenditure on high-care residential aged care and HACC (including the Social Security and Welfare components) were deducted.

The formula used to derive the proportional split was:

$$\frac{CHS_{ab}}{1} = \frac{CHS_{tp}}{1} \times \left\{ \frac{\frac{pop_{ab}}{pop_{tp}} + \frac{OpSC_{ab}}{OpSC_{tp}}}{2} \right\}$$

Where:
CHS_{ab} represents total admitted patient costs related to Aboriginal and Torres Strait Islander people,
CHS_{tp} is total admitted patient costs for the total population of Tasmania,
pop_{ab} is the Aboriginal and Torres Strait Islander population of Tasmania,
pop_{tp} is the total population of Tasmania.
$OpSC_{ab}$ is the estimation of costs for outpatient services attributable to Aboriginal and Torres Strait Islander people resulting from a 1997 survey carried out by DHHS in the outpatient departments of three major public hospitals—Royal Hobart, Launceston General and North-West Regional.
$OpSC_{tp}$ is the estimation of total costs for all outpatient services resulting from a 1997 survey carried out by DHHS in the outpatient departments of three major public hospitals—Royal Hobart, Launceston General and North-West Regional.

By adopting that formula, it was recognised that Aboriginal and Torres Strait Islander people used outpatient services at a greater rate than the general population. However, their rate of utilisation of Government-provided community health services, while higher than that of the general community, was lower than their rate of use of public hospital outpatient services.

The Aboriginal and Torres Strait Islander proportion of outpatient services costs from the 1997 Tasmanian non-admitted patient services survey was 7.5%. Adoption of the formula resulted in 5.25% of total admitted patient costs being allocated to Aboriginal and Torres Strait Islander patients in Tasmania.

Dental services estimated expenditure provided to Aboriginal and Torres Strait Islander people was based on the proportion (0.2%) of adult dental clients identified in the Department's state-wide dental services database in 1995–96 as Aboriginals and/or Torres Strait Islander people.

Community mental health expenditure was hampered by a lack of suitable Aboriginality indicators for community-based mental health services. As a consequence, estimated expenditure was calculated using a similar proportion (5.25%) to that applied in respect of general community health services.

Public health expenditure was calculated using several different methods to determine the Aboriginal and Torres Strait Islander proportion of estimated expenditure on public health services according to the particular program involved.

The attribution of costs in respect of public and environmental health services, scientific services and the health and well-being program was calculated using the same proportions as those applied in respect of community health services (5.25%).

In the case of cancer screening, the share of costs related to Aboriginal and Torres Strait Islander clients were assumed to be similar to the proportion of Aboriginal and Torres Strait Islander people in the general population (3.4%).

Finally, the allocation of costs of alcohol and drug services provided to Aboriginal and Torres Strait Islander people was based on the percentage of clients identified as Aboriginal and Torres Strait Islander in the southern region during 1995–96 (3.8%).

Health research

No research activities specifically targeted to Aboriginal and Torres Strait Islander population were identified. Therefore, it was assumed that the benefit from health research would accrue to Aboriginal and Torres Strait Islander people in proportion to their utilisation of mainstream community-based health services. Consequently, the estimates for expenditure on health research activities related to Aboriginal and Torres Strait Islander people were based on the similar proportion (5.25%) to that used in relation to community health services and community mental health services.

Health administration

An Institute estimate based on the average allocation according to population (3.4%) and across all programs excluding administration programs (7.3%) was applied to the total administration costs.

Australian Capital Territory

Methodology for estimating Aboriginal and Torres Strait Islander expenditure

The Australian Capital Territory Department of Health and Community Care provided the data for the figures in Table 5.7 with a number of adjustments made by AIHW. The methodology is described below.

Per person Aboriginal and Torres Strait Islander expenditures and per person non-Aboriginal and Torres Strait Islander expenditures, which have been estimated on the basis of Australian Capital Territory population, are somewhat over-stated as the Australian Capital Territory Government services a larger population than simply the Australian Capital Territory population. An adjustment has been made to admitted patient expenditure data on the basis of morbidity data on State of

residence of patients, but data are not available to make adjustment for other areas of expenditure.

Acute-care admitted patient services

Hospital expenditure pertaining to Aboriginal and Torres Strait Islander patients has been derived on the basis of cost-weighted separations with an Institute adjustment for under-identification of 44%, which is based on the ABS report *Assessing the Quality of Identification of Aboriginal and Torres Strait Islander People in Hospital Data*. Both major Canberra hospitals were included in this survey so the Australian Capital Territory estimate is reasonably reliable. The allocation of other admitted patient services expenditure for the alcohol and drug treatment centre and the postnatal facility is based on population share and then adjusted by the Institute for under-identification. The proportion of Aboriginal and Torres Strait Islander cost-weighted separations to all cost-weighted separations was 2.7% compared with the proportion generated by the AIHW hospital morbidity costing model, which was 0.1%.

The AIHW estimate of expenditure on acute-care admitted patient services for Aboriginal and Torres Strait Islander people was the same as the number provided by the Territory ($4 million).

Acute-care non-admitted patient services

This allocation was based on the number of Aboriginal and Torres Strait Islander outpatient occasions of service for one hospital and on the proportion of cost-weighted separations for another hospital. AIHW has then adjusted for under-identification.

Mental health institutions

The Australian Capital Territory does not have any such institutions.

High-care residential aged care

The Australian Capital Territory does not have any Territory Government-funded residential aged care homes.

Patient transport

This was allocated according to the proportion of the Australian Capital Territory population that identifies as Aboriginal and/or Torres Strait Islander. AIHW estimated total expenditure on patient transport based on previous year's data sourced from the Institute's health expenditure database, as actual figures regarding 1998–99 ambulance expenditure were not available.

Community and public health services

Community health services not elsewhere classified expenditure for mainstream programs has been estimated on the basis of population. There are also several Aboriginal health services, which deliver community health services.

Dental services expenditure was based on the proportion of the Australian Capital Territory population that identifies as Aboriginal and/or Torres Strait Islander

(*AIHW note:* It is considered this will underestimate dental expenditure for Aboriginal and Torres Strait Islander people.)

Community mental health expenditure was estimated by AIHW as the community mental health component of total funding for one of the Aboriginal health services. The mainstream community mental health expenditure was included in non-admitted patient services expenditure.

Public health expenditure for Aboriginal and Torres Strait Islander people was a combination of mainstream funding apportioned on the basis of population and expenditure on Aboriginal and Torres Strait Islander-specific health promotion programs.

Health research

No expenditure in this area was identified.

Health administration

This was estimated by AIHW based on an average of an allocation according to population and an allocation according to programs. The overall proportion across programs is 2.4%, while the population proportion is 1.1%. These have been averaged and then applied to total administration expenses.

Northern Territory

Methodology for estimating Aboriginal and Torres Strait Islander expenditure

For some areas, expenditure for Aboriginal and Torres Strait Islander people has been estimated by the Northern Territory on the basis of a survey of cost centres carried out in 1996. Each departmental sub-program was broken down by cost centre, and then Aboriginal and Torres Strait Islander usage of service for each cost centre was estimated through discussion with either the cost centre manager or the manager of the sub-program. These 1996 proportions were applied to 1998–99 cost centre expenditure data. Although still relying to some extent on 1996 survey results, expenditure on dental services also used 1998–99 utilisation statistics for Aboriginal and Torres Strait Islander people.

It would have been ideal if a new set of proportions could have been obtained for each cost centre but the above method is unlikely to be much in error. For example, if a health centre had 90% Aboriginal and Torres Strait Islander usage in 1996, that proportion is unlikely to have changed significantly since.

Territory Health Services provided the data for the figures in Table 5.8 with a number of adjustments made by AIHW. The methodology is described below.

Acute-care admitted patient services

The AIHW estimate of expenditure on admitted patient services in acute-care institutions for Aboriginal and Torres Strait Islander people was $66 million, based

on the national morbidity costing method. For non admitted patient services it was $13.8 million, giving a total for acute-care institutions of $79.8 million.

Acute-care non-admitted patient services

This was based on the number of Aboriginal and Torres Strait Islander patients attending outpatient clinics and using non-admitted patient services.

Total expenditure and therefore the Aboriginal and Torres Strait Islander component are understated as many of the services provided by outpatient clinics are not costed directly to the clinics, for example doctor's salaries.

Mental health institutions

The Northern Territory does not have any such institutions.

High-care residential aged care facility for the aged

This was based on the 1996 survey.

Community and public health services

Community health services not elsewhere classified were based on the 1996 survey, except for the Red Cross Blood Transfusion Services, which is based on the number of major surgery cases by Aboriginality in 1996, and the coordinated care trials, which is an Aboriginal and Torres Strait Islander specific program. It should be noted that revenue for coordinated care trials includes payment for services provided to trials not individually identified as coordinated care trials in the expenditure statistics. *Note:* AIHW re-coded women's health from public health to community health.

Dental services expenditure for the community and school dental programs was based on the 1996 survey. There is also an Aboriginal and Torres Strait Islander specific dental services program.

Community mental health expenditure was based on the 1996 survey.

Public health expenditure was based on the 1996 survey except for an Aboriginal and Torres Strait Islander specific hearing program.

Health research

This was based on the 1996 survey.

Health administration

This was estimated by the Institute as an average of an allocation according to population and an allocation according to programs. The overall proportion for programs (excluding administration) is 56%, while the population proportion is 28%. These have been averaged and then applied to total administration expenses.

Other explanatory notes

Northern Territory data have been prepared on a cash basis.