

Health Impact Assessment

Current practice and future potential

Partnership for Prevention
and the
UCLA School of Public Health

January 14, 2004

Project personnel

Jonathan E. Fielding, Principal Investigator (UCLA)

Gerald Kominski, Co-Principal Investigator (UCLA)

Antronette Yancey, Co-Principal Investigator (UCLA)

Ashley Coffield, Policy Analyst (Partnership for Prevention)

Brian Cole, Project Manager (UCLA)

Riti Shimkhada, Research Assistant (UCLA)

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

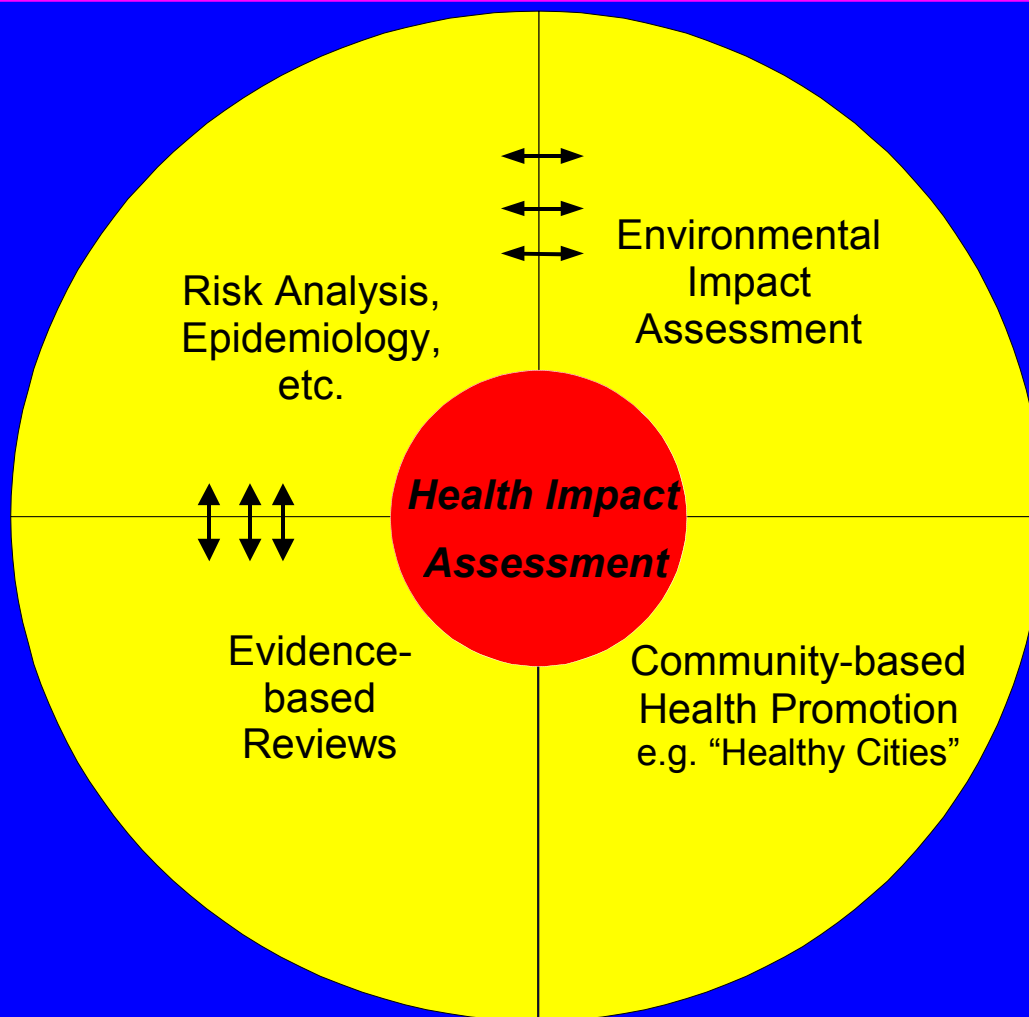
Potential contributions of HIA

- ◆ 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? 6

Disciplinary foundations of HIA



HIA is already being used

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

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

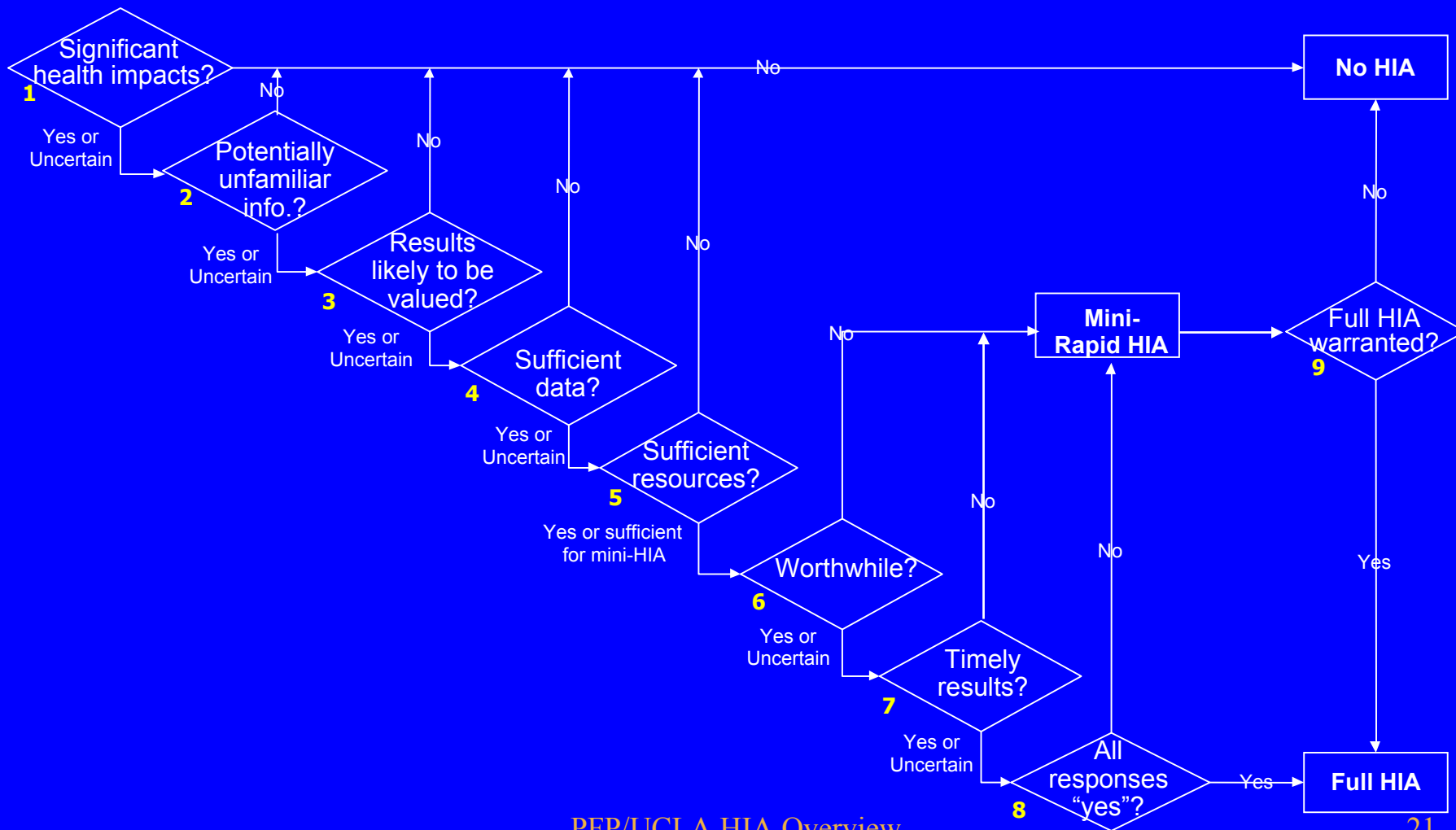
Focus: Is HIA useful and feasible for a given policy?

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).

Screening algorithm

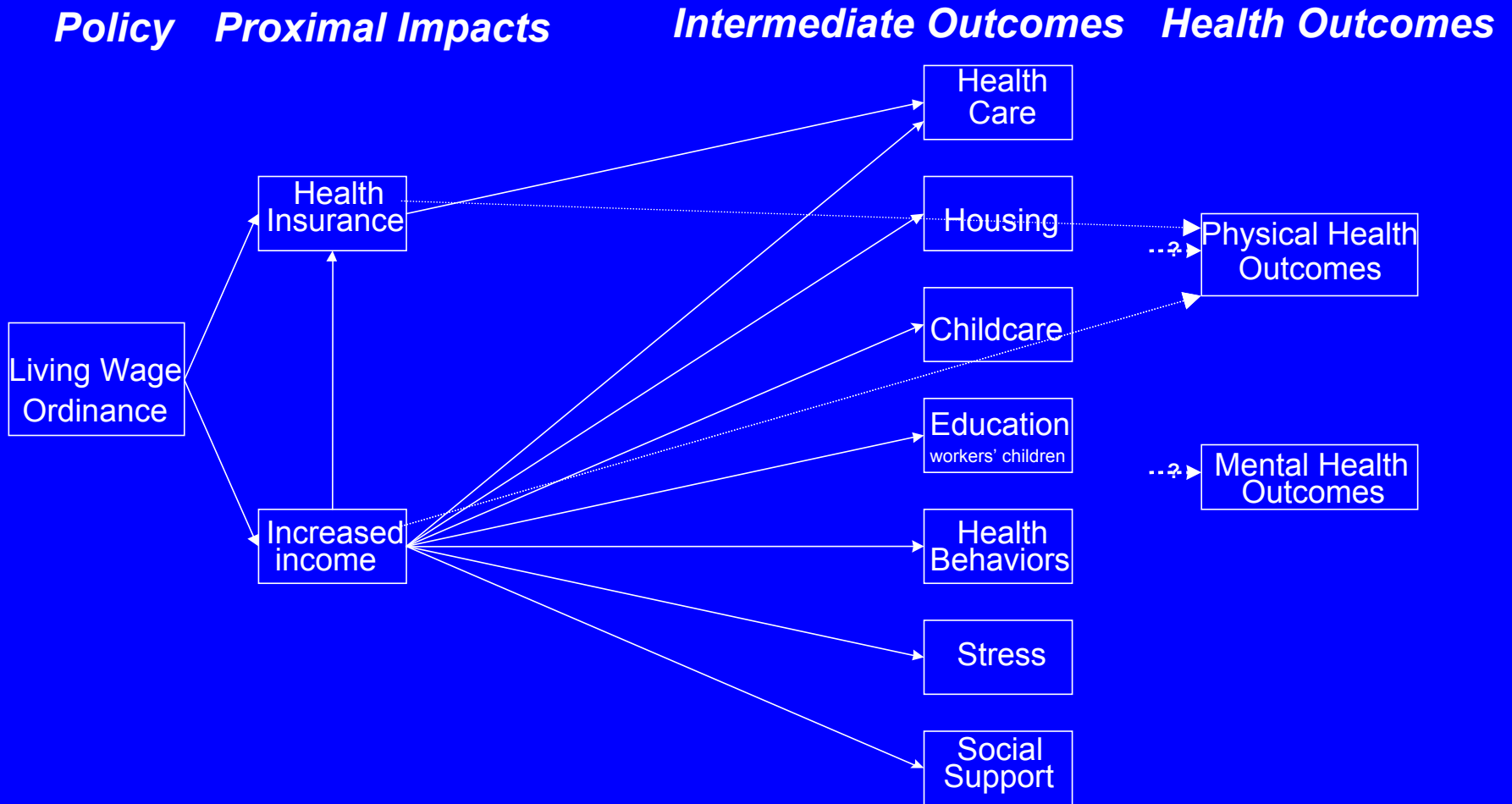


Key elements of scoping

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

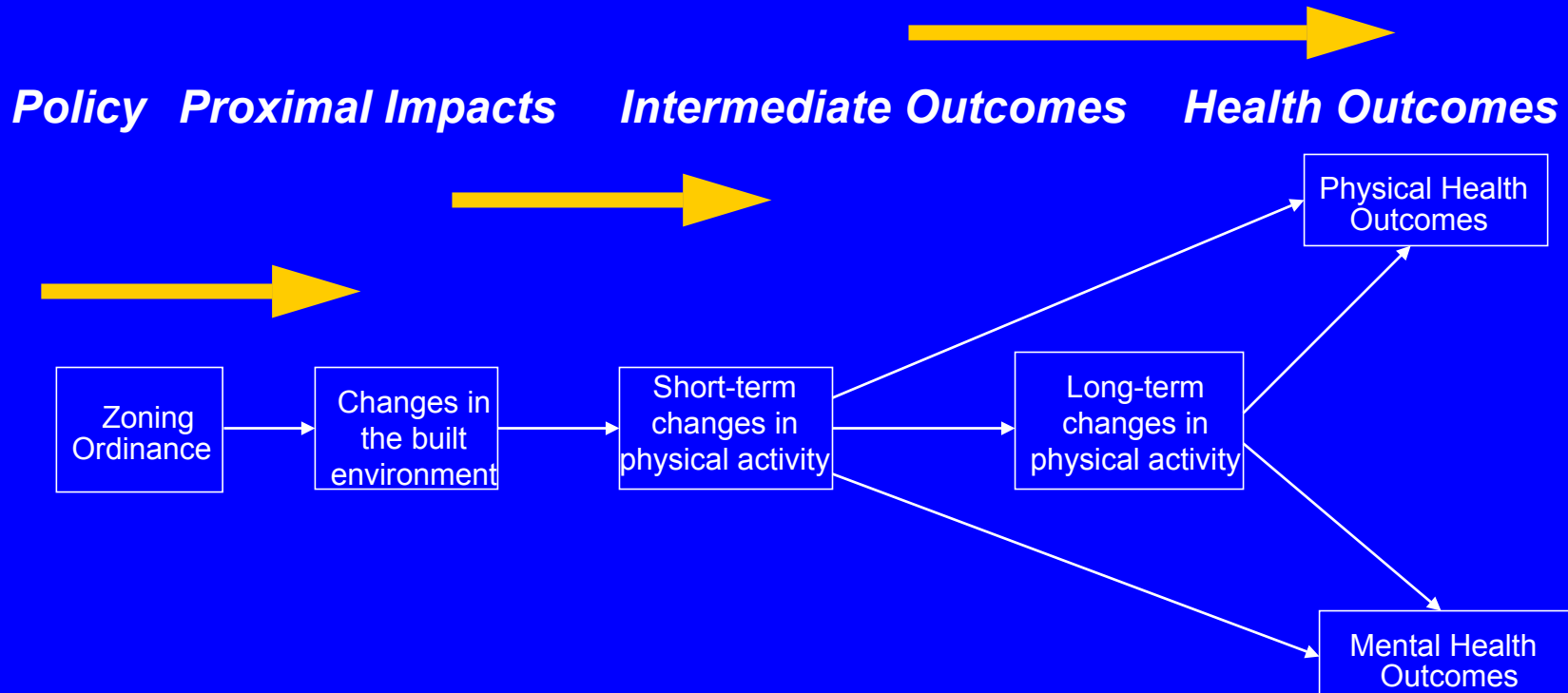


Impact Assessment

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



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;
3. Systems analysis.

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

n_{ij} = number of workers

M_{ij} = mortality rate at baseline

M'_{ij} = mortality rate after ordinance

RR_{ij} = relative risk of mortality attributable to the combination of wage and health insurance benefits for each scenario,

the number of deaths prevented by the ordinance (ΔD) is

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

where $M'_{ij} = M_{ij} \times RR_{ij}$

SCENARIO PARAMETERS:

Minimum wage = \$7.99/hr

Compensation in lieu of health insurance = \$1.25/hr

% uninsured to receive health insurance = 100%

Baseline wage	Baseline insurance	Change in hourly compensation	Insurance change	# in category	RR	Change in # deaths/year
\$6.75	Uninsured	No change	No change	0	1	0.00
		No change	To be insured	0	0.774	0.00
		\$2.49	No change	0	0.957	0.00
		\$1.24	To be insured	3480	0.757	4.70
	Insured	No change	No change	0	1	0.00
		\$1.24	No change	2320	0.979	0.21
\$7.75	Uninsured	No change	No change	0	1	0.00
		No change	To be insured	0	0.774	0.00
		\$1.49	No change	0	0.974	0.00
		\$0.24	To be insured	1500	0.771	1.88
	Insured	No change	No change	0	1	0.00
		\$0.24	No change	1000	0.996	0.02
\$8.75	Uninsured	No change	No change	0	1	0.00
		No change	To be insured	1020	0.774	1.24
		\$1.25	No change	0	0.978	0.00
		\$0.00	To be insured	0	0.774	0.00
	Insured	No change	No change	680	1	0.00
		\$0.00	No change	0	1	0.00
TOTAL				10000		8.05

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.