Health Impact Assessment
Current practice and future potential

Partnership for Prevention and the UCLA School of Public Health

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Elements of health impact assessment

- Focused on public policy decisions and population health outcomes;
- Is a multidisciplinary process;
- Considers a wide range of evidence;
- Uses a structured framework;
- Based on a broad model of health.
The goal of HIA

“to identify those activities and policies likely to have major impacts on the health of a population in order to reduce the harmful effects on health and to increase the beneficial effects.”

Northern and York Public Health Observatory, 2001
Potential contributions of HIA

- Bring potential health impacts to the attention of policy-makers, particularly when they are not already recognized or are otherwise unanticipated;
- Provide a focus for inter-sectoral action on health promotion;
- Highlight differential effects on population sub-groups.
Questions HIA might address

1. What are the health effects of local “Living Wage” ordinances?
2. Do state-funded after-school programs yield significant health benefits?
3. What are the health consequences of the current set of agricultural subsidies?
4. What elements of school site design are most cost-effective in encouraging physical activity?
5. What are the potential mental health effects of policy responses to chemical/bio-terrorism threats?
Disciplinary foundations of HIA

- Environmental Impact Assessment
- Risk Analysis, Epidemiology, etc.
- Evidence-based Reviews
- Community-based Health Promotion e.g. “Healthy Cities”
HIA is already being used

- Great Britain
- Sweden
- Canada
- Germany
- Australia
- New Zealand
- World Bank
- E.U.

PFP/UCLA HIA Overview 8
HIA Approaches

1. Quantitative/Analytic
   ◆ Based on risk analysis and epidemiology

2. Participatory
   ◆ Rooted in community health promotion, esp. “Healthy Cities”
   ◆ Dominant HIA model in Sweden, UK

3. Procedural
   ◆ Hybrid. Often linked to EIA
   ◆ Being developed in Canada, Australia, NZ
Learning from EIA:

Lessons for HIA practice

- EIA has provided avenue for public participation, but...
- Long, complex documents;
- Process is time-consuming and expensive;
- Often litigious process;
- Tends to focus on projects, not policies;
- Tends to stop short of considering health outcomes.
Areas where work is needed to develop the potential of HIA

- Policy analysis;
- Synthesizing and communicating best available evidence;
- Extending HIA beyond the confines of EIA;
- Adapting HIA to the unique policy-making environment of the U.S.
Sample HIA (local)
City of Los Angeles Living Wage

- Employees working on city contracts must be
  - paid at least $7.99/hour
  - provided health insurance, or an additional $1.25/hour

- Covers approximately 10,000 workers.

- Health insurance coverage more cost-effective in reducing excess mortality than an equivalent amount in the form of wages.

- Any changes to the ordinance should consider increasing health insurance coverage.

- Applicability: many living wage ordinances throughout the US.
Sample HIA (state)

After-school program funding

- California ballot Proposition 49 to set aside $550 million per year for after-school programs in grades K - 8.

- Potentially significant health outcomes through effects on education, crime, substance abuse, etc.

- Counterintuitive result: unlikely to yield any significant health benefits. Chiefly due to:
  - small magnitude of effects on key mediators;
  - Inadequate targeting, recruitment/retention of high-risk youth.
Components of the 2002 federal farm bill

- 10 major titles cover everything to crop subsidies and foodstamps to the definition of “catfish.”
- Increases projected funding by $82.8 billion over 10 years to $458.7 billion.
- Conclusions (Crop subsidies & ethanol production)
  - Subsidies have large effects on land utilization and probably contribute to increased use of pesticides, but probably have little effect on food consumption patterns;
  - Increased utilization of ethanol/gasoline mixes may increase air pollution but depends on model used. Bio-diesel will probably have a net benefit.
Presentation to policy-makers

- Summary format developed based on extensive experience of Partnership and project team with policy-makers;

- Two pages of objective information for ease of use by policy-makers;

- Neutral language;

- Also introduces policy makers to HIA concept and its benefits.
Means of HIA

- Evaluation and synthesis of existing research;
- Comparative data analysis;
- Consultation with policy-makers, experts, stakeholders, etc.
Steps in HIA

- Scanning
- Screening
- Scoping
- Impact assessment
- Reporting and review
Scanning

Focus: What policies might make suitable topics for HIA?

Metaphor: Searching a haystack.
Screening

Focus: Is HIA useful and feasible for a given policy?

Metaphor: Deciding which bottle of wine to buy.
Key elements of screening

- Likelihood of significant health impacts;
- Added value of HIA to policy-making process
  - Current knowledge;
  - Valuation of added information;
  - Impact of added information;
- Data availability;
- Available resources (time, $, personnel).
Key elements of scoping

**Determination of:**

1. **What** the HIA will examine
   - Outcomes of interest;
   - Key pathways;
   - Policy comparisons;

2. **How** the HIA will proceed
   - Procedures for systematically gathering and evaluating evidence;
   - What impacts will be quantified and how;
   - How qualitative data will be handled;
Sample logic framework: Living Wage

Policy  Proximal Impacts  Intermediate Outcomes  Health Outcomes

Living Wage Ordinance → Health Insurance → Increased income

Health Care
Housing
Childcare
Education (workers’ children)
Health Behaviors
Stress
Social Support

Physical Health Outcomes
Mental Health Outcomes
Impact Assessment

Multi-pronged approach

1. Direct, proximate effects of the policy
2. Effects on established determinants of health
3. Effects on health outcomes
Three-pronged approach for an HIA on a zoning ordinance

Policy  Proximal Impacts  Intermediate Outcomes  Health Outcomes

Zoning Ordinance  Changes in the built environment  Short-term changes in physical activity  Long-term changes in physical activity

Physical Health Outcomes  Mental Health Outcomes

Distributional issues
1. Differential impacts on physical activity;
2. Changes in mix of users of the rezoned area.

Important intermediates:
1. Attitudes
2. Stress
3. Social support
4. Time demands
Tools for impact assessment

Qualitative
1. Checklists;
2. Matrices;

Quantitative
1. Arithmetic;
2. Simulation.
Arithmetic impact estimation

Example: Living Wage Ordinance

Given six baseline strata defined by wage \( (i) \) and health insurance status \( (j) \) for which

\[
\begin{align*}
  n_{ij} & \quad \text{number of workers} \\
  M_{ij} & \quad \text{mortality rate at baseline} \\
  M'_{ij} & \quad \text{mortality rate after ordinance} \\
  \text{RR}_{ij} & \quad \text{relative risk of mortality attributable to the combination of wage and health insurance benefits for each scenario,}
\end{align*}
\]

the number of deaths prevented by the ordinance \( (\Delta D) \) is

\[
\Delta D = \sum (M_{ij} - M'_{ij}) \times n_{ij}
\]

where

\[
M'_{ij} = M_{ij} \times \text{RR}_{ij}
\]
**SCENARIO PARAMETERS:**
Minimum wage = $7.99/hr
Compensation in lieu of health insurance = $1.25/hr
% uninsured to receive health insurance = 100%

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<th>Baseline insurance</th>
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<th># in category</th>
<th>RR</th>
<th>Change in # deaths/year</th>
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Organizing and reporting results

- What’s the story? Why is it important?
- Strength, face validity and critical assumptions of supporting evidence?
- Strength, face validity and critical assumptions of disconfirming evidence?
- Limitations
Methodological challenges to applying HIA

1. Loose linkages between policy options and health outcomes;
2. Unknown proximate effects of policies;
3. Thin evidence base;
4. Small effect sizes (esp. single interventions);
5. Uncertainty about differential effects (ethnicity, gender, current health status, etc.).
Continuing work to advance HIA

Aims

1. Increasing awareness of how actions outside the policy sector influence the public’s health;
2. Increasing familiarity with HIA;
3. Refining HIA methodologies.

Means

1. Developing a body of HIA practice;
2. Collaborating with policy-makers;
3. Training and technical assistance to build a community of HIA practitioners.