Costs and benefits of iodine supplementation for pregnant women in a mildly to moderately iodine-deficient population
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Tables

Table 1

<table>
<thead>
<tr>
<th>Parameter list - assuming worst case scenario, (i.e. being least favourable to iodine supplementation)</th>
<th>Data</th>
<th>Sources</th>
</tr>
</thead>
</table>
| Probability of a pregnant woman being iodine deficient | 67.43% | Bath and colleagues⁵ 
                    Vanderpump and colleagues⁶ showed a similar proportion of iodine deficiency in 14/15 year old girls in the UK (68%) |

**Iodine Deficiency**

| Proportion of iodine deficient women who are mildly/moderately iodine deficient (Urinary Iodine-to-Creatinine ratio (UIC) 50 to 149µg/l) | 0.89 | Bath and colleagues⁵ |
| Proportion of iodine deficient women who are severely iodine deficient (UIC <50µg/l) | 0.11 | Bath and colleagues⁵ |

**IQ Gain**

| IQ gain from supplementation in previously mildly iodine deficient women | 2.20 | Bath and colleagues⁵ |
| IQ gain from supplementation in previously severely iodine deficient women | 3.00 | Bath and colleagues⁵ |

**Iodine supplementation**

| Duration of iodine supplementation in weeks with successful pregnancy and lactation | 78 | Model assumption |
| Duration of iodine supplementation in weeks with early pregnancy loss | 23 | Model assumption |
| Duration of iodine supplementation in weeks with late pregnancy loss | 47 | Model assumption |

**Pregnancy complications**

<p>| Baseline pregnancy risk of early pregnancy loss | 20.00% | Royal College of Obstetricians and Gynaecologists⁷⁴ |
| Baseline pregnancy risk of stillbirth | 0.47% of total births | UK stillbirth rate⁷⁵ |
| Baseline pregnancy risk of preterm birth | 7.14% of live births | UK preterm birth rate⁷⁵ |
| Baseline pregnancy risk of pre-eclampsia | 8.00% | Duley⁷⁶ |
| Pre-eclampsia cost | £11370.00 | Meads and colleagues⁷⁷ |</p>
<table>
<thead>
<tr>
<th>Discount rate for costs</th>
<th>3.50%</th>
<th>NICE guide to the methods of technology appraisal</th>
</tr>
</thead>
</table>

For a small minority of women who may develop thyroid dysfunction as a result of iodine supplementation (assumption based on non-pregnant population iodine supplementation programmes which include the elderly)

<table>
<thead>
<tr>
<th>Incremental incidence of thyroid dysfunction from iodine supplementation</th>
<th>0.25%</th>
<th>European Commission</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ loss from overt &amp; subclinical hypothyroidism</td>
<td>7.00</td>
<td>Haddow and colleagues</td>
</tr>
<tr>
<td>IQ loss from isolated hypothyroxinemia</td>
<td>7.00</td>
<td>Model assumption based on equivalent neurodevelopmental test scores in Subclinical Hypothyroidism and Isolated Hypothyroxinemia groups</td>
</tr>
<tr>
<td>Incidence of early pregnancy loss from overt hyperthyroidism</td>
<td>26.00%</td>
<td>Momotani &amp; Ito</td>
</tr>
<tr>
<td>Odds ratio of stillbirth from overt hyperthyroidism*</td>
<td>8.42</td>
<td>95% CI (2.01-35.20)</td>
</tr>
<tr>
<td>Odds ratio of preterm birth from overt hyperthyroidism</td>
<td>16.50</td>
<td>95% CI (2.09-130.02)</td>
</tr>
<tr>
<td>Odds ratio of pre-eclampsia from overt hyperthyroidism*</td>
<td>3.94</td>
<td>95% CI (2.47-6.29)</td>
</tr>
<tr>
<td>Incidence of early pregnancy loss from overt hypothyroidism</td>
<td>30.00%</td>
<td>Glinoer</td>
</tr>
<tr>
<td>Odds ratio for stillbirth from Overt Hypothyroidism</td>
<td>9.69</td>
<td>95% CI (2.92-32.16)</td>
</tr>
<tr>
<td>Odds ratio for Preterm Birth from Overt Hypothyroidism</td>
<td>15.55</td>
<td>95% CI (3.62-66.81)</td>
</tr>
<tr>
<td>Incidence of pre-eclampsia from Overt Hypothyroidism</td>
<td>44.00%</td>
<td>Davis and colleagues</td>
</tr>
<tr>
<td>Odds ratio for early pregnancy loss from subclinical hypothyroidism</td>
<td>1.88</td>
<td>95% CI (1.13-3.15)</td>
</tr>
<tr>
<td>Odds ratio of stillbirth from subclinical hypothyroidism</td>
<td>3.29</td>
<td>95% CI (1.32-8.21)</td>
</tr>
<tr>
<td>Condition</td>
<td>Odds Ratio</td>
<td>95% CI</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Odds ratio for preterm birth from subclinical hypothyroidism</td>
<td>5.60</td>
<td>(2.30-13.58)</td>
</tr>
<tr>
<td>Odds ratio for pre-eclampsia from subclinical hypothyroidism</td>
<td>3.39</td>
<td>(1.40-8.15)</td>
</tr>
<tr>
<td>Odds ratio for preterm birth from isolated hypothyroxinemia*</td>
<td>2.54</td>
<td>(1.42-4.54)</td>
</tr>
</tbody>
</table>

* Adjusted Odds ratio
Table 2

<table>
<thead>
<tr>
<th>Results summary table and sensitivity analysis scenarios</th>
<th>Cost saving Analysis 1 (NHS perspective)</th>
<th>Cost saving Analysis 2 (Societal perspective)</th>
<th>IQ points gained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base case results</td>
<td>£199</td>
<td>£4476</td>
<td>1·22</td>
</tr>
<tr>
<td>Sensitivity analysis scenarios</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IQ gain for severe iodine deficiency same as mild/moderate iodine deficiency</td>
<td>£189</td>
<td>£4302</td>
<td>1·18</td>
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<tr>
<td>1 IQ point gain from iodine supplementation</td>
<td>£46</td>
<td>£1900</td>
<td>0·53</td>
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<tr>
<td>No IQ gain for mild/moderate iodine deficiency</td>
<td>-£42</td>
<td>£540</td>
<td>0·17</td>
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<tr>
<td>Prevalence of iodine deficiency halved</td>
<td>£59</td>
<td>£2178</td>
<td>0·61</td>
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<tr>
<td>Doubled early pregnancy loss</td>
<td>£145</td>
<td>£3352</td>
<td>0·92</td>
</tr>
<tr>
<td>Doubled cost of iodine tablets</td>
<td>£148</td>
<td>£4452</td>
<td>1·22</td>
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<tr>
<td>Doubled discount rate</td>
<td>£144</td>
<td>£1608</td>
<td>1·22</td>
</tr>
<tr>
<td>No thyroid dysfunction</td>
<td>£229</td>
<td>£4495</td>
<td>1·23</td>
</tr>
<tr>
<td>Health costs halved</td>
<td>£60</td>
<td></td>
<td>1·22</td>
</tr>
<tr>
<td>Value of an IQ point halved</td>
<td></td>
<td>£2409</td>
<td>1·22</td>
</tr>
<tr>
<td>No real wage growth</td>
<td></td>
<td>£3239</td>
<td>1·22</td>
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<tr>
<td>Willingness to pay figure for an additional IQ point used</td>
<td></td>
<td>£1832</td>
<td>1·22</td>
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<tr>
<td>Exclusion of public sector costs</td>
<td></td>
<td>£3953</td>
<td>1·22</td>
</tr>
</tbody>
</table>