Assessing the quality of maternal health care in Indigenous primary care services

Alice R Rumbold, Ross S Bailie, Damin Si, Michelle C Dowden, Catherine M Kennedy, Rhonda J Cox, Lynette O’Donoghue, Helen E Liddle, Ru K Kvedza, Sandra C Thompson, Hugh P Burke, Alex D Brown, Tarun Weeramanthri and Christine M Connors

To the Editor: Improving access to appropriate, good-quality care in the antenatal and postnatal period is a key part of closing the acknowledged gap between Indigenous and other Australians in perinatal outcomes. Previous research in a large Aboriginal medical service in Queensland demonstrated sustained improvements in perinatal outcomes associated with a quality improvement approach. Here we describe patterns of the delivery of maternity care and service gaps on a broad scale, using data from baseline clinical audits in 34 Indigenous primary health centres participating in a national quality improvement intervention.

Participating services were located across the Northern Territory (Top End and Central Australia), North Queensland, Far West New South Wales and Western Australia. Details of the audit methods have been described previously. Briefly, a random sample of up to 30 clinical records in each service was assessed to determine the degree of adherence to recommended protocols and procedures in the antenatal and postnatal periods. Records of women with an infant aged 2–14 months and who had been resident in the community for at least 6 months of the infant’s gestation were considered eligible for our study. The study was approved by the human research ethics committees in each region, and their Indigenous subcommittees where required.

Clinical records of 535 women were assessed. Eighty-nine per cent of the women were Indigenous. However, compared with services in the NT, WA and North Queensland, services in Far West NSW had a higher proportion of non-Indigenous women presenting for antenatal or postnatal care (34% v 0–6%; P < 0.05). Overall, less than half of all women presented for care in the first trimester of pregnancy (Box, page 598). Documentation of routine antenatal investigations and brief interventions or advice regarding health behaviour varied, but generally these services appeared to be underutilised. There was relatively good documentation of follow-up of identified problems relating to hypertension or diabetes, with over 70% of identified women being referred to a general practitioner or obstetrician. However, follow-up of other identified problems, such as inadequate rubella immunity, was poor.

Although 53% of women had a recorded postnatal visit, documentation of advice regarding health risk factors during the postnatal period was poor. For about half of all women there was documentation about breastfeeding advice and contraception. But advice about smoking, nutrition or mood (depression) was recorded for only 19%–21% of all women, and advice about sudden infant death syndrome prevention, injury prevention or infection/hygiene was recorded for only 4%–5% of all women.

The clinical audit data presented here indicate that participating services had both strengths and weaknesses in delivering maternal health care. Nevertheless, improving adherence to recommended screening investigations and brief interventions or advice about health behaviours, particularly smoking cessation, in the antenatal and postnatal period were identified as clear areas for improvement across all services.

This information represents baseline data to inform the long-term monitoring of a quality improvement intervention. More broadly, it should be useful for informing local, regional and national efforts to promote and assess the quality of primary maternal health care for Indigenous women, and thus help address the persisting unacceptably high rates of poor Indigenous perinatal outcomes in Australia.

Alice R Rumbold, Senior Research Fellow1
Ross S Bailie, Senior Principal Research Fellow2
Damin Si, Postdoctoral Research Fellow3
Michelle C Dowden, Manager of Primary Health Care4

Catherine M Kennedy, Data Analyst and Far West NSW Hub Coordinator, ABCD Project5
Rhonda J Cox, Quality Improvement Project Officer and WA Hub Coordinator, ABCD Project6
Lynette O’Donoghue, Health Promotion Quality Improvement Facilitator7
Helen E Liddle, Central Australian Hub Coordinator, ABCD Project7
Ru K Kvedza, Program Manager Quality Improvement and ABCD Project8
Sandra C Thompson, Professor, Centre for International Health9
Hugh P Burke, Public Health Physician5
Alex D Brown, Director9
Tarun Weeramanthri, Executive Director10
Christine M Connors, Northern Territory Preventable Chronic Disease Program Leader11

1 Department of Obstetrics and Gynaecology, University of Adelaide, Adelaide, SA.
2 Menzies School of Health Research, Darwin, NT.
3 Centre for Chronic Disease, University of Queensland, Brisbane, QLD.
4 Ngalkanbuy Health Service, Elcho Island, NT.
5 Maari Ma Health Aboriginal Corporation, Broken Hill, NSW.
6 Curtin University of Technology, Perth, WA.
7 Menzies School of Health Research, Alice Springs, NT.
8 Queensland Health, Brisbane, QLD.
9 Centre for Indigenous Vascular and Diabetes Research, Baker IDI Heart and Diabetes Institute, Alice Springs, NT.
10 Public Health Division, Department of Health, Government of Western Australia, Perth, WA.
11 Northern Territory Department of Health and Families, Darwin, NT.

alice.rumbold@adelaide.edu.au

Documented pregnancy care across regions

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>NT Top End</th>
<th>NT Central Australia</th>
<th>Far West NSW</th>
<th>Western Australia</th>
<th>North Queensland</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of health centres</td>
<td>number of client records audited</td>
<td>13</td>
<td>136</td>
<td>2</td>
<td>45</td>
<td>6</td>
</tr>
<tr>
<td>Proportion of women with estimated gestational age &lt; 12 weeks at first antenatal visit</td>
<td>49%</td>
<td>44%</td>
<td>35%</td>
<td>42%</td>
<td>34%</td>
<td>42%</td>
</tr>
<tr>
<td>Mean number of antenatal visits</td>
<td>9</td>
<td>10</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>7*</td>
</tr>
<tr>
<td>Proportion of women with folate prescribed before 20 weeks</td>
<td>29%</td>
<td>49%</td>
<td>3%</td>
<td>33%</td>
<td>24%</td>
<td>27%*</td>
</tr>
</tbody>
</table>

Any use of:

- Cigarettes: 41% 40% 39% 42% 55% 43%
- Alcohol: 12% 27% 19% 25% 31% 22%*
- Illicit drugs: 7% 2% 17% 8% 7% 9%

Brief interventions or counselling

- Smoking cessation†: 48% 67% 35% 49% 41% 46%
- Antenatal education: 51% 93% 51% 46% 47% 52%*
- Nutrition: 53% 76% 18% 32% 59% 41%
- Breastfeeding: 21% 51% 17% 25% 19% 24%
- Alcohol and other substance abuse: 37% 56% 12% 39% 34% 34%*

Investigations at first antenatal assessment

- Blood group/Rh: 96% 100% 65% 77% 79% 82%*
- Antibodies: 93% 100% 66% 70% 78% 79%*
- Midstream urine (MSU): 91% 96% 40% 67% 76% 71%*
- Full blood examination (FBE): 95% 100% 64% 73% 79% 80%*
- Rubella: 92% 100% 61% 70% 78% 77%*
- Hepatitis B surface antigen: 91% 100% 56% 75% 79% 78%*
- Syphilis serology: 94% 100% 58% 55% 81% 72%*
- HIV: 80% 89% 14% 72% 59% 63%*
- Offered anomaly screening: 6% 33% 17% 20% 0% 15%*

Other investigations

- Ultrasound before 16 weeks: 32% 49% 38% 39% 24% 36%
- Ultrasound at 16–20 weeks: 47% 69% 31% 41% 34% 42%
- 50g or 75g glucose challenge test (GCT) or glucose tolerance test (GTT): 78% 49% 33% 46% 60% 54%*
- FBE (20–28 weeks): 82% 69% 24% 46% 60% 54%*
- Low vaginal swab for group B streptococcus (34–37 weeks): 49% 62% 31% 29% 10% 35%*

Follow-up of abnormal findings

- Record of abnormal standard GCT: 17% (23/136) 22% (10/45) 10% (10/103) 4% (7/193) 17% (10/58) 11% (60/535)*
- GTT undertaken: 87% (20/23) 90% (9/10) 80% (8/10) 43% (3/7) 60% (6/10) 77% (46/60)
- Anaemia (Hb < 100 g/L): 14% (19/136) 22% (10/45) 11% (11/103) 12% (24/193) 3% (2/58) 12% (66/535)*
- Iron prescribed: 84% (16/19) 100% (10/10) 91% (10/11) 75% (18/24) 50% (1/2) 83% (55/66)
- Follow-up FBE or Hb test done: 42% (8/19) 90% (9/10) 36% (4/11) 46% (11/24) 50% (1/2) 50% (33/66)
- Nitrites detected by dipstick: 21% (28/136) 33% (15/45) 5% (5/103) 24% (46/193) 10% (6/58) 19% (100/535)*
- Urine sent for culture and sensitivity: 96% (27/28) 100% (15/15) 100% (5/5) 93% (43/46) 100% (6/6) 96% (96/100)
- Oral antibiotic prescribed: 93% (26/28) 60% (9/15) 80% (4/5) 37% (17/46) 83% (5/6) 61% (61/100)*
- Record of a normal follow-up MSU: 46% (13/28) 100% (15/15) 40% (2/5) 26% (12/46) 83% (5/6) 47% (47/100)*
- Rubella antibodies negative or low-titre: 35% (47/136) 7% (3/45) 15% (15/103) 15% (28/193) 7% (4/58) 18% (97/535)*
- Rubella vaccination given postnatally: 36% (17/47) 67% (2/3) 13% (2/15) 32% (9/28) 0 (0/4) 31% (30/97)*

GTT = glucose tolerance test. Hb = haemoglobin. NSW = New South Wales. NT = Northern Territory. *P < 0.05 for comparisons between regions.
† Among those who used cigarettes: NT Top End (n = 56), NT Central Australia (n = 18), Far West NSW (n = 40), WA (n = 82), North Queensland (n = 32); total N = 228.