



Prioritising preventative health interventions 'Translating' review evidence for policy makers

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matrix
knowledge group

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

Table 2. Priorities among effective clinical preventive services

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



Phase 1: Rapid evidence assessment

Search for evidence of cost and effect: Review of reviews

Table 3: Rating of intervention cost-effectiveness

Rating	CE estimate	Relevance	Reliability
****	Very CE	Relevant	Reliable
***	Very CE	Uncertain	
***	CE	Relevant	Reliable
**	CE	Uncertain	
*	Don't know / uncertain	Any	
Not rated	Not CE	Any	



Phase 1: Rapid evidence assessment

Intervention	Universal or targeted/high risk strategy	Cost-effectiveness rating		Timing of benefits
		Public sector costs saved	Quality of life gained	
Smoking cessation				
Mass media campaigns aimed at adults	Universal	*	*	Immediate
Mass media campaigns aimed at children and young people	Universal	*	*	Immediate
School based programmes	Universal	*	**	Long-run
Drug therapies	Targeted/high risk	*	****	Immediate
Obesity prevention				
School based programmes	Universal	*	***	Short-run
Community based interventions to increase physical activity	Universal	*	*	Immediate
Multifactor targeted interventions	Targeted/high risk	*	*	Immediate
Preventing dangerous drinking				
Brief interventions in primary care for high risk drinkers	Targeted/high risk	***	*	Short-term
School based programmes - classroom	Universal	*	*	Short-term
School based programmes – one on one	Universal	*	*	Short-term

Phase 1: Rapid evidence assessment

- 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.
 - Limited effect evidence: short-term behavioural outcomes. Model longer-term health gains and cost savings.

Phase 2: Evidence for policy

1. Stakeholder engagement

a. Stakeholders

- Local + national
- Health + social care

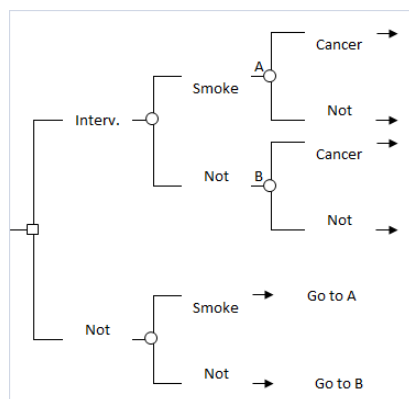
b. Method: workshops + surveys

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



Ranking?

Health England: Criteria Weighting Survey

Choice set 1

29% complete

Choice set 1	Programme 1	Programme 2	Programme 3
<u>Distribution of benefits</u>	20% of health benefits received by most disadvantaged 20% of the population	50% of health benefits received by most disadvantaged 20% of the population	20% of health benefits received by most disadvantaged 20% of the population
<u>Proportion benefitting</u>	1%	1%	5%
<u>Cost Effectiveness</u>	£10,000/QALY	£30,000/QALY	£50,000/QALY

Click on the category link to reveal definitions.

8 Please indicate your choice of programme for set 1

- Programme 1
- Programme 2
- Programme 3

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Phase 2: Evidence for policy

2. Synthesis methods 2: discrete choice experiment

$$\begin{aligned} \text{Logit}(P) = \ln(P/(1-P)) = & \beta_0 + \beta_1 \text{AveBen} + \\ & \beta_2 \text{ManBen} + \beta_3 \text{Sev} + \beta_4 \text{VerSev} + \\ & \beta_5 \text{CE} + \beta_6 \text{VerCE} + \beta_7 \text{Pov} + \\ & \beta_8 \text{VulChild} + \beta_9 \text{VulRepr} + \beta_{10} \text{VulOld} + \\ & \beta_{11} \text{Scen2} + (\dots) + \beta_{25} \text{Scen16} + \varepsilon \end{aligned} \quad (2) \quad \left. \vphantom{\text{Logit}(P)} \right\} \text{Attributes}$$

↑
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)