

ATCEM 2009

Health Impact Assessment:
An Opportunity for Environmental
Health Management



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A decision is being made...

- ◆ Initiation of resource development
- ◆ Continuation of resource development
- ◆ Community planning
- ◆ Changes to infrastructure and the built environment
- ◆ Changes to environmental policy (eg. response to climate change)

Informed decision makers must therefore understand...

- ◆ Potential Environmental Impacts:
 - Ecosystem services
 - Infrastructure
 - Human livelihoods
- ◆ And how to “manage” them:
 - **Mitigation** (prevention of adverse impacts, promotion of positive impacts)
 - **Monitoring** (observation of impacts)

“NEPA”

National Environmental Policy Act of 1969


42 USC § 4321-4375

- Requires that all federal agencies evaluate and disclose the potential consequences of large projects
 - Large natural resource development projects – mines, oil and gas, refineries, logging
 - Urban redevelopment programs
 - Highway and other transit corridors
 - Housing developments/large construction projects
 - Water resource management
 - Policy changes with predicted environmental effects
- Agencies also need to consider reasonable alternatives, and ways to mitigate (or prevent) negative impacts

How?

- The Environmental Impact Statement, or EIS Process

Yet the common decision maker reality...

- ◆ Often overwhelmed with too many tasks in planning time period
 - ◆ Often defer efforts towards those action requiring permitting/regulation
 - ◆ Have not traditionally considered health impacts (eg. EIS processes)
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Determinants of Health


- ◆ The socio-economic gradient
- ◆ Stress
- ◆ Early life health
- ◆ Work environment
- ◆ Unemployment
- ◆ Social support (“social capital”)
- ◆ Drug & Alcohol Addiction
- ◆ Food/nutritional systems
- ◆ Transportation
- ◆ Local environment
- ◆ The “built environment”



*Heather Dingman
North Slope Borough Health Dept*

Environmental Planning and Public Health:

Current Problems:

- ◆ Health may be harmed by unrecognized risks and poor planning
 - ◆ Regardless of *actual* risk, communities experience considerable anxiety as large-scale projects may be permitted with little attention to health concerns
 - ◆ Industry may be blamed for every health problem
 - ◆ Agencies feel there is no effective way to answer the questions raised by communities in testimony
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Planning & Public Health can work together:

Health Impact Assessment

Definition:

Health Impact Assessment is a combination of procedures, methods and tools by which a proposed policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population. HIA identifies appropriate actions to manage those effects.

-Gothenberg Consensus Statement, 1999, as adapted by IAIA, 2006.

HIA views health from a broad, social determinants perspective.

Health Impact Assessment

Current Applications:

- ◆ Alaska: health consideration in Arctic Multisale, NNPR-A, and Red Dog Aqqaluk EIS documents. HIA contracted for the Chuitna coal project. HIA planning for future large scale projects...
- ◆ Canada: incorporates some HIA into EIS for large mines, oil and gas
- ◆ EU: often separate HIA and SIA
- ◆ U.S.: CDC, RWJF, UCLA – 26 HIAs recorded to date
- ◆ World Bank and IFC/ Equator principles: part of evaluation standards for large development loans
- ◆ Petroleum Industry:
 - Chad-Camaroon pipeline
 - Sahlkalin Island
 - Camisea

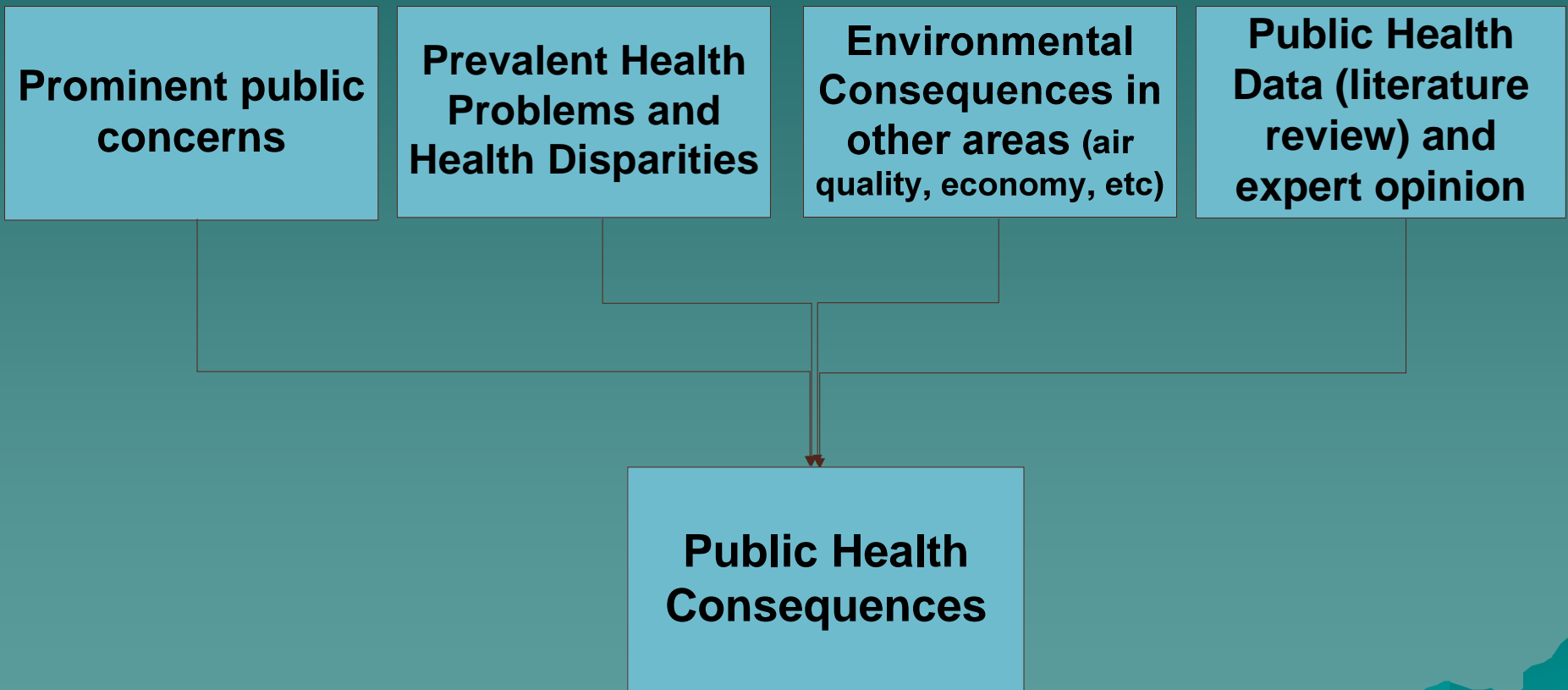
Health Impact Assessment

The Process:

Five Stages, similar to EIA:

- 1) Screening: are potential impacts large enough to require HIA?
- 2) Scoping: public meetings and literature review to determine potential health concerns to be analyzed
- 3) Assessment/Analysis: using existing data, define baseline health status and model the potential health effects; **develop mitigation measures**
- 4) Reporting and Evaluation: write the HIA, and present it for planning/public review
- 5) Monitoring and mitigation: monitor health effects, and make modifications to the development plans as necessary

How does HIA analyze impacts?



Potential Impact Pathways

Project/Policy Factors

Potential Health Impact

Subsistence Impacts and Nutritional health	<ul style="list-style-type: none">- Diabetes, cardiovascular disease- Food security/hunger- Nutritional deficiency
Contaminants	<ul style="list-style-type: none">- Asthma, lung disease- Cancer, thyroid problems- Mercury toxicity
Social/Economic (influx of personnel, economic change, etc)	<ul style="list-style-type: none">- Psychological problems- Social problems (family violence, drugs/alcohol)- Injury rates
Personnel Influx	<ul style="list-style-type: none">- Infectious/sexually transmitted disease
Other subsistence-related impacts	<ul style="list-style-type: none">- Injury attributed to impacted subsistence behaviors

Potential Impact Pathways

Project/Policy Factors

Potential Health Impact

Increased income	<ul style="list-style-type: none">-Improved health and social services-Funds for subsistence activities-Improved sanitation infrastructure
Employment	<ul style="list-style-type: none">-Secure employment is associated with better overall health

“Management” in HIA is Monitoring and Mitigation...

- ◆ Monitoring and mitigation are described together: mitigation is a responsive process informed by ongoing monitoring
- ◆ Both are considered *throughout* the course of decision planning, development, and follow-up (eg. reclamation)
- ◆ Utilizing expert and/or evidence based analysis
- ◆ Facilitated by strong leadership and partnerships among stakeholders

Monitoring and Mitigation achieved in this manner reflects the optimized outcomes of **Adaptive Management**

Adaptive Management: future planning in the face of uncertainty...

Adaptive Management

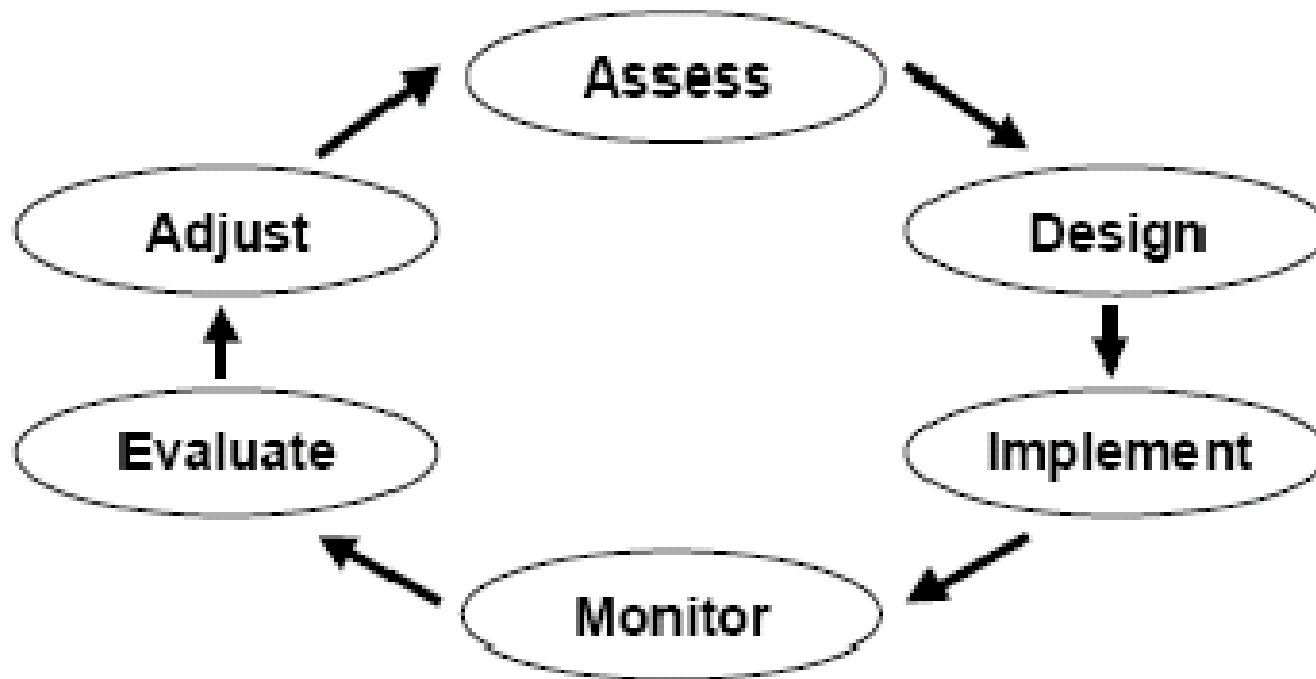


FIGURE 24.1. The adaptive management framework. Figure 1 from Nyberg 1999, copyright Queen's Printer for Ontario, 1999. Reprinted with permission.

Typical Outcomes of this Management:

- ◆ Mitigation measures: measures incorporated into the decision to best protect and promote health. Can be instituted as:
 - Formal regulations
 - Voluntary agreements between stakeholders (eg. corporations and communities)
 - Local ordinances
- ◆ Alternative decision scenarios: HIA may support alternatives to the proposed decision that would maximize health benefits and minimize harm.
- ◆ Rejection of the proposed decision: through an HIA with balanced view of risks and benefits, may find current decision undesirable

Who could be at the Monitoring and Mitigation table?

- ◆ Permitting agencies (if applicable)
- ◆ Regional & Local government
- ◆ Project developers
- ◆ Regional and local Health organizations
- ◆ SOA Health and Social Services

In Red Dog SEIS, such a recommended group was labeled: *Stakeholder Participatory Monitoring and Review Committee*

How does public health approach Mitigation?

Infection Control: methods to control the spread of infectious disease...

- ◆ Sanitation: upgrading or building infrastructure
- ◆ Containment: potentially quarantining ill individuals, paid sick days
- ◆ Outbreak investigation: identify the source of an outbreak, develop control measures
- ◆ Vaccination
- ◆ Disease Vectors: control non-human disease carriers such as livestock and infectious insects.

Education: Public health education strategies include nutritional education (eg. the “4 basic food groups”), good hygiene practices, and surgeon general’s warning.

Health Care Access: policies and programs that enhance access to care for populations or communities (such as building new clinics, expanding existing services, or providing insurance coverage for vulnerable populations) can be considered public health interventions


How does public health approach Mitigation?

Modifying environmental influences on health: the term 'environment' includes the social, economic, biological, natural, and physical environments...

- ◆ Regulating exposure to harmful pollutants to prevent illnesses such as asthma and cancer
- ◆ Public safety and police services that help prevent violence
- ◆ Traffic controlling measures such as traffic lights, crosswalks, and stop signs, which prevent injuries
- ◆ School lunch and food stamp programs that ensure access to basic nutritional needs for children
- ◆ Modifying a planning decision to best protect subsistence resources.

Emergency preparedness and response: systems such as emergency medical services, trauma centers, infectious outbreak investigation and control programs, public safety services (911 call centers)

Env. Health Management: Benefits for Impacted Community

- ◆ Effective health-focused mitigation measures
 - ◆ Protected community health during all stages of a decision
 - ◆ Maximize benefits of a project
 - ◆ Focus decision-making process directly on the community's concerns
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Env. Health Management: Benefits for Agencies

- ◆ Prevent harm to public
- ◆ Promote cross-sector collaboration efforts
- ◆ Address substantive issues raised by communities
- ◆ Enhance credibility and relationship with community
- ◆ Fulfill federal trust responsibility to Tribes
- ◆ Obtain baseline information to inform future management decisions and planning efforts

Env. Health Management:

Benefits for Proponents/Industry

- ◆ Prevent harm to public
- ◆ Enhance relationship/trust with public
- ◆ Improve efficiency in permitting/decision-making by systematically examining the issues most likely to cause public concern/opposition
- ◆ Risk Management: prevent legal/civil actions, streamline processes by addressing all substantive concerns at the outset
- ◆ Fulfill internal “corporate good citizen” requirements regarding public benefits/sustainable development

Limitations of HIA driven Monitoring & Mitigation

- ◆ Health information may be unavailable to address all community concerns
- ◆ Lead decision-makers may not have health expertise to enforce good health mitigation & monitoring measures, collaboration with such expertise is essential
- ◆ Lead decision-makers may not have legal authority to implement HIA recommendations:

Recommendations may need to be voluntary commitments by industry, local tribes, health agencies, or local governments, or newly proposed policy or ordinance

A quick brainstorm:


Impacts

1. What health impacts from resource development, infrastructure, policy, etc. do you see in your communities? What concerns do you have about future impacts?
2. What management solutions (both preventative and responsive) might help?

Benefits

3. What benefits do you see in your communities?
4. How could resource development, infrastructure, policy, etc. do more to benefit your communities?

Conclusions

- ◆ With effective HIA analysis of an environmental decision, appropriate management tools (Monitoring & Mitigation) for health impacts can be applied
 - ◆ In most cases, implementation of these tools will require active participation across stakeholders
 - ◆ HIA informs decision-making that promotes health and wellbeing, and therefore makes environmental health management easier!
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THANK YOU!



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