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

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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.[1] Previous research in a large Aboriginal medical service in Queensland demonstrated sustained improvements in perinatal outcomes associated with a quality improvement approach.[2] 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.[3]

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.[4] 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.[5] 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.

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1 Australian Department of Health and Ageing. Healthy for Life program framework. 2008. http://www.health.gov.au/internet/h4l/publishing.nsf/Content/framework (accessed Sep 2008).
2 Panaretto KS, Mitchell MR, Anderson L, et al. Sustainable antenatal care services in an urban Indigenous community: the Townsville experience. *Med J Aust* 2007; 187: 18-22.
3 Bailie RS, Si D, O'Donoghue L, Dowden M. Indigenous health: effective and sustainable health services through continuous quality improvement. *Med J Aust* 2007; 186: 525-527.
4 Bailie RS, Togni SJ, Si D, et al. Preventive medical care in remote Aboriginal communities in the Northern Territory: a follow-up study of the impact of clinical guidelines, computerised recall and reminder systems, and audit and feedback. *BMC Health Serv Res* 2003; 3: 15.
5 Minymaku kutju tjukurpa: women's business manual. 4th ed. Alice Springs: Congress Alukura and Nganampa Health Council, 2008.

Documented pregnancy care across regions

Characteristic	NT Top End	NT Central Australia	Far West NSW	Western Australia	North Queensland	Total
Number of health centres | number of client records audited	13 | 136	2 | 45	6 | 103	9 | 193	4 | 58	34 | 535
Proportion of women with estimated gestational age < 12 weeks at first antenatal visit	49%	44%	35%	42%	34%	42%
Mean number of antenatal visits	9	10	5	6	7	7*
Proportion of women with folate prescribed before 20 weeks	29%	49%	3%	33%	24%	27%*
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%	38%	66%	51%*
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 $N = 228$. ◆