Smoking in Pregnancy
Impact, evidence and challenges
Siobhan Jones, Consultant in Public Health
Aims of presentation

- Overview evidence synthesis results
- Progress on taking forward recommendations
- Challenges for NHS & partners
- Discussion

Smoking in Pregnancy – Impact, evidence and challenges
Smoking cessation during pregnancy

Pathfinder evidence synthesis results
Smoking Prevalence

- 33% before, during throughout pregnancy
- 16% throughout pregnancy
- 14% least deprived
- 40% most deprived

UK infant feeding survey
<table>
<thead>
<tr>
<th>Outcomes associated with cigarette smoking during pregnancy</th>
<th>Population attributable risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ectopic pregnancy</td>
<td>8%  (6)</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>10%  (6)</td>
</tr>
<tr>
<td>Preterm birth</td>
<td>13%  (7)</td>
</tr>
<tr>
<td>Premature rupture of the membranes</td>
<td>11%  (6)</td>
</tr>
<tr>
<td>Placenta praevia</td>
<td>14%  (6)</td>
</tr>
<tr>
<td>Placental abruption</td>
<td>13%  (6)</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>10%  (6), 27%  (7)</td>
</tr>
<tr>
<td>Small for gestational age</td>
<td>25%  (7)</td>
</tr>
<tr>
<td>Stillbirth</td>
<td>4-7%  *  (9)</td>
</tr>
<tr>
<td>Sudden Infant death syndrome</td>
<td>26%  (6)</td>
</tr>
<tr>
<td>Respiratory distress</td>
<td>10%  (6)</td>
</tr>
</tbody>
</table>
Low birth weight

Low birth weight, 1998-2007, all singleton live births
MSOA, Percentage; source: ADBE/ONS

- 7.16 to 8.24 (8)
- 6.10 to 7.16 (13)
- 5.04 to 6.10 (33)
- 3.98 to 5.04 (34)
- 2.92 to 3.90 (0)

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Smoking in Pregnancy – Impact, evidence and challenges
Overall Importance of Individual Attributes in Impacting Educational Outcomes
Preterm births - inequalities

![Graph showing preterm births by deprivation fifth, 1993-2005](image)

Smoking in Pregnancy – Impact, evidence and challenges
What we know does work...

Smoking cessation interventions during pregnancy
- 3-6% reduction in smoking in late pregnancy
- Reduced low birth weight RR 0.83 (95%CI 0.73 to 0.95)
- Reduced preterm births RR 0.86 (95% CI 0.74 to 0.98)
What we know does work...

- NICE pathways/guidance
- CO monitoring
- NHS Stop Smoking Services (4 week quit rates 32-48%)
### Benefit of increasing % women going to SSW

<table>
<thead>
<tr>
<th>Savings by increasing uptake from 11% to 25% in Wales per year</th>
<th>Cases due to smoking</th>
<th>Total cost £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Maternal complications</td>
<td>141.01</td>
<td>362,249</td>
</tr>
<tr>
<td>Total Infant complications</td>
<td>92.89</td>
<td>80,814</td>
</tr>
<tr>
<td>Total savings</td>
<td>233.9</td>
<td>443,064</td>
</tr>
</tbody>
</table>

1. Assumes current uptake is 11% - no data to verify this in Wales
2. Does not take account of costs

NICE costing template PH26
2. Effectiveness of interventions - SMALL EFFECTS

<table>
<thead>
<tr>
<th>Outcome</th>
<th>NNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking in late pregnancy</td>
<td>53</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>60</td>
</tr>
<tr>
<td>Preterm birth</td>
<td>100</td>
</tr>
</tbody>
</table>
Need more evidence on...

- NRT during pregnancy
- Site/ setting/ staff delivering intensive interventions
- Financial incentives (RR 0.76, 95% CI 0.71 – 0.81)
Professional barriers

• Fear damaging relationship with client
• Limited knowledge/ skills
• Staff perception/ confidence of knowledge & skills & impact of interventions
• Lack of time
Barriers for women...

- Length of sessions
- Access
- Lack of transport, childcare
- Fear of failure
- Beliefs about control
- Concerns re: stigma

Smoking in Pregnancy – Impact, evidence and challenges
The Challenge

• High prevalence
• Poor outcomes & inequality
• Low uptake services
• Evidence based interventions not systematically implemented by NHS & partners
Summary of Key Recommendations

• Due to the health, social and economic impacts smoking in pregnancy should be the highest priority area for public health action for the NHS in Wales.

• Integrated working to improve services and ensure uptake of smoking cessation in pregnancy are increased to 25%. In particular ensuring:
  – Strong leadership from maternity services
  – Consistent data recording and collection to establish the baseline, monitor outcomes and the impact of service changes.
  – Improved referral systems and processes
  – Access to brief intervention/motivational interviewing training for midwives and support staff
  – Review of the service model delivered by SSW to pregnant smokers, ensuring implementation of evidence base in order to maximise outcomes.
Summary of Key Recommendations

- Consideration should be given to undertaking a social profiling exercise in Wales in order to establish who the different groups of women who smoke are and what are the individual motivations/barriers, in order to target evidence based interventions accordingly.

- Consideration should be given to how the NHS works in a more and integrated way on this key priority area, with a seamless approach to joint working across all NHS services and partner agencies.

Smoking in Pregnancy – Impact, evidence and challenges
How do we increase uptake of smoking cessation services by pregnant women in Wales?

• National pilot project
• Implementation of NICE guidance & piloting different models service delivery in 4 Health Board areas
• Guide development of effective smoking in pregnancy services

Smoking in Pregnancy – Impact, evidence and challenges
Other new approaches are also required...

- Prevention uptake – schools
- Targeting
- Financial incentives (large effect sizes observed)
- Pharmacists
- Preconception
- Social profiling
- Social media/marketing
Ydy fy nyfodol yn ddisglair?
Is my future bright?
Discussion questions

How can we use current partnership approaches to address issue at the population level?

- Communities 1st
- Families 1st
- Flying Start
- HB – HV’s, CM, SN’s
- PHW
- Voluntary sector
Consider....

• Level of priority
• Leadership
• Targeting interventions
• Systematic, coordinated approach
• Ownership by all agencies
• Innovation & sharing best practice
• Common performance/population outcomes & indicators

Smoking in Pregnancy – Impact, evidence and challenges
Acknowledgements

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• North Wales Early Years Workstream

Report available at: