Improving the provision of recommended pregnancy care for Aboriginal and Torres Strait Islander women

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Large disparities in pregnancy outcomes exist between Aboriginal and Torres Strait Islander (Indigenous) women and non-Indigenous women in Australia.

- Low birth weight, preterm birth, perinatal death

Chronic diseases are major contributors to the mortality gap

- Heart disease, diabetes

Pregnancy care has a key role in identifying and addressing modifiable risk factors for adverse health outcomes during pregnancy and beyond.

- Smoking, alcohol, under/overweight, gestational weight gain, diabetes in pregnancy

Need for effective, long-term strategies across a range of settings to ensure provision of recommended pregnancy care.
An approach facilitating ongoing improvement in structures and processes

Positive focus on the functioning of organisational systems

Multidisciplinary and participative: all staff have input and ownership

Builds ability to understand and use data to address underlying causes

Repeated cycles of gathering data, setting goals, developing and implementing improvements and measuring progress (Plan, Do, Study, Act)

(Bailie et al 2007 MJA 186:10)
Study Design

System-based action research network (ABCD National Research Partnership)
• Links multiple dispersed primary health care centres participating in a CQI initiative
• Stakeholders from all levels of health system

Aims of this sub-study
• Identify whether provision of recommended pregnancy care by primary health centres increases after participating in this CQI initiative.
• Explore whether improvements are associated with health centre systems or characteristics.

Data sources
• Audits of maternal health records
• Structured assessments of organisational systems (overall score and 5 domains)

(Bailie et al 2010 BMC Health Serv Res 10:129)
Methods

Maternal health audits (2592 women: 83% Indigenous, 76 health centres: 0-4 cycles)
• Lifestyle and metabolic risk factors
• Client level logistic regression for associations between pregnancy care measures and CQI cycles (adjusting for clustering within health centres)

Organisational Systems Assessments (35 health centres)
• Health centre level linear regression for associations between pregnancy care measures and systems assessment scores

Health centre characteristics
• 74% rural/remote, 49% population<1000, 36% community controlled, 37% NT, 36% QLD
• Chi-square tests for associations between pregnancy care measures and health centre characteristics
Pregnancy Care for Lifestyle-Related Risk Factors: Longitudinal Results

- Screened for cigarette use: Baseline 90%, Cycle 1 85%, Cycle 2 80%, Cycle 3 75%, Cycle 4 70%
- Cigarette cessation advice: Baseline 80%, Cycle 1 75%, Cycle 2 70%, Cycle 3 65%, Cycle 4 60%
- Screened for alcohol use: Baseline 70%, Cycle 1 65%, Cycle 2 60%, Cycle 3 55%, Cycle 4 50%
- Brief alcohol counselling: Baseline 60%, Cycle 1 55%, Cycle 2 50%, Cycle 3 45%, Cycle 4 40%
- Nutrition counselling: Baseline 50%, Cycle 1 45%, Cycle 2 40%, Cycle 3 35%, Cycle 4 30%
- Food security counselling: Baseline 40%, Cycle 1 35%, Cycle 2 30%, Cycle 3 25%, Cycle 4 20%
- Physical activity counselling: Baseline 30%, Cycle 1 25%, Cycle 2 20%, Cycle 3 15%, Cycle 4 10%
- Folate prescription < 20 weeks: Baseline 20%, Cycle 1 15%, Cycle 2 10%, Cycle 3 5%, Cycle 4 0%

n=2592 women
75 health centres
Pregnancy Care for Metabolic Risk Factors: Longitudinal Results

n=2592 women
75 health centres
## Health Centre Organisational Systems

<table>
<thead>
<tr>
<th></th>
<th>Overall Score</th>
<th>Delivery system design</th>
<th>Information systems &amp; decision support</th>
<th>Self-management support</th>
<th>External links</th>
<th>Organisational influence &amp; integration</th>
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<tbody>
<tr>
<td>Screening for cigarette use</td>
<td>0.62</td>
<td>-0.30</td>
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<td>0.76</td>
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<td>7.8</td>
<td>2.4</td>
<td>6.8</td>
<td>2.6</td>
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<td>(0.8 to 15)</td>
<td>(-4.6 to 9.4)</td>
<td>(2.2 to 11)</td>
<td>(-3.8 to 8.9)</td>
<td>(1.6 to 13)</td>
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<tr>
<td>Screening for alcohol use</td>
<td>5.3</td>
<td>4.4</td>
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<td>0.96</td>
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<td>Alcohol brief counselling</td>
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<td>5.5</td>
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</table>

β coefficient (95% confidence interval) p<0.05
n=35 health centres
Health Centre Characteristics

More health centres in NT: highest diabetes screening rates (46% vs 17-30%)
More centres in WA: most improvement in folate prescription (83% vs 0-38%)

More health centres with populations of up to 1000: most improvement in diabetes screening (52% vs 20%)

More city/regional health centres: highest rates of BMI checks (60% vs 32%) and most improvement in brief alcohol counselling (67% vs 25%)

More government-operated health centres: highest rates of smoking cessation advice (43% vs 19%) and alcohol counselling (48% vs 13%)

More community-controlled centres: most improvement in alcohol counselling (53% vs 21%)
Limitations

• Systems assessment data available for only some health centres
• Participating health centres may not be representative of non-participating health centres

However, little multi-centre research worldwide

Translation

• ABCD Partnership national meetings and wider partnership engagement
• Plain language statements
• National and international conferences, articles in preparation
Participation in a CQI initiative, supported by a system-based research network, was associated with greater provision of pregnancy care regarding lifestyle-related and metabolic risk factors.

Improvements appeared to be sustained with continuing involvement in CQI.

Better self-rated organisational systems associated with greater provision of pregnancy care measures.

Health centre setting may influence pregnancy care provision but no indication of success only in one setting.

Further improvements in pregnancy care are needed to improve health outcomes: folate prescription, nutrition & physical activity counselling, BMI checks and management, diabetes screening.
Acknowledgments

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