

# Lessons Learned: Environmental Public Health Tracking

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# Thinking back

- People network first
  - Planning and implementing states
- Capacity building
  - finding partners, friends, and allies
- Data base and source review
- Data linkage projects
- SND/IT stuff

# Enormous Progress

- All of us!
  - Demonstration project results
  - Learning what it takes to "do" it
  - EPHT Strategic plan
  - Work groups and products
  - Planning consortia
  - Publications and reports
- People who care about what has been done

# Lessons about diversity

- Partners
- Audiences
- Data sources
- Institutional arrangements
- Ways to design systems
- How to derive meaning

# We have found many partners

- Working with communities
- Working with tribes
- Working with counties
- Working with schools
- Working with sister state agencies
- Working with environmental partners at all levels
- Working with other sectors - agriculture, transportation, housing
- Working with "laboratorians"
- Working with health, environmental justice, other non-governmental organizations

# We have found many audiences

- The demands for better "environmental health stuff" are enormous
  - Geo coding all kinds of things, improving methods (satellite and parcel overlays)
  - Sharing data and adding "layers"
  - Pooling resources, capacity to act (NYC)
  - Providing training to the busy (OR GIS)
  - Designing and implementing new systems
- Connecting people who want to do better
- Who does not face demand **far** greater than they can meet?

# Many data sources and uses

- Data sources, systems, uses, limits, users, etc are unbelievably diverse
  - Work needed to ready data for "sharing" is more than anybody ever thought
  - Differences in approach between states for the "same" kinds of data
  - Data "owners" are crucial because they understand what it means (WI)
  - Collaboration/partnership needs are permanent

# Institutions are diverse

- Who has what data, capacity, authority
  - States
  - State boards (e. g. air resources board)
  - Counties (parishes, etc)
  - Other districts (water, utilities, etc)
  - Cities, towns, hamlets
  - Federal agencies
- Differs between the public health and the environmental protection sectors
- Differs among states within any sector



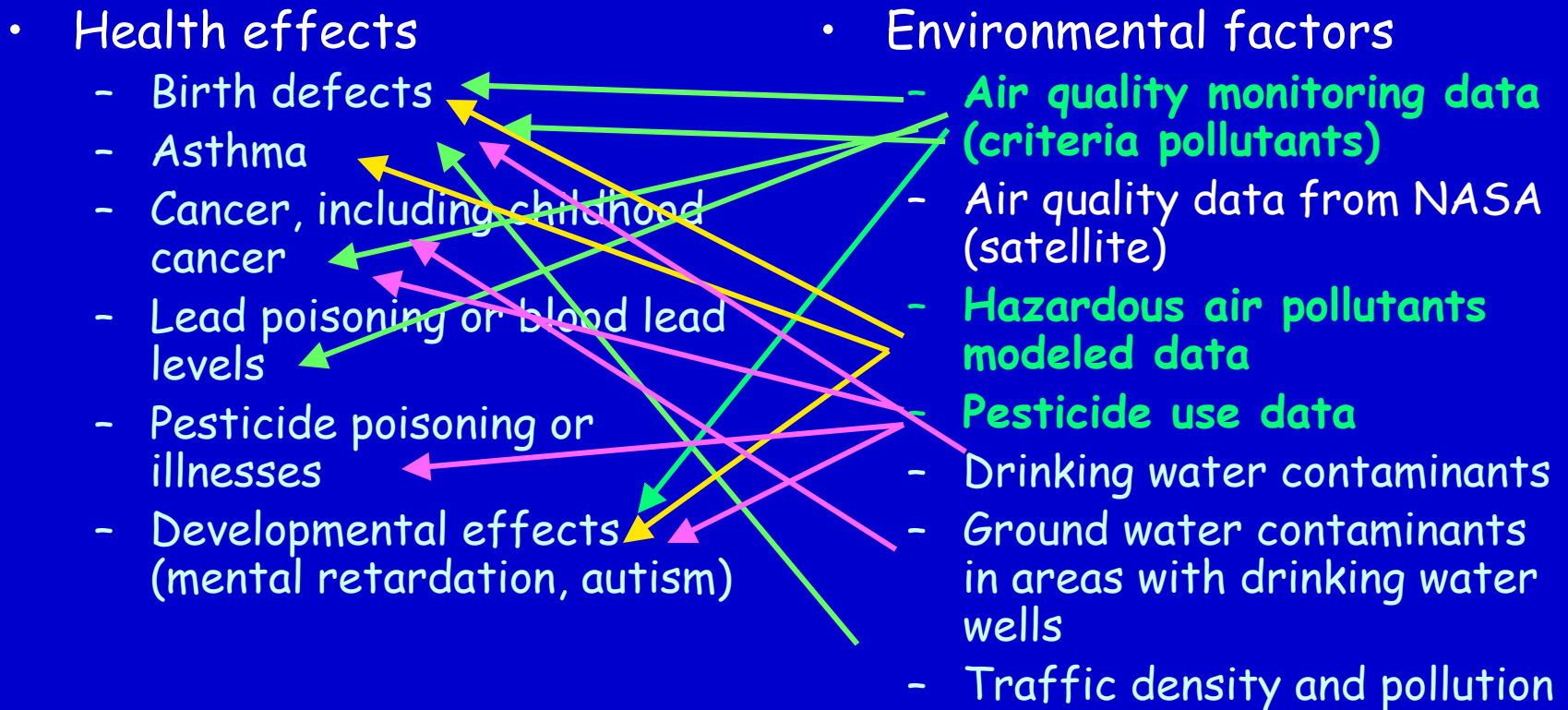
# Many ways to design systems

- Approaches to information technology alone
- Many different approaches being discussed or implemented
- When to be prescriptive and when not
- People want to compare -- what are "you" doing?

# Providing a basis for “meaning”

- “Meaning” from data
  - To see, to understand, to explain, to act
  - Something that we understand, based on what we can see, that we can explain, so somebody can act
- Challenge at hand ->
  - Requires more generality than pilot projects
  - Requires more specificity than conceptual level model

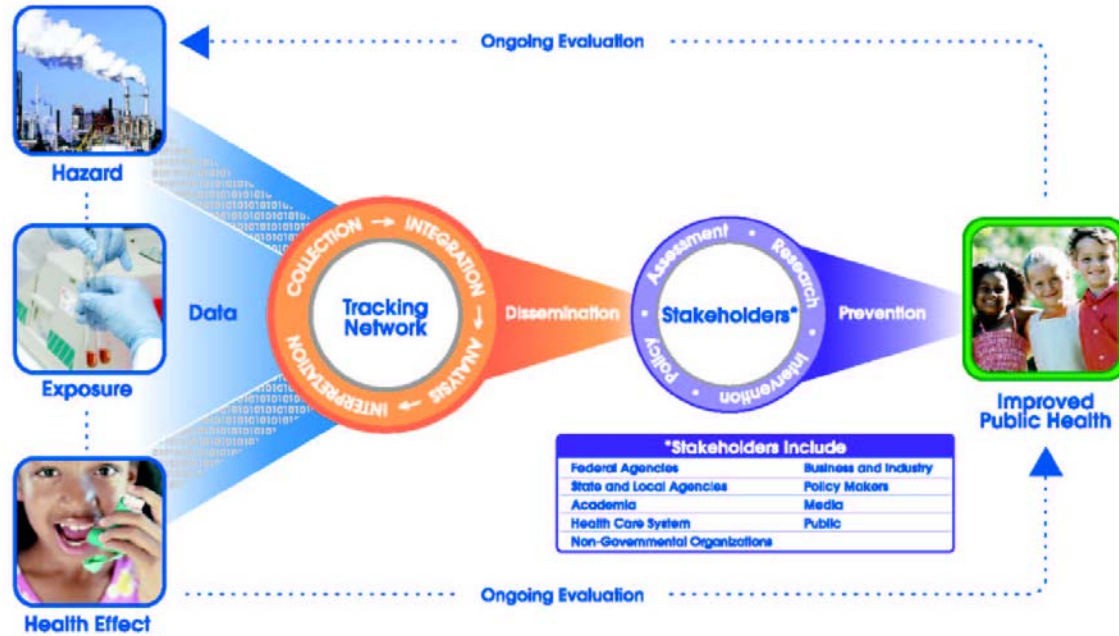
# From linking pilots to generally applicable results



# Data linkage demonstrations

- Provided an opportunity to learn by working on something
- Provided "proof of concept"
- Motivated by interest in testing linkage method
  - more than strength of scientific analysis in some cases
- Need to understand implications and generalize sound results

# ENVIRONMENTAL PUBLIC HEALTH TRACKING



**\*Stakeholders Include**

Federal Agencies	Business and Industry
State and Local Agencies	Policy Makers
Academia	Media
Health Care System	Public
Non-Governmental Organizations	



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
CENTERS FOR DISEASE CONTROL AND PREVENTION  
SAFER • HEALTHIER • PEOPLE



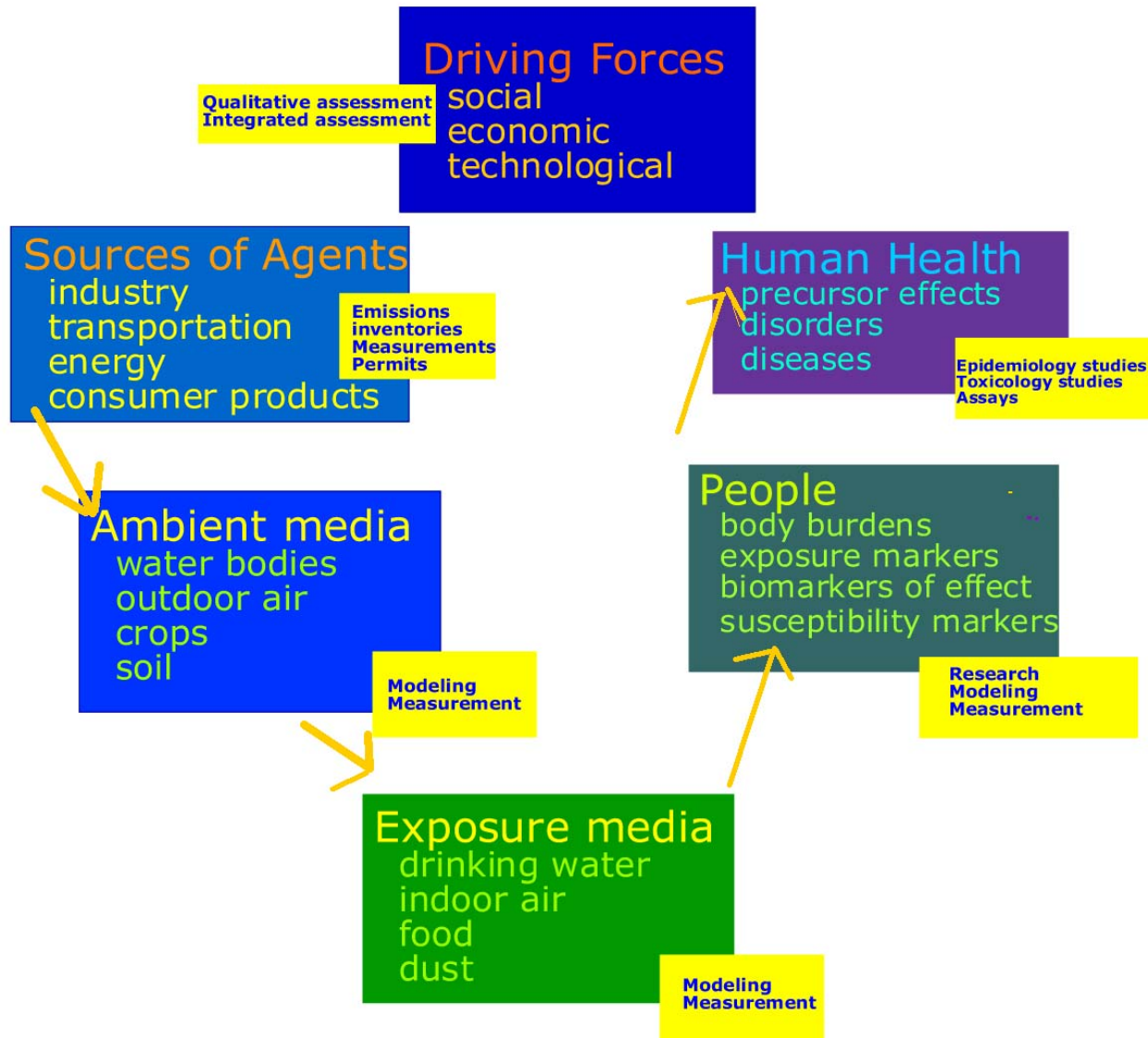
Adding details and specificity

# Environmental public health system

- Relationships between surveillance, the analysis, the explanation, and actors
  - Interpretations that are specific but appropriate for situation
- Combination of "content," "systems," "methods," and consultation (= marketing?)
- Significant management and strategic challenge for the "implementation" phase
  - Discussion of integration of leadership of the various work groups
  - maybe methods group

# Evolution

- Increasingly systematic approaches that tie together different elements
  - Approach to assessment & evaluation (WI)
  - Framework for research (and maybe knowledge) (apex)
  - Methods, content, etc
  - Figure out how to tie to larger knowledge base
- Needs are applicable to all the elements





## **Research (Knowledge Base)**

- Establish whether an agent is likely to be a hazard as a result of toxicity or persistence
- Contribute to understanding of exposure
- Provide basis for target levels
- Provide basis for quantification of relationships
- Investigate issues for populations at risk

## **Assess Trends (Monitoring and Surveillance)**

- See whether agents or diseases are increasing.
- Address hotspots (maybe)
- Investigate issues for populations at risk
- Identify topics where research is needed

## **Compare to Target Level(s)**

- Provides actionable interpretation of monitoring/surveillance data
- Provides basis for action.
- Identifies areas where greater monitoring and research are needed
- Identify areas where research is needed

## **Data linkage (env and health)**

- Provides local interpretation of monitoring/surveillance data and relationships
- May provides basis for action (where robust)
- Needs to be designed and interpreted consistent with peer review principles

## Established relationship

between environmental factor and health outcome, risk, precursor condition, or well-being. Quantified relationship.

### Trends

Increasing -- > reduce

No change -- > assess significance

Decreasing --> no action

### Relationship to target level(s)

Above -- > reduce

At or close -- > assess or reduce

Well below --> no action

### Data linkage (env and health)

Not needed to demonstrate relationship

May be useful for local action

May be counterproductive

    If insufficient difference in exposure

    If less robust than research

### Research

Address more subtle issues (susceptibility, interaction, etc)

Increase power, detection of effects at lower levels

## Suspected relationship

between environmental factor and health outcome, risk, precursor condition, or well-being. Maybe be quantified.

### Trends

Increasing -- > reduce if high concern; increase research focus

No change -- > assess significance; increase research focus

Decreasing --> no action

### Relationship to suspect target level(s)

Above -- > reduce if high concern; increase research focus

At or close -- > assess or reduce if high concern; increase research focus

Well below --> no action

### Data linkage (env and health)

May be useful to demonstrate relationship

May be useful to develop hypotheses

If insufficient difference in exposure

If nearly as robust as research

May contribute to public or local attention

### Research

Priority area for research to clarify relationship and set target levels

## Unknown relationship(s)

between environmental factor and health outcome, risk, precursor condition, or well-being. Also relevant for health outcomes with pattern that could be related to environmental etiology but with unknown causes (breast cancer, autism, etc)

### Trends

Increasing -- > reduce if high exposure; increase research focus

No change -- > assess significance

Decreasing --> no action

### Relationship to suspect target level(s)

Not relevant for chemicals

High incidence or prevalence should increase research focus

### Data linkage (env and health)

May be useful to develop hypotheses

### Research

Priority area for research to identify effects or causes.

High priority if widely used or related to known toxicants (agents) or common or increasing (diseases)

# Lessons from successes

- Now embarking on a national network
- Many questions and much work to be done
- Enormous success to date
  - Best illustrated in states and cities
- Learning from those successes
  - Replicating the basis for success

# Successes of state/local work

- Everybody wants “more” help
- Have found audiences, users, potential allies
- Have found relevant contexts
- Fantastic projects and products

# Closing

- Environmental public health as a system
- Meeting real needs is success
- Implement today but plan for tomorrow
- Maintain strengths
- Partnership and coordination

