Prioritising preventative health interventions
‘Translating’ review evidence for policy makers

Oslo, May 2009

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Introduction and overview

- Question: which preventative health interventions should we invest in?
- Objective: a ranking of interventions
- Presentation:
  - Phase 1: Rapid Evidence Assessment
  - Phase 2: Evidence for policy
    - Stakeholder engagement
    - Two synthesis techniques

Phase 1: Rapid evidence assessment

- Department of Health: 8 areas of importance
  - Reduce smoking
  - Prevent obesity
  - Prevent dangerous drinking
  - Prevent the uptake of illicit drug use
  - Reduce the incidence of STI and teenage pregnancy
  - Promote breast feeding
  - Promote healthy nutrition and dietary patterns
  - Promote health in the elderly

- 41 interventions
  - Considered effective
  - Objective: rank interventions
Phase 1: Rapid evidence assessment

Search for evidence of cost and effect: Review of reviews

Table 2: Priorities among effective clinical preventive services

<table>
<thead>
<tr>
<th>Services (short name)</th>
<th>Description</th>
<th>CPB</th>
<th>CE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin chemoprophylaxis</td>
<td>Discuss the benefits/harms of daily aspirin use for the prevention of cardiovascular events with men ≥40, women ≥50, and others at increased risk.</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Childhood immunization series</td>
<td>Immunize children: diphtheria, tetanus, pertussis, measles, mumps, rubella, inactivated polio virus, Haemophilus influenzae type b, hepatitis B, varicella, pneumococcal conjugate, influenza.</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Tobacco screening and brief intervention</td>
<td>Screen adults for tobacco use, provide brief counseling, and offer pharmacotherapy.</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Colorectal cancer screening</td>
<td>Screen adults aged ≥50 years routinely with FOBT, sigmoidoscopy, or colonoscopy.</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Hypertension screening</td>
<td>Measure blood pressure routinely in all adults and treat with antihypertensive medication to prevent incidence of cardiovascular disease.</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Influenza immunization</td>
<td>Immunize adults aged ≥50 against influenza annually.</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Pneumococcal immunization</td>
<td>Immunize adults aged ≥65 against pneumococcal disease with one dose for most in this population.</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Problem drinking screening and brief counseling</td>
<td>Screen adults routinely to identify those whose alcohol use places them at increased risk and provide brief counseling with follow-up.</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Vision screening—adults</td>
<td>Screen adults aged ≥45 routinely for diminished visual acuity with Snellen visual acuity chart.</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 3: Rating of intervention cost-effectiveness

<table>
<thead>
<tr>
<th>Rating</th>
<th>CE estimate</th>
<th>Relevance</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>***</td>
<td>Very CE</td>
<td>Relevant</td>
<td>Reliable</td>
</tr>
<tr>
<td>**</td>
<td>Very CE</td>
<td>Uncertain</td>
<td></td>
</tr>
<tr>
<td>**</td>
<td>CE</td>
<td>Relevant</td>
<td>Reliable</td>
</tr>
<tr>
<td>*</td>
<td>Don’t know / uncertain</td>
<td>Any</td>
<td></td>
</tr>
<tr>
<td>Not rated</td>
<td>Not CE</td>
<td>Any</td>
<td></td>
</tr>
</tbody>
</table>
## Phase 1: Rapid evidence assessment

### Intervention

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Universal or targeted/high risk strategy</th>
<th>Cost-effectiveness rating</th>
<th>Timing of benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking cessation</td>
<td>Universal</td>
<td>★</td>
<td>Immediate</td>
</tr>
<tr>
<td>Mass media campaigns aimed at adults</td>
<td>Universal</td>
<td>★</td>
<td>Immediate</td>
</tr>
<tr>
<td>Mass media campaigns aimed at children and young people</td>
<td>Universal</td>
<td>★</td>
<td>Immediate</td>
</tr>
<tr>
<td>School based programmes</td>
<td>Universal</td>
<td>★**</td>
<td>Long-run</td>
</tr>
<tr>
<td>Drug therapies</td>
<td>Targeted/high risk</td>
<td>★**</td>
<td>Immediate</td>
</tr>
<tr>
<td>Obesity prevention</td>
<td>Universal</td>
<td>★**</td>
<td>Immediate</td>
</tr>
<tr>
<td>School based programmes</td>
<td>Universal</td>
<td>★**</td>
<td>Long-run</td>
</tr>
<tr>
<td>Community based interventions to increase physical activity</td>
<td>Universal</td>
<td>★**</td>
<td>Immediate</td>
</tr>
<tr>
<td>Multifactor targeted interventions</td>
<td>Universal</td>
<td>★**</td>
<td>Immediate</td>
</tr>
<tr>
<td>Preventing dangerous drinking</td>
<td>Targeted/high risk</td>
<td>★**</td>
<td>Short-term</td>
</tr>
<tr>
<td>Brief interventions in primary care for high-risk drinkers</td>
<td>Universal</td>
<td>★**</td>
<td>Short-term</td>
</tr>
<tr>
<td>School based programmes - classroom</td>
<td>Universal</td>
<td>★**</td>
<td>Short-term</td>
</tr>
<tr>
<td>School based programmes – one on one</td>
<td>Universal</td>
<td>★**</td>
<td>Short-term</td>
</tr>
</tbody>
</table>

### Conclusion

- A good start
- Accessible results
- Short timeline

### Gaps / next steps

- Consult stakeholders to agree criteria (e.g. preventable burden, equity)
- A more thorough review of the evidence.
Phase 2: Evidence for policy

1. Stakeholder engagement
   a. Stakeholders
      • Local + national
      • Health + social care
   b. Method: workshops + surveys
   c. Results: information requested by stakeholders
      • Effectiveness / cost-effectiveness
      • Equity
      • Number of people benefit

Supplementary reviews + synthesis

Phase 2: Evidence for policy

2. Synthesis methods 1: decision models

1. Transform effectiveness into cost-effectiveness
2. Transform multiple outcomes in standard measures (£/QALY)

- Supplementary data
  - Intervention cost
  - Long run health costs
  - Long run social care costs
  - Long run QoL gains
Phase 2: Evidence for policy

2. Synthesis methods 2: discrete choice experiment

Review/model

- Cost effectiveness
- Equity
- Number of people benefit

Rating?
Phase 2: Evidence for policy

2. Synthesis methods 2: discrete choice experiment

\[
\text{Logit}(P) = \ln\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 \text{AveBen} + \\
\beta_2 \text{ManBen} + \beta_3 \text{Ser} + \beta_4 \text{VerSer} + \\
\beta_5 \text{CE} + \beta_6 \text{VerCE} + \beta_7 \text{Pov} + \\
\beta_8 \text{VulChild} + \beta_9 \text{VulRepr} + \beta_{10} \text{VulOld} + \\
\beta_{11} \text{Scen2} + \ldots + \beta_{12} \text{Scen16} + \varepsilon
\]

Attributes

Probability that an intervention is chosen

Summary

1. Policy makers demand more than just effectiveness

2. Develop modelling techniques (jurisdiction-specific) to combine data:
   1. Fill gaps in the evidence base (e.g. economic evidence)
   2. Weight criteria (e.g. DCE)