Appendix 3: Estimation of Commonwealth outlays on Aboriginal and Torres Strait Islander peoples

Estimation of Medicare and Pharmaceutical Benefits Scheme outlays

Methodology

A national, continuing survey of general practitioner activity titled 'Bettering the Evaluation and Care of Health', or BEACH, has been used to estimate the Aboriginal and Torres Strait Islander share of Medicare and PBS benefits. The BEACH survey managed by the General Practice Statistics and Classification Unit is a collaborative study between the Australian Institute of Health and Welfare and the Family Medicine Research Centre at the University of Sydney. A comprehensive description of the methods adopted in the BEACH survey are within the annual report of the program (AIHW: Britt et al. 1999; AIHW: Britt et al. 2000).

Estimates of Medicare and PBS for the 1995–96 report came from a study undertaken in 1998. Full details of the study method are provided in the first report on health expenditures for Aboriginal and Torres Strait Islander people (Deeble et al. 1998). Subsequent references to this survey refer to it as the '1995–96 survey'.

Two years of BEACH data, collected between April 1998 and March 2000, have been used in this analysis. General practitioners participating in the survey were randomly selected from the population of all recognised GPs who had billed Medicare for more than 375 services in the preceding quarter. The sample of doctors was 984 in 1998–99 and 1,047 doctors in 1999–2000. Each GP recorded details of their activity in 100 consecutive encounters with patients. There were 98,400 encounters in 1998 and 104,700 in 1999 providing an overall total of 203,100 encounters.

The BEACH survey collects a range of patient characteristics for each patient episode including date of birth, gender, postcode of residence and health care card status. Self-identification as an Aboriginal person and/or Torres Strait Islander person was also ascertained, in principle, by the GP asking each patient directly. Information on the type of encounter, location of encounter, payment source and whether it was direct or indirect was also collected. Details of the management of patient problems were recorded as well, including medications prescribed, supplied and/or recommended, pathology and imaging services ordered, and referrals to specialists or hospitals (AIHW: Britt et al. 1999).

All estimates of Aboriginal and Torres Strait Islander service use were based on these data. However, the BEACH data needed several adjustments before analysis. The first related to the likelihood of general under-identification through the interpretation of encounter records where the question on Aboriginal and Torres Strait Islander status was not answered. The data collection form from the first year of the BEACH survey required a definite yes or no response to the questions on Aboriginal and Torres Strait Islander status but in over 6% of cases neither response was given. In the published BEACH report, this was interpreted as a 'no' response in every case. In this report, however, a more orthodox course of distributing the missing values was taken, according to the composition of the 'known' responses. A concession was made for the 1% of GPs found to have only ever recorded affirmative responses to the questions regarding Indigenous status; non-responses from these GPs were interpreted as 'no' responses. These adjustments increased the estimated Aboriginal and Torres Strait Islander numbers by 5.71%.

In the second year of the BEACH survey the proportion of encounters initially identified as Aboriginal and Torres Strait Islander dropped considerably—by over 30%, which was well outside the likely range of sampling error. Although there was an even distribution of Aboriginal and Torres Strait Islander encounters among GPs in this sample, it was particularly evident that there were much greater numbers of GPs who apparently saw no Aboriginal and/or Torres Strait Islander patients at all. The result was by no means clear. Although the method of identifying Aboriginal and Torres Strait Islander use of GP services was less subjective in the 1998–2000 survey than in the survey for the 1995–96 report, this reduction in identification was associated with a change in the reporting form. While the 1998 form asked, prominently, for a yes or no answer on Aboriginal identification, the 1999 required only the ticking of a single 'positive' response in a much smaller box. Copies of the forms are appended. This issue of the effect of recording form format on response rates is discussed in the 1999–2000 BEACH report (AIHW: Britt et al. 2000).

For results reported in 1998, BEACH interpreted missing answers as negative; these were subsequently amended to reflect the distribution of completed responses in that year. Changed recording made this impossible for 1999 so an alternative adjustment was made. Encounters of GPs who recorded between 1 and 19 encounters with Aboriginal and Torres Strait Islanders were re-weighted to reflect a similar total number of Aboriginal patients as those GPs recording the same proportion of Aboriginal and Torres Strait Islanders in 1998. The resulting Aboriginal and Torres Strait Islander numbers for 1999 BEACH data reflect the same distribution, by practice size, as in the earlier year.

The effect of the application of the BEACH encounter weights on the number of Aboriginal and Torres Strait Islander patients was significant—reducing the Aboriginal sample in 1999 by 18%. The effects of the weights were most notable among GPs with the highest proportion of Aboriginal and Torres Strait Islander encounters. These differences in the weighted sample of Aboriginal and Torres Strait Islander encounters in the second year contributed to the decision to use unweighted BEACH data in this study. An analysis of BEACH data within metropolitan, rural and remote regions by Britt et al. (AIHW: Britt et al. 2001) supports this approach.

Britt et al. state that the use of post-stratification weights for annual reports of national GP activity ensures the total sample is representative of general practice overall, but when sub-samples are being viewed independently, as in this report, national weighting is inappropriate.

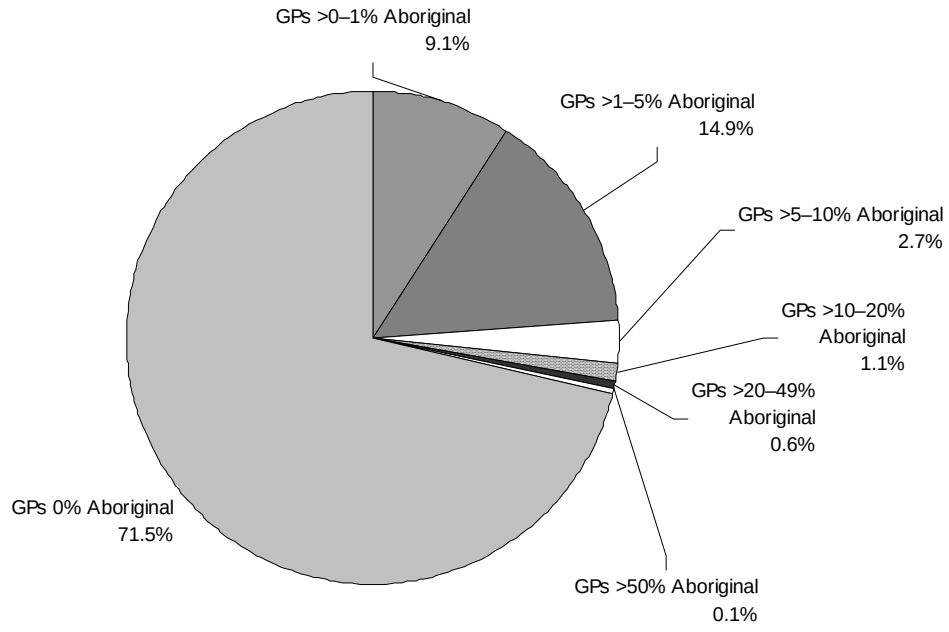
The overall outcome of these methodological changes was a level of Aboriginal and Torres Strait Islander identification and a composition of services in 1999 BEACH data almost identical to those in the published report of the 1998 survey (AIHW: Britt et al. 1999). The 1998 estimate of under-identification (5.71%) was then applied to the combined results. The total number of encounters after adjustments is 203,097 from 2,031 GPs. All of the data used below are based on these conventions.

Data

Medicare use

(i) Survey data

The methodology and data drawn from BEACH and used to estimate the total Medicare and PBS benefits are provided in the following section. The proportion of GPs in the BEACH survey and the corresponding proportion of total encounters with Aboriginal and Torres Strait Islander patients are represented in Figure A3.1.



Source: AIHW – GPSCU BEACH data, 1998 and 1999.

Figure A3.1: Proportions of Aboriginal and Torres Strait Islander encounters per GP, weighted BEACH data, 1998 and 1999

The proportion of Medicare-paid encounters for Aboriginal and Torres Strait Islander patients and non-Indigenous patients is shown in Table A3.1.

Table A3.1: Combined BEACH results for GP encounters—adjusted, 1998 and 1999

	Non-Indigenous number	Per cent	Indigenous number	Per cent	Total number
GP encounters	200,660	100.0	2,437	100.0	203,097
less					
Indirect	7,560	3.8	65	2.7	7,625
No charge	3,108	1.5	43	1.8	3,151
Compensation and hospital paid	9,511	4.7	102	4.2	9,614
Medicare paid	**180,481**	**89.94**	**2,226**	**91.4**	**182,707**

Note: Indirect encounters are encounters for prescriptions, referrals etc. that did not involve a patient contact.

Source: AIHW – GPSCU BEACH data, 1998 and 1999 (unpublished).

BEACH service data (medications prescribed, pathology tests and imaging investigations ordered, referrals to specialists and hospitals, etc.) are shown in Table A3.2. The data covers all encounters, including indirect encounters and those not paid by Medicare.

Table A3.2: BEACH services provided, 1998 and 1999

	Non-Indigenous number	Indigenous number	Total number
Pathology tests	54,815	749	55,564
Imaging exams	15,280	177	15,457
Referrals			
Specialist	16,573	165	16,738
Hospital	1,689	34	1,722

Source: AIHW – GPSCU BEACH data, 1998 and 1999 (unpublished).

Estimates of Aboriginal and Torres Strait Islander Medicare and PBS benefits were made on the basis of the numbers of GP encounters, services provided and prescriptions written for Aboriginal and Torres Strait Islander people. Calculating Medicare benefits involved the removal of non-Medicare-paid services and the distribution of missing data in the BEACH data. The results presented in Table A3.2 required adjustment; firstly, services ineligible for Medicare were excluded. We assumed these paralleled the distribution of GP encounters. Secondly, in the specialist area BEACH (as primarily a GP survey) recorded 'referrals', not the individual services (consultations) on which Medicare payments are based. Overall the Medicare data suggested that, for each referral, on average 2.5 consultations are generated. The 1995–96 report estimated the number of specialist visits per referral to be 2.1. This estimate may have been too low and may also have included non-medical referrals.

A more fundamental difficulty arose upon inspection of the BEACH data, which was coded using ICPC-2 PLUS (an extension of the International Classification of Primary Care—2nd edition). There were difficulties distinguishing between referrals to paramedical practitioners and medical specialists. Examples of this were GP encounters where a referral to a breast clinic was recorded on the BEACH survey form. Furthermore, referrals were not limited to private specialists (as were the data in the survey used in the 1995–96 report) but included referrals to specialists in public hospitals and public clinics as well. The paramedical component could be identified and excluded from the basic data but the private and public referrals could not be separated.

The guidelines in the 1995–96 report suggested that, taken together, the rates of referral to private specialists and hospitals were very similar for Aboriginal and Torres Strait Islander patients and non-Indigenous people but that their composition was different. For Aboriginal and Torres Strait Islander people only 36% of referrals were to private specialists, and 64% to public hospitals, whereas about 87% of all the non-Indigenous referrals were to private doctors. In the absence of better information, the same split was applied to the 1998–99 data. Table A3.3 shows the data used to estimate Medicare-paid services after these adjustments had been made. The number of specialist visits shown incorporates adjustment for repeat services by specialists, as outlined above.

Table A3.3: BEACH services—estimated Medicare-paid

	Non-Indigenous number	Indigenous number	Total number
Pathology tests	49,303	684	49,986
Imaging exams	13,743	162	13,905
Specialist visits	35,385	162	35,547

Note: Numbers of specialist visits include repeat consultations, estimated at 2.5 per referral.

Source: AIHW – GPSCU BEACH data, 1998 and 1999 (unpublished); DHAC, *Medicare Statistics*, various.

(ii) National data

National data for Medicare and the PBS were needed for two purposes. The first was to determine the expansion factor to be applied to the overall BEACH results and so standardise them to the known Medicare service totals based on the ratio of Medicare-paid GP consultations in BEACH to total GP consultations under Medicare.

The second purpose was to estimate the benefits paid for services to Aboriginal and Torres Strait Islander patients. As the usage surveys provided no financial information, benefits were therefore estimated as the product of use (derived by expanding the BEACH figures) and the average benefit paid per unit of service. In the 1995–96 report the latter were based on all Medicare-paid services. More accurate calculations were possible for 1998–99 through the availability of national benefit figures for both GP services and the specific diagnostic services they ordered, as well as the PBS items they prescribed (DHAC 2000b). In this case, the process involved dividing the official figures for GP-related benefits nationally by the expanded

service estimates based on BEACH. The effect was to standardise to the national expenditure figures by varying the implicit average benefits per service (see Table A3.4). Benefits for private specialist services were derived through an estimation of the procedures they would have performed. These were based on national average costs per service only although some independent data were available from the benefits actually paid for Aboriginal and Torres Strait Islander patients of ACCHSs and State-service doctors under Section 19(2) provisions. That information was useful in checking the accuracy of our volume estimates generally, since any errors in the BEACH extension would have been reflected in the average benefit figures. The fact they were very close suggests that the volumes have been estimated quite accurately.

Table A3.4: Medicare services and benefits, 1998–99

Service type	Number of services (million)	Benefits paid for GP-related services ($million)	Benefits paid–other ($million)	Total benefits paid ($million)
GP	101.4	2,353		2,353
Pathology tests	37.2	685	323	1,008
Imaging	11.4	613	452	1,065
Specialist visits	19.7	n.a.	984	984
Other medical	14.2	n.a.	1,113	1,113
Total	**184.0**	**3,651**	**2,872**	**6,523**

Note: Services exclude optometry, dental and pathology Patient Episode Initiation Fees (PEIs). Benefits exclude optometry and dental.

Source: DHAC), *Medicare Statistics*, various; DHAC2000b:263.

Calculations

The calculations from these data were as follows. The overall expansion factor was 555.23 (101.4 million GP services nationally divided by the 0.1827 million services in BEACH). The steps are outlined in Tables A3.5–10.

Table A3.5: Step 1—Expand all Medicare-paid BEACH data, 1998–99

Service type	BEACH services no.	Multiplier	Estimated national (millions)
GP	182,700	555.23	101.44
Pathology tests	49,986	555.23	27.75
Imaging	13,905	555.23	7.72
Specialist visits	35,547	555.23	19.74

Table A3.6: Step 2—Standardise to national data for GP-related and specialist outlays, with implicit benefits per service calculated, 1998–99

Service type	BEACH-estimated services (millions)	GP-benefits ($m)	Av. per GP-related ($)	Service-other ($)
GP	101.44	2,353	23.19	—
Pathology tests	27.75	685	24.68	34.15
Imaging	7.72	613	79.40	123.50
Specialist visits	19.74	n.a.	49.84	49.84

Note: Benefits per specialist visits are the national average. There are no separate data for specifically GP-referred visits.

Table A3.7: Step 3—Estimate direct Aboriginal and Torres Strait Islander use, 1998–99

Service type	Aboriginal and Torres Strait Islander in BEACH no.	Multiplier	Estimated national (millions)
GP	2,226	555.23	1.236
Pathology tests	684	555.23	0.380
Imaging	162	555.23	0.090
Specialist visits	162	555.23	0.090

Table A3.8: Step 4—Cost the estimated Aboriginal and Torres Strait Islander direct use, 1998–99

Service type	Estimated number of services (millions)	Average benefit ($)	Estimated total benefits ($ million)
GP	1.236	23.19	28.67
Pathology tests	0.380	24.68	9.37
Imaging	0.090	79.40	7.13
Specialist visits	0.090	49.84	4.48
Total	**1.795**	. .	**49.65**

Source: Table 6, Table 7.

Table A3.9: Step 5—Add the estimated value of specialist-generated services, assuming the same ratio of outlays as for specialist visits, 1998–99 ($ million)

Service	Est. generated services
Pathology	1.5
Imaging	2.1
Other (procedures)	5.1

Table A3.10: Step 6—Estimate medical benefits paid for Aboriginal and Torres Strait Islander people, 1998–99 ($ million)

Service type	Direct	Indirect	Total
GP	28.7	—	28.7
Pathology tests	9.4	1.5	10.8
Imaging	7.1	2.1	9.2
Specialist visits	4.5	—	4.5
Other medical	—	5.1	5.1
Total	**49.7**	**8.6**	**58.3**

Pharmaceutical benefits

Data from the BEACH survey were considered to be unreliable for the purposes of separately identifying PBS and Repatriation Pharmaceutical Benefits Scheme (RPBS) scripts. There was variation in the collection of data between the two years of the survey, and the sample size of Veterans' Affairs patients was small and therefore limited the ability to draw conclusions regarding RPBS outlays. Furthermore, the information could not be obtained from the survey of doctors used in the 1995–96 report, where again scripts covered by the RPBS were not separately identified to PBS scripts. For these reasons, scripts covered by the RPBS are assumed to have been captured within the script numbers estimated through expansion of GP encounters recorded in BEACH.

Methodology

The survey of doctors used in the 1995–96 report, specifically asked about PBS prescriptions written for Aboriginal and Torres Strait Islander people. Although the survey of pharmacies sought information on all prescriptions dispensed for the same group, PBS items were separately identified. With some assumptions about the average number of items per prescription, it was therefore possible to compare prescribing rates for Aboriginal and Torres Strait Islander people with wider data (particularly that from the predecessor of BEACH). It was possible to compare the number of items prescribed with those dispensed by private pharmacies through the PBS.

The BEACH data were less precise. Being GP-based they covered prescribing only (not dispensing) and included all prescribed medications, including those outside the PBS. It was therefore necessary to use some of the information presented in the 1995–96 report in the analysis of BEACH prescribing data. The relevant conclusions were:

(a) The number of prescriptions per GP consultation were very similar for Aboriginal and Torres Strait Islander and non-Indigenous patients, although the survey periods were not identical (Bridges-Webb survey in 1991 compared with 1997 when the survey for the 1995–96 report was undertaken).

(b) Approximately 97% of all items dispensed by private pharmacies for Aboriginal and Torres Strait Islander people was covered by the PBS. Of these, 80% was in the concessional category with less than 12% 'general'.

(c) If the item content of Aboriginal and Torres Strait Islander prescriptions was the same as for the population generally (about 1.7 items per script in 1997), only 71.4% of all the medications prescribed for them was dispensed under the PBS. This does not imply they were never supplied, only that they were not provided by private pharmacies through the PBS.

The BEACH surveys confirmed the first result. For the others, in the absence of any direct measures of dispensing, the same conditions were applied to the 1998–99 data. That is, 97% of all Aboriginal and Torres Strait Islander prescriptions was eligible for PBS cover; overwhelmingly they were 'concessional' but only 71.4% of them was privately dispensed. It would require another pharmacist survey to demonstrate otherwise.

Data

(i) Survey data

The combined BEACH surveys gave the following data on GP prescribing.

Table A3.11: Available data on GP prescriptions, 1998–1999

	Non-Indigenous number	Indigenous number	Total number
Items prescribed	186,014	2,351	188,365
Est. PBS eligible items[(a)]	[(b)]173,395	2,144	175,539

(a) PBS eligible items include prescriptions obtained through an indirect consultation.

(b) PBS eligible items for non-Indigenous people have not been adjusted for private scripts.

Source: AIHW – GPSCU BEACH data, 1998 and 1999.

The estimate of PBS eligible items excludes prescriptions at visits covered by workers compensation and hospital and/or state authority payment (6.3% and 6% for non-Indigenous and Aboriginal and Torres Strait Islander people respectively). However, strictly speaking it is accurate only for the Aboriginal and Torres Strait Islander component where the 1997 survey showed a very low proportion of 'private' scripts. The proportion would have been much higher for the non-Indigenous people in the BEACH surveys but the relevant split was not available. The analysis therefore concentrated on Aboriginal and Torres Strait Islander outlays directly. No overall reconciliation with national PBS information was possible.

(ii) National data

PBS statistics for 1998–99 were as follows (Table A3.12):

Table A3.12: Pharmaceutical Benefit Scheme statistics for 1998–99

	Total items (millions)	Total benefits ($m)	Average per item ($)
General	15.04	469.0	31.18
Concessional	88.10	1,739.5	19.74
Safety net	24.59	573.7	23.33
Total	**127.74**	**2,782.3**	**21.40**

Note: Excludes doctor's bag supplies. Safety net includes both general and concessional components. Average cost is weighted for dispensing patterns of general, concessional and safety net to Aboriginal and Torres Strait Islander (informed from first report).

Source: Health Insurance Commission, *Annual Report, 1998–99.*

Calculation

Estimated PBS eligible items and benefits for Aboriginal and Torres Strait Islander people, 1998–99.

Table A3.13: Estimated PBS eligible items and benefits for Aboriginal and Torres Strait Islander people, 1998–99

	No. of items	Multiplier	Estimated total items (millions)	Average benefit per item ($)	Estimated total benefits ($m)
PBS eligible items	2,144	555.23	1.19	. .	. .
Est. dispensed items	1,531	555.23	0.85	21.40	18.19

Note: Estimated average benefit per item is slightly lower than the national figure because of the high 'concessional' use by Aboriginal and Torres Strait Islander people.

PBS outlays for prescriptions written by specialists were estimated by applying the Aboriginal and Torres Strait Islander proportion of Medicare outlays on specialist consultations to the specialist-related component of pharmaceutical benefit payments (i.e. 0.456% of $453 million = $2.066 million in 1998–99).

Methodological issues

There are a variety of sources where survey error may have been introduced; hence the accuracy of Aboriginal and Torres Strait Islander service use estimates may be affected. The majority of Medicare and PBS estimates were made on the basis of information from the BEACH survey. These data may introduce errors through sampling variance, or simply through inaccurate recording of information. For instance, GPs participating in BEACH recorded patients as Aboriginal and/or Torres Strait Islander people after asking whether they identified as such. Despite this method of identification, the figures are still subject to under-identification, introduced through the possible failure of some GPs to ask their patients, non-recording of responses or non-identification by patients. As discussed in the opening methodology section of this chapter, the change to the layout of the form during the 1999 collection may have had a significant impact on the response to Indigenous

status questions. Adjustment was made to compensate for under-identification of Aboriginal and Torres Strait Islander patients.

Confidence limits have been calculated for the number of Medicare-paid GP encounters, which was the primary unit for expansion of the BEACH survey and resultant estimations of Medicare and pharmaceutical benefits to Aboriginal and Torres Strait Islander people. Medicare-paid encounters for Indigenous people were expanded by the ratio of all GP encounters in BEACH to the number of GP services reported nationally in HIC Medicare statistics for 1998–99. Specialist and pharmaceutical items were expanded by the same factor, which implies a constant relationship between them and GP visits. However, they must also have been subject to independent sampling variation so that the combined error must have been somewhat greater than the 34% (+/– 17%) estimated for the GP component alone.

The problem is larger for regional estimates where the number of encounter clusters (i.e. participating GPs) was low, in some cases less than 30. For these only the estimated error around the number of GP encounters for each region is shown. Because two years of BEACH survey data were used the confidence limits are considerably smaller than those published in the annual reports of BEACH (AIHW: Britt et al. 1999 and AIHW: Britt et al. 2000).

Based on the simplifying assumption that generated services had a constant relationship to GP visits, Table A3.14 provides 95% confidence intervals for service numbers derived from BEACH data. Analysis was conducted through SAS version 8.1. A procedure named 'Surveymeans' was used for estimates of survey population means, totals and confidence limits from the sample survey data. The procedure takes into account the cluster sample design of the BEACH survey.

Table A3.14: BEACH encounters, summary of management with confidence intervals, 1998 and 1999

Variable	Non-Indigenous	Rate per 100 non-Indigenous encounters	95% CI	Indigenous	Rate per 100 Indigenous encounters	95% CI
Encounters	200,660	n.a.	n.a.	2,437	n.a.	n.a.
Medications						
Prescribed	186,014	92.70	91.14–94.26	2,351	96.49	81.54–111.43
Referrals						
Specialist	16,573	8.26	8.03–8.49	165	6.79	5.76–7.81
Hospital and Emergency department	1,689	0.84	0.77–0.91	34	1.38	1.03–1.64
Pathology	54,815	27.32	26.51–28.13	749	30.72	23.66–37.78
Imaging	15,280	7.61	7.37–7.86	177	7.27	6.03–8.50

Source: AIHW – GPSCU BEACH data, 1998 and 1999 (unpublished).

On the same assumptions, the confidence limits of expenditures per person for the various services are as follows (Table A3.15).

Table A3.15: Ranges of error around Aboriginal and Torres Strait Islander estimates of Medicare and PBS benefits per person, 1998–99

	Indigenous benefits per person ($)			
	Mean	Low 95% CI	High 95% CI	Ratio range
Medicare				
GP	71	59	82	0.47–0.65
Pathology	27	20	33	0.38–0.61
Imaging	23	18	27	0.32–0.47
Specialist	24	19	28	0.17–0.24
Total	143	117	169	0.34–0.49
PBS	57	49	66	0.30–0.40
All benefits	**201**	**166**	**235**	0.32–0.46

Source: AIHW – GPSCU BEACH data, 1998 and 1999 (unpublished); DHAC, *Medicare Statistics*, various; Health Insurance Commission; *Annual Report, 1998–99*.

Estimates of the impact of survey error on the Medicare and PBS estimates of benefits reported in 1995–96 were not available. However, the specific-purpose survey used to estimate Medicare and PBS benefits for Aboriginal and Torres Strait Islander people in the 1995–96 report produced a similar sample size to the BEACH survey, and the survey design had similarities with the BEACH survey in that responses were highly clustered. As an approximation, estimates of sampling error for the 1995–96 survey were based on the same proportional error as for the BEACH survey (see Figure 3.1, Chapter 3). However, this takes no account of the arbitrary assumption of 20% under-identification in the 1995–96 survey.

Supplementary information

Despite the possibility of sampling error, as discussed above, information from Aboriginal Community Controlled Health Services (ACCHSs) supports the conclusions drawn regarding outlays to Aboriginal and Torres Strait Islander people through Medicare.

Although some ACCHSs have billed Medicare for years, the process has accelerated considerably since 1995–96 and, in particular, since 1997 when State-salaried doctors in 51 locations in Queensland and Western Australia were provided site-specific Medicare registration. No service data were available before 1998–99. Table A3.16 shows services provided and benefits paid for patients treated by them or referred from them in that year. Table A3.17 compares the average benefits per service paid under these arrangements with the implicit benefits we have calculated for all GP-related services in Table A3.6. As can be seen, the correspondence is very close. Since they came from entirely different sources, one of which involved expansion of the BEACH data, it suggests that our estimates of service volume are also accurate. The only category in which our overall expenditure figure might be a little high is 'specialist procedures' (for which there was no GP-related benchmark) but it was a relatively small component. Also, ACCHS practice might not have been the same as for GPs generally, but there was no way of estimating the size of any likely error.

Table A3.16: Services billed to Medicare from Aboriginal Community Controlled Health Services and State service providers, 1998–99

	ACCHSs			State services		
	Services ('000)	Benefits ($'000)	Average benefit ($)	Services ('000)	Benefits ($'000)	Average benefit ($)
GP	194.1	4,599	23.7	84.4	1,937	23.0
Specialist	13.0	697	53.6	3.9	207	53.2
Pathology tests	46.1	1,158	25.1	5.1	133	26.1
Imaging	13.2	974	73.8	4.8	247	51.5
Other	5.8	185	31.9	4.0	138	34.5
Total	**272.2**	**7,613**	**28.0**	**102.2**	**2,662**	**26.0**

Note: Pathology benefits include Patient Episode Initiation Fees but service numbers are for tests only.

Source: Commonwealth Department of Health and Aged Care unpublished data.

Table A3.17: Average benefits per GP-related service through ACCHSs and State providers, and as implied from a standardised expansion of BEACH ($)

	ACCHS/State	Estimated from BEACH
GP	23.5	23.2
Specialist	53.5	49.8
Pathology tests	25.2	24.7
Imaging	67.8	79.4
Other	33.0	n.a.

Source: Commonwealth Department of Health and Aged Care unpublished data, AIHW – GPSCU BEACH data, 1998 and 1999.

Change in ACCHS medical services between 1995–96 and 1998–99

As discussed in Chapter 3, one-half of the change in volume of **Medicare-billed** GP services provided to Aboriginal and Torres Strait Islander people by ACCHSs may be attributed to new services. Decomposition of available information on service provision (Table A3.18) estimates the number of extra services in 1998–99 at 51,000 relative to the change in Medicare-billed GP services of 99,000. The number of non-Medicare-funded services in 1998–99 has been estimated to be 40,000, but whether this is 20,000, 40,000 or 50,000 has little impact on our estimate of the volume of new service provision. The overall growth in the number of GP services delivered by ACCHSs is estimated from work force data which indicates that the number of full-time equivalent GPs rose by 28.2% over the period from 1995–96 to 1998–99.

Table A3.18: GP services delivered by ACCHSs, 1995–96 and 1998–99

Service type	1995–96	1998–99	Change
Medicare-funded GP services	95,000	194,000	99,000
Other GP services (not Medicare-funded)	88,000	40,000	–48,000
Total GP services delivered by ACCHSs	**183,000**	**234,000**	**51,000**

Source: Commonwealth Department of Health and Aged Care unpublished data.

Estimates of Commonwealth recurrent expenditure

Estimates of the Commonwealth's recurrent expenditure on health services are presented in detail in Table A3.19. This information expands on that presented in Chapter 3, Tables 3.7 and 3.8.

Table A3.19: Estimates of Commonwealth recurrent expenditure (excluding grants to the States) on health services for the total population and Aboriginal and Torres Strait Islander people, by type of service, 1998–99

Area of expenditure	Total ($'000)	Indigenous ($'000)	% Indigenous	Per person non-Indigenous	Per person Indigenous	Indigenous/ non-Indigenous per person expenditure
Acute-care institutions—public	**185,500**	**4,271**	**2.3**	**$9.83**	**$10.51**	**1.07**
Blood fractionation products	122,500	4,082	3.3	$6.43	$10.05	1.56
Private health insurance subsidies	63,000	189	0.3	$3.41	$0.47	0.14
Acute-care institutions—private	**550,000**	**1,650**	**0.3**	**$29.75**	**$4.06**	**0.14**
Private health insurance subsidies	550,000	1,650	0.3	$29.75	$4.06	0.14
Aged care	**2,447,158**	**27,247**	**1.1**	**$131.31**	**$67.06**	**0.51**
High-care residential aged care—non State Government	2,441,676	22,023	0.9	$131.29	$54.20	0.41
Indigenous flexible care service models (high-care)	3,721	3,721	100.0	$0.00	$9.16	
Total high-care residential aged care[(a)]	*2,445,397*	*25,744*	*1.1*	*$131.29*	*$63.36*	*0.48*
Best practice for dementia specific facilities	260	2	1.0	$0.01	$0.01	0.44
Aboriginal and Torres Strait Islander assistance	1,501	1,501	100.0	$0.00	$3.69	
Medical services	**6,900,612**	**64,527**	**0.9**	**$370.93**	**$158.81**	**0.43**
Alternative general practice funding arrangements	167,743	2,043	1.2	$8.99	$5.03	0.56
Coordinated care trials for people with ongoing and complex health needs	18,024	108	0.6	$0.97	$0.27	0.27

(continued)

Table A3.19 (continued): Estimates of Commonwealth recurrent expenditure (excluding grants to the States) on health services for the total population and Aboriginal and Torres Strait Islander people, by type of service, 1998–99

Area of expenditure	Total ($'000)	Indigenous ($'000)	% Indigenous	Per person non-Indigenous	Per person Indigenous	Indigenous/ non-Indigenous per person expenditure
General practice infrastructure training	145,411	1,789	1.2	$7.79	$4.36	0.56
Medicare benefits—GP services	2,330,216	28,665	1.2	$124.88	$70.55	0.56
Medicare benefits—other medical services	4,120,098	29,588	0.7	$224.44	$72.82	0.33
Medicare benefits—total	*6,459,314*	*58,253*	*0.9*	*$350.78*	*$143.37*	*0.41*
Medical workforce assistance for areas with a shortage	8,269	165	2.0	$0.44	$0.41	0.93
Rural and remote health support services	9,399	188	2.0	$0.50	$0.46	0.93
Other medical	36,452	1,792	4.9	$1.88	$4.41	2.35
Private health insurance subsidies	56,000	168	0.3	$3.03	$0.41	0.14
Dental	**137,242**	**438**	**0.3**	**$7.42**	**$1.08**	**0.14**
Medicare benefits	6,242	45	0.7	$0.34	$0.11	0.33
Private health insurance	131,000	393	0.3	$7.09	$0.97	0.14
Other health professional	**197.185**	**1,223**	**0.6**	**$10.63**	**$3.01**	**0.28**
Optometrical	146,050	1,067	0.7	$7.87	$2.63	0.33
Visiting Optom. Scheme	135	3	2.2	$0.01	$0.01	1.00
Private health insurance	51,000	153	0.3	$2.76	$0.38	0.14
Community health	**405,397**	**113,164**	**27.9**	**$15.86**	**$278.52**	**17.56**
Aboriginal And Torres Strait Islander Health Services Program—Health Services Program (health component)	85,655	77,374	90.3	$0.45	$190.43	. .
Aboriginal And Torres Strait Islander Health Services Program—Substance misuse Services	17,225	17,225	100.0	$0.00	$42.39	. .
Domiciliary Nursing Care Benefit	95,745	686	0.7	$5.16	$1.69	0.33
Indigenous coordinated care trials for people with ongoing and complex health needs	8,814	8,813	100.0	$0.00	$21.69	. .
Community-based support programs for the aged	37,055	413	1.1	$1.99	$1.02	0.51

(continued)

Table A3.19 (continued): Estimates of Commonwealth recurrent expenditure (excluding grants to the States) on health services for the total population and Aboriginal and Torres Strait Islander people, by type of service, 1998–99

Area of expenditure	Total ($'000)	Indigenous ($'000)	% Indigenous	Per person non-Indigenous	Per person Indigenous	Indigenous/ non-Indigenous per person expenditure
Family planning	12,384	267	2.2	$0.66	$0.66	1.00
Hearing services	132,378	8,037	6.1	$6.75	$19.78	2.93
Other community health	16,140	348	2.2	$0.86	$0.86	1.00
Pharmaceuticals	**2,804,645**	**20,446**	**0.7**	**$151.07**	**$50.32**	**0.33**
Pharmaceutical Benefits Scheme	2,795,645	20,419	0.7	$150.59	$50.25	0.33
Private health insurance subsidies	9,000	27	0.3	$0.49	$0.07	0.14
Aids and appliances	**41,003**	**123**	**0.3**	**$2.22**	**$0.30**	**0.14**
Private health insurance subsidies	41,003	123	0.3	$2.22	$0.30	0.14
Public health	**129,115**	**8,487**	**6.6**	**$6.55**	**$20.89**	**3.19**
National Public Health	113,335	2,445	2.2	$6.02	$6.02	1.00
National Youth Suicide Prevention Strategy	7,056	152	2.2	$0.37	$0.37	1.00
National Mental Health	2,897	62	2.2	$0.15	$0.15	1.00
Combating infectious diseases of Indigenous people (OATSIH)	4,832	4,832	100.0	$0.00	$11.89	. .
Indigenous specific projects	995	995	100.0	$0.00	$2.45	. .
Patient transport	**43,560**	**7,781**	**17.9**	**$1.94**	**$19.15**	**9.86**
Royal Flying Doctor Service	16,560	7,700	46.5	$0.48	$18.95	39.42
Private health insurance	27,000	81	0.3	$1.46	$0.20	0.14
Health research	**174,333**	**2,796**	**1.6**	**$9.31**	**$6.88**	**0.74**
Health research including Medical Research Endowment Fund payments	166,764	2,675	1.6	$8.90	$6.58	0.74
Other	7,568	121	1.6	$0.40	$0.30	0.74
Administration	**736,586**	**15,125**	**2.1**	**$39.15**	**$37.23**	**0.95**
OATSIH	10,410	8,207	78.8	$0.12	$20.20	169.02
General	597,176	6,531	1.1	$32.05	$16.07	0.50
Subsidy for health insurance funds administration through private health insurance subsidies	129,000	387	0.3	$6.98	$0.95	0.14

(continued)

Table A3.19 (continued): Estimates of Commonwealth recurrent expenditure (excluding grants to the States) on health services for the total population and Aboriginal and Torres Strait Islander people, by type of service, 1998–99

Area of expenditure	Total ($'000)	Indigenous ($'000)	% Indigenous	Per person non-Indigenous	Per person Indigenous	Indigenous/ non-Indigenous per person expenditure
Medicare[(b)]	6,611,607	59,364	0.9	$355.53	$146.11	0.41
Pharmaceutical Benefits Scheme (PBS)	2,795,645	20,419	0.7	$150.59	$50.25	0.33
Medicare plus PBS	**9,407,252**	**79,783**	**0.8**	**$506.11**	**$196.36**	**0.39**
Indigenous specific health[(c)]	131,652	121,169	92.0	$0.57	$298.22	. .
Other Commonwealth programs	4,487,257	59,408	1.3	$240.26	$146.21	0.61
General administration	726,176	6,918	1.0	$39.03	$17.03	0.44
Total program costs plus administration	**14,752,337**	**267,278**	**1.8**	**$785.97**	**$657.82**	**0.84**

(a) Excludes Commonwealth subsidy for high care in State Government residential aged care homes.

(b) Includes optometrical and dental benefits.

(c) Includes: Indigenous flexible service models for aged care, some Indigenous public health programs, OATSIH health programs and OATSIH administration.

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