Health service attendance patterns in an urban Aboriginal health service

Karen M Flegg, Christine B Phillips, Anne L Collins, Peter G Sharp, Meetali Kanagasundaram, Ray W Lovett and Marjan Kjajakovic

Health inequalities are a significant issue for Aboriginal and Torres Strait Islander (Aboriginal) Australians. Many of the data relevant to this problem are derived from people living in rural or remote areas. In 2006, although 31% of Aboriginal people lived in major cities, they made up less than 3% of the populations of these cities, with the exception of Darwin (10%). The assumption has been made that better access to health care means that urban-dwelling Aboriginal Australians score better on indicators of health than Aboriginal Australians living in rural or remote areas. A limited number of studies have contradicted this assumption.

Winnunga Nimmityjah Aboriginal Health Service (WNAHS) is an Aboriginal community-controlled health service established in Canberra in 1988 and governed by an Aboriginal Board elected by the local Aboriginal community. WNAHS provides comprehensive primary health care to around 3500 patients per year, and does not refuse access to non-Aboriginal Australians in need. At the time we conducted this study, in 2006, Aboriginal and Torres Strait Islander people based in and around the Australian Capital Territory (including Queanbeyan in New South Wales) numbered around 4770. WNAHS provides a bulk-billing general practice “drop in” type service with no appointment needed. In this study, we aimed to describe the reasons why patients attended WNAHS, and to compare these with the overall patterns of attendance in Australian general practice.

METHODS
We used a data collection instrument adapted from the New Zealand National Primary Medical Care Survey (NatMedCa) and Bettering the Evaluation and Care of Health (BEACH) study tools. Data on all consultations were collected by all eight doctors working at WNAHS over two 2-week periods — one in March and one in November to December 2006. The data collection instrument collected data on: patient demographic characteristics; the reason for the consultation according to the patient; up to four problems managed at the consultation; and investigation and management of each problem.

The reasons for encounters and problems managed were classified using the 17 chapters (or clinical domains) in the International classification of primary care, second edition tools by two coders (one for each survey period) using letter codes only.

Comparisons with Australian data were achieved by determining the standardised attendance ratios for different problems managed. These were calculated by indirectly standardising our data against that for the population attending general practice from May 2004 to April 2005 reported in the BEACH study, which we used as the reference population. The numerator on sex-specific attendances for each chapter for the reference population was derived from BEACH data and the denominators were derived from that year’s published report on the BEACH study. Statistical comparisons between proportions were calculated using $\chi^2$ analysis in SPSS-X (SPSS Inc, Chicago, Ill, USA).

Ethics approval for this study was given by the Australian National University Human Research Ethics Committee and the WNAHS Board.

RESULTS
Data were available for 324 encounters in the March sample and 286 encounters in the November to December sample, giving a total of 610 patient encounters (with a ratio of 1.5 female encounters to one male encounter). Eighty-three per cent of attendances were by Aboriginal patients; non-Aboriginal patients comprised 24% of patients attending in November to December, but only 6.2% of patients attending in March ($\chi^2$, 40, $P<0.001$). Patients at WNAHS in 2006 were significantly younger than the reference population, with 12% of patients being aged under 4 years compared with 5.4% in the reference popula-
Problems managed

There were 912 problems managed during the 610 encounters (a rate of 1.5 problems per encounter). The pattern of attendances at WNAHS differed significantly from attendance patterns at Australian general practice overall (Box 1), in that most service contacts at WNAHS involved patients with complex and chronic illnesses — particularly psychological conditions, for which a third of attendances were for substance misuse. Age-adjusted standardised attendance ratios indicate that WNAHS patients had an attendance rate for psychological, endocrine and neurological conditions that was more than twice, and an attendance rate for social problems that was more than five times, that of the overall Australian population (Box 2).

The high rate of attendance for neurological conditions was attributable to a significant burden of illness associated with headache (two-thirds of neurological presentations were coded under this reason for encounter) and neuropathy associated with trauma or diabetes.

Referrals

A referral to another service or practitioner occurred in 19% of encounters (compared with 12% for the BEACH reference population), with 56% of these referrals being to specialists and 40% to allied health professionals (including dentists).

DISCUSSION

Our findings suggest that the patterns of health service attendance of urban Aboriginal people differ from those of the overall Australian population, particularly in relation to mental health, endocrine and neurological conditions. Inala Indigenous Health Service has also reported high rates of mental illness, substance misuse and cardiovascular risk factors. The question of whether substance misuse and related psychological problems occur at rates similar to those in Aboriginal Australians living in rural or remote areas warrants further investigation. WNAHS provides a visiting psychiatry service, a visiting psychotherapist, an opiate program and a large social health team. It is unclear what effect these services have on presentations to general practitioners.

Diabetes is a condition managed significantly more often in consultations with Aboriginal Australians than in the general population, reflecting the higher rates of diabetes among Aboriginal Australians. This is similar to the findings of the Townsville Aboriginal and Islander Health Service (TAIHS), where diabetes was the most common problem managed (11.3% of consultations), but it must be noted that the TAIHS study also included primary care services by non-doctors. The high rate of attendance for neurological disorders, particularly headaches, has not been described before.

The low standardised attendance ratio for reproductive health may be attributable to specific clinics run by WNAHS, which employs midwives to provide comprehen-

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**1 Unadjusted rates of problems managed in urban Aboriginal health service compared with Australian general practice**

<table>
<thead>
<tr>
<th>Problem managed</th>
<th>Aboriginal health service</th>
<th>Australian general practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>0.10</td>
<td>0.20</td>
</tr>
<tr>
<td>Neurological</td>
<td>0.15</td>
<td>0.25</td>
</tr>
<tr>
<td>Female genital</td>
<td>0.05</td>
<td>0.10</td>
</tr>
<tr>
<td>Endocrine</td>
<td>0.10</td>
<td>0.20</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>Skin</td>
<td>0.15</td>
<td>0.25</td>
</tr>
<tr>
<td>Circulatory</td>
<td>0.10</td>
<td>0.20</td>
</tr>
<tr>
<td>General</td>
<td>0.05</td>
<td>0.10</td>
</tr>
<tr>
<td>Digestive</td>
<td>0.15</td>
<td>0.20</td>
</tr>
<tr>
<td>Circulatory</td>
<td>0.10</td>
<td>0.20</td>
</tr>
<tr>
<td>Skin</td>
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</tr>
<tr>
<td>Neurological</td>
<td>0.10</td>
<td>0.20</td>
</tr>
</tbody>
</table>

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2 Rates of management of the 15 most common classifications and standardised attendance ratios (compared with attendance patterns to general practice for the reference population)

<table>
<thead>
<tr>
<th>Problem managed*</th>
<th>Problems managed per 100 consultations†</th>
<th>Problems managed per 100 problems managed‡</th>
<th>Standardised attendance ratio (95% CI)§</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological</td>
<td>23.93</td>
<td>16.01</td>
<td>2.14 (2.01–2.28)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>16.72</td>
<td>11.18</td>
<td>0.78 (0.73–0.83)</td>
</tr>
<tr>
<td>Digestive</td>
<td>11.47</td>
<td>7.68</td>
<td>1.17 (1.09–1.24)</td>
</tr>
<tr>
<td>General</td>
<td>9.84</td>
<td>6.58</td>
<td>0.29 (0.27–0.30)</td>
</tr>
<tr>
<td>Circulatory</td>
<td>13.11</td>
<td>8.77</td>
<td>1.79 (1.68–1.91)</td>
</tr>
<tr>
<td>Skin</td>
<td>16.23</td>
<td>10.85</td>
<td>0.95 (0.89–1.02)</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>15.90</td>
<td>10.64</td>
<td>1.13 (1.05–1.20)</td>
</tr>
<tr>
<td>Endocrine</td>
<td>9.51</td>
<td>6.36</td>
<td>2.44 (2.29–2.60)</td>
</tr>
<tr>
<td>Female genital</td>
<td>7.38</td>
<td>4.93</td>
<td>1.10 (1.03–1.17)</td>
</tr>
<tr>
<td>Neurological</td>
<td>10.00</td>
<td>6.69</td>
<td>2.90 (2.71–3.09)</td>
</tr>
<tr>
<td>Ears</td>
<td>2.95</td>
<td>1.98</td>
<td>0.64 (0.60–0.68)</td>
</tr>
<tr>
<td>Social</td>
<td>5.09</td>
<td>3.40</td>
<td>1.48 (1.45–1.51)</td>
</tr>
<tr>
<td>Pregnancy and family planning</td>
<td>1.97</td>
<td>1.31</td>
<td>0.47 (0.44–0.50)</td>
</tr>
<tr>
<td>Eyes</td>
<td>1.64</td>
<td>1.10</td>
<td>0.69 (0.65–0.74)</td>
</tr>
<tr>
<td>Urological</td>
<td>2.95</td>
<td>1.97</td>
<td>1.48 (1.32–1.65)</td>
</tr>
</tbody>
</table>

* International classification of primary care classification group. † 610 total consultations. ‡ 912 total problems managed. § Indirectly standardised using the population attending Australian general practice from May 2004 to April 2005 reported in the Bettering the Evaluation and Care of Health study as the reference population.
sive antenatal and postnatal care (attend-
ances at which were not included in this
survey of attendances to GPs). There were
few attendances for renal disease, despite
the higher rate of attendance for endocrine
disorders, mainly diabetes.

Although ear disease is well described
among Aboriginal populations, this popula-
tion of young people had fewer presenta-
tions for ear disease than an age-matched
Australian population, suggesting a need for
greater case-finding among young Aborigi-
nal people.

WNAHS data noted fewer presentations
for “simple” consultations such as respira-
tory illnesses and skin problems than the
general Australian population. Patients
who attend this service present with com-
plex comorbid conditions usually involving
a combination of psychological and med-
ical problems, which are likely to require
extended consultation times. TAIHS has
shown that its doctors manage more prob-
lems per consultation than Townsville gen-
eral practices, and thus have significantly
more long consultations. Our data did not
capture use of the Indigenous health check
items under Medicare, but Inala Indige-
nous Health Service has found these valua-
able for detecting risk factors for chronic
disease and uncovering important new
diagnoses. Future studies should consider
consultation times and the use of health
checks.

Aboriginal primary health care is a chal-

lenging form of general practice in both
urban and rural settings, involving the
management of largely complex health
problems. Current funding arrangements
do not recognise these complexities. There
is a need for other urban Aboriginal health
services in Australia to publish their
health service attendance patterns with a
view to influencing policymakers to con-
sider increasing targeted program funding
to Aboriginal health services. Such fund-
ing could feasibly address the needs iden-
tified by patterns of presentation for
enhanced support services in Aboriginal
health services.

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by all doctors at WNAHS in completing these
surveys. We are indebted to the Chief Executive
Officer and Board of WNAHS for the release of the
information and data reported in this article.

COMPETING INTERESTS
None identified.

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