

Progress on Community Environmental Health – and Indicators

SEHIC meeting

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Preview

- How we got started
- What is community environmental health?
- Workshops and findings
 - Baltimore June 2007
 - Oakland October 2007
- Opportunities and challenges

Why indicators?

- Understandable presentation of data
 - data → information
- Interpretation of numbers
 - information → meaning
 - Good v. bad; acceptable v. unacceptable
 - Our results v. norm
- Track important things in time and space
 - Social, economic, technological, climate changes
 - Environmental conditions
 - Body burdens of contaminants
 - Rates of disease or risk factors or behaviors

Community environmental health

- Communities are where people experience the environment
- Play key roles in public health and environmental protection advocacy
 - Especially for emerging issues
 - Some issues are best addressed by communities
- Inter community comparisons can be informative

Geographic scale for indicators:

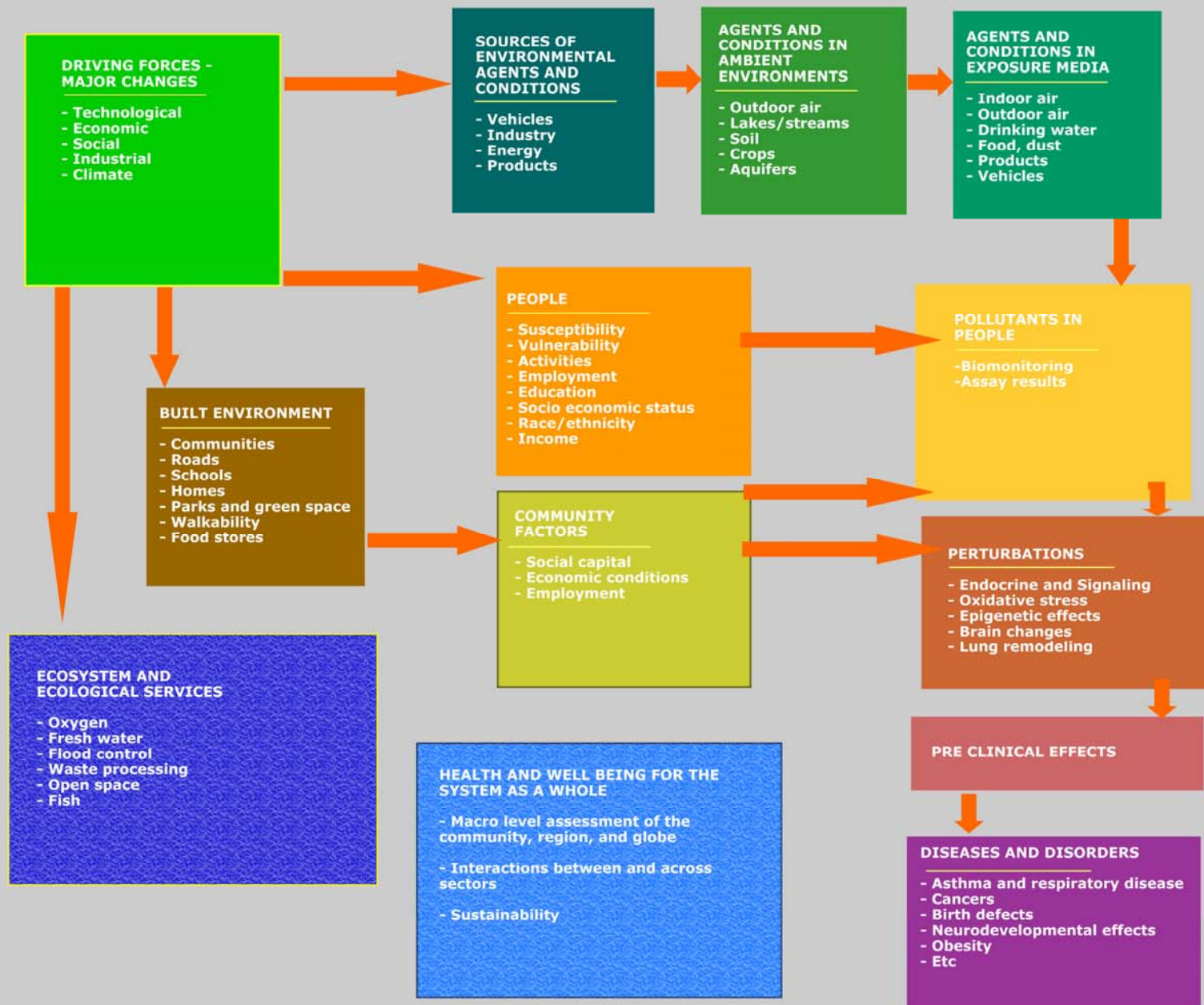
- Relevant to any venue where policy is made
- Relevant to any scale where people work together and define problems
- Various scales can be relevant to both analyses and policy solutions
- Ideally -> local, state, national, multi-national, global

Indicators

- Can measure
 - Determinants that you know or suspect to be related to health outcomes
 - Determinants of hazard or exposure
 - Things that contribute to determinants
 - Surrogates
 - Interventions
- Things that people care about and are willing to organize around

Community health

- Brings a tradition that draws upon attributes and capabilities of communities
- Actors as well as venues
- Uses organizing and education to built capacity and social capital
- Quite different from environmental health "scientific" model



Workshops

- Baltimore June 2007
- Oakland October 2007



**Tracking Community Environmental Health:
What Should The State Be Doing?**

Summary of the Baltimore Workshop

Clifford S. Mitchell, MS, MD, MPH
MD Dept. Health and Mental Hygiene
Improving Environmental Health in
Communities: What Works?
Oakland, California
October 29, 2007



Tracking Community Environmental Health: What Should The State Be Doing?

Workshop Overview

- Goal: What kinds of data should the state be collecting and making available to support communities confronting environmental health challenges?
- Sponsors:
 - DHMH
 - MD Dept of Environment
 - CDC
 - EPA Office of Children's Health Protection
 - ASTHO



Tracking Community Environmental Health: What Should The State Be Doing?

Process/Agenda

- 100 participants: environmental health, community-based organizations, advocacy organizations, others
- 5 topic areas :
 - Built environment
 - Vulnerable/susceptible populations
 - Healthy homes
 - Social/neighborhood factors
 - Transportation



Tracking Community Environmental Health: What Should The State Be Doing?

- Overarching Themes
 - Community engagement
 - “We’ve come to make a difference” (Miller)
 - Data in response to community needs
 - “Community perception *is* the reality” (Price)
 - Data in combination with commitment to change/response
 - “Useful, understandable, accessible data” (King)
 - Low-hanging fruit, and small, scaleable projects (Takacs, Miller, Price, others)



Tracking Community Environmental Health: What Should The State Be Doing?

- More Overarching Themes
 - Doesn't have to be “exotic” data – can come from existing data sets
 - Techniques available to begin to look “within” and “between” large geographic areas
 - Resolution can be an issue – need to work with communities on interpretation, limitations of data
 - “Don't frighten – enlighten” (Takacs)
 - Process can be resource-intensive
 - Less on data collection, analysis than on community engagement, interpretation, response?



Tracking Community Environmental Health: What Should The State Be Doing?

- More Overarching Themes
 - Value in comparisons
 - Healthy People goals, other normative references
 - “Comparable” communities
 - Internal
 - Desirable qualities of indicators (from Kanarek)
 - Readily and periodically available
 - Representative of the population (of interest)
 - Change in indicator correlated to change in health risk, occurrence, or outcomes
 - Readily characterized and consistent



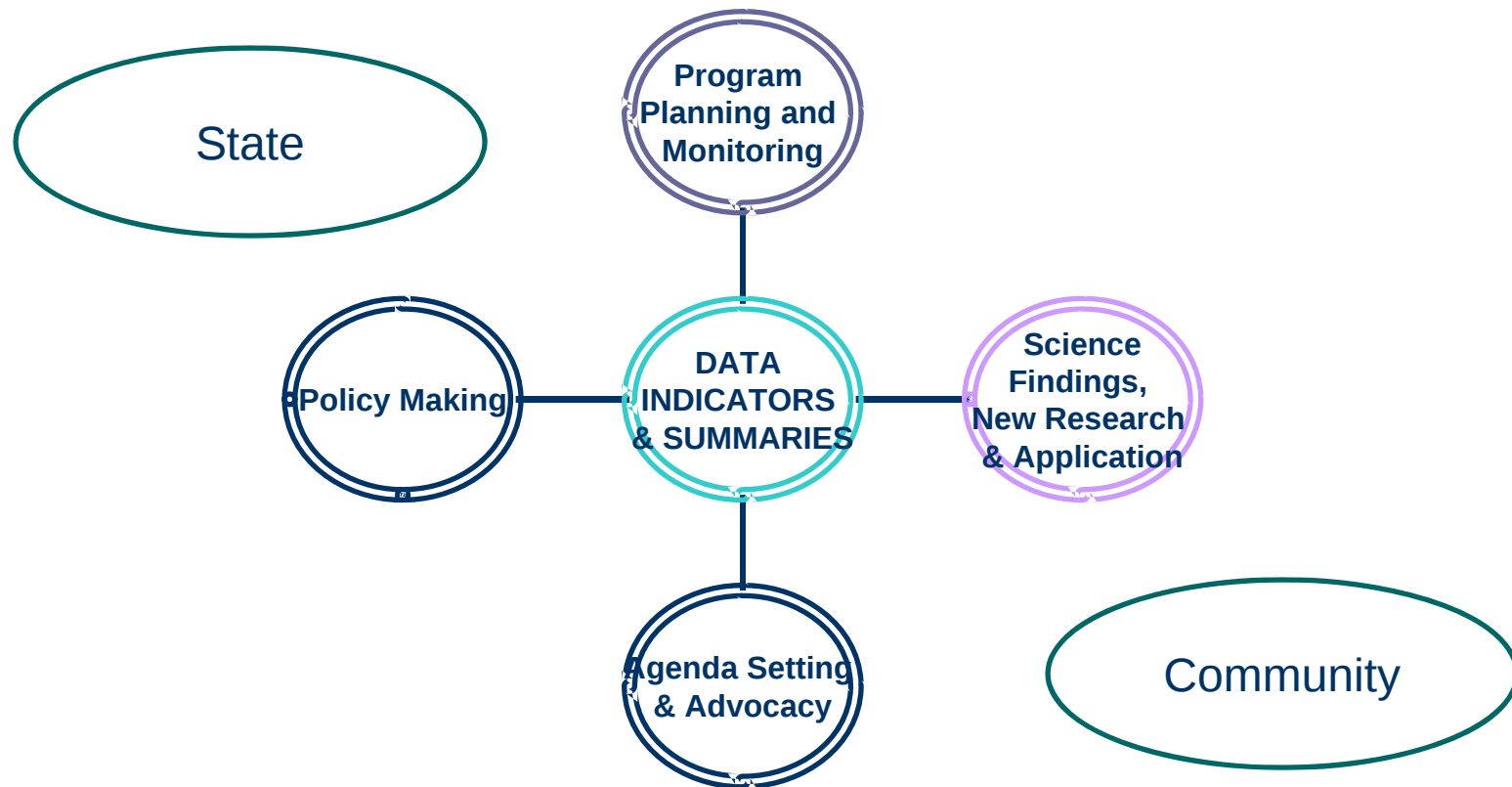
Data Resolution

- Meeting expectations (Kachura)
 - Use best practices
 - Work with the client
 - Work with the data provider
- Linkage of big data sets (Parmanto)



Tracking Community Environmental Health: What Should The State Be Doing?

Uses of Community EH Data





Tracking Community Environmental Health: What Should The State Be Doing?

Community/Stakeholders

- Determine what is useful, understandable, accessible info
- Decide if, when, and how to use information

InfoOakland

- Make data accessible
- Access to other data of interest
- Capacity building and community engagement
- Assistance with advocacy

CEHTP

- Provide scientifically valid data
- Explain and interpret data in lay language
- Let people know where to find this information



Tracking Community Environmental Health: What Should The State Be Doing?

- Relevance to Environmental Public Health Tracking
 - “The success of Tracking will depend upon its utility and credibility at the community level” (Burke)



Summary of Findings

- *Communities may have very different agendas, uses for and interpretations of data than public health agencies.*
- *These differences in perspective between agency and community are important, and should be explored early in the process of engaging with communities about public health data. For public health agencies, this may mean a change in how questions are framed, what kinds of data are collected, and how results of data collection are interpreted and transmitted.*
- *Communities are interested in outcomes. The measurement and reporting of information, whether it is about health, environmental quality, or other factors, is often seen as a means to an end (improvements in a community).*



**Tracking Community Environmental Health:
What Should The State Be Doing?**

Recommendations for Indicators of Community Environmental Health that should be Collected, Available at the State Level



Built Environment

- Index of Land Use or Zoning
- Air Pollution
- Index of Distribution of Hazards, Negative Externalities
- Drinking Water Quality
- Rates of Violent Crime



Vulnerable/Susceptible Populations

- Asthma as reportable disease
- Occupational disease data
- Pesticides (map individual consumption, private lawn care services, licensure of applicators)
- Lead (lead levels for younger children)
- New immigrant population (identify, characterize)



Healthy Homes

- Categories of concern: Indoor air quality, water and food safety; shelter; safety
- Indicators
 - Home safety composite score
 - Index of substandard housing
 - Radon
 - Mold
 - Allergens



Social/Neighborhood Factors

- No single indicator; multiple indicators, multiple dimensions
- Much data available (poverty, wealth, inequality, standard of living, receiving social/ health service, informal economy)
- Other key data:
 - Housing
 - Crime and grime
 - Demographics
 - Structural/institutional racism



Transportation

- Patterns of use of available transportation options
- Schools, residences, markets, workplaces (and people) “near” major transportation emission sources
- Estimated ambient concentrations of transportation-related pollutants (CO, PM25, VOC, NOX, O3, CO2)
- Traffic-related injury and disease rates
- Opportunities for community input



Tracking Community Environmental Health: What Should The State Be Doing?

Lessons From The Baltimore Workshop

- Process of defining community environmental health measures is as important as measures themselves
- There are probably some core indicators that can be collected at the State level that apply across communities, but there is not yet enough research to show which of these are accurate, valid measures of a community's true environmental health
- The value of an indicator often varies, depending on where you sit and what you want to accomplish

Oakland workshop -- Oct 2007

- Reviewed the suggested data sources and indicators from Baltimore
- Reviewed models for community environmental health
- Discussed community needs

Review of Baltimore results

- No “negative” votes
- Clusters of support
- Generally supported but not viewed as the key thing to do



Place-Based Indicators and Children



National Center for Healthy Housing
Healthy Homes Training Center

Elements of Successful Indicators

- Measure something publicly valued
- Users must be involved in design
- Agreement on indicators helps get agreement on policy—the process of creating the indicators is important
- Indicators must be clearly associated with a policy or possible actions.
- Must be a requirement to report and publicly discuss indicators



Selecting Indicators

- **Meaningful**

- Indicator is clearly connected to healthy housing and to healthy development of children and their families

- **Measurable**

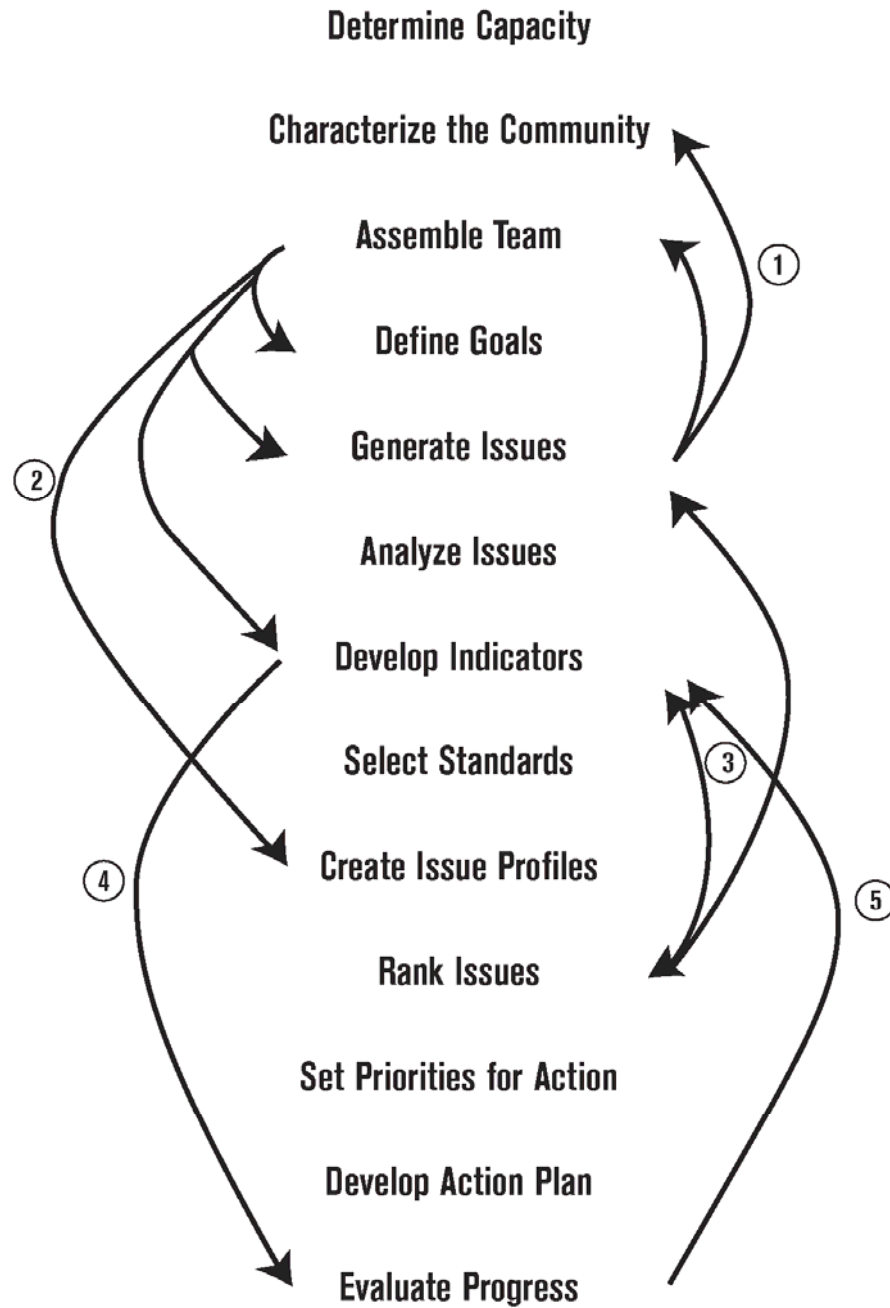
- Indicator can be quantified or could be made measurable. Could be measured with state data systems or surveys tracked over time.

- **Communication Power**

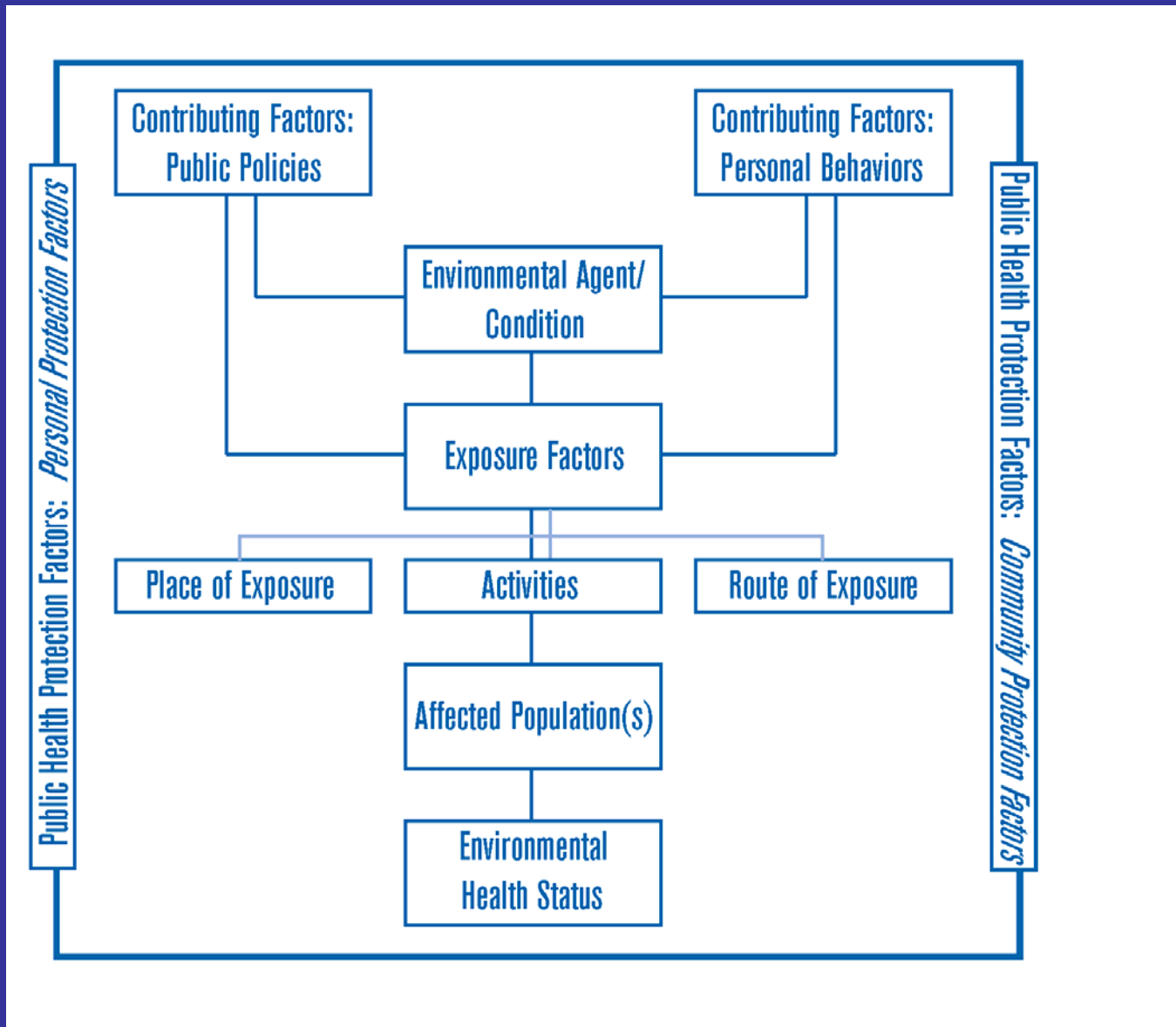
- Indicator is easily understood by a general audience with minimal explanation



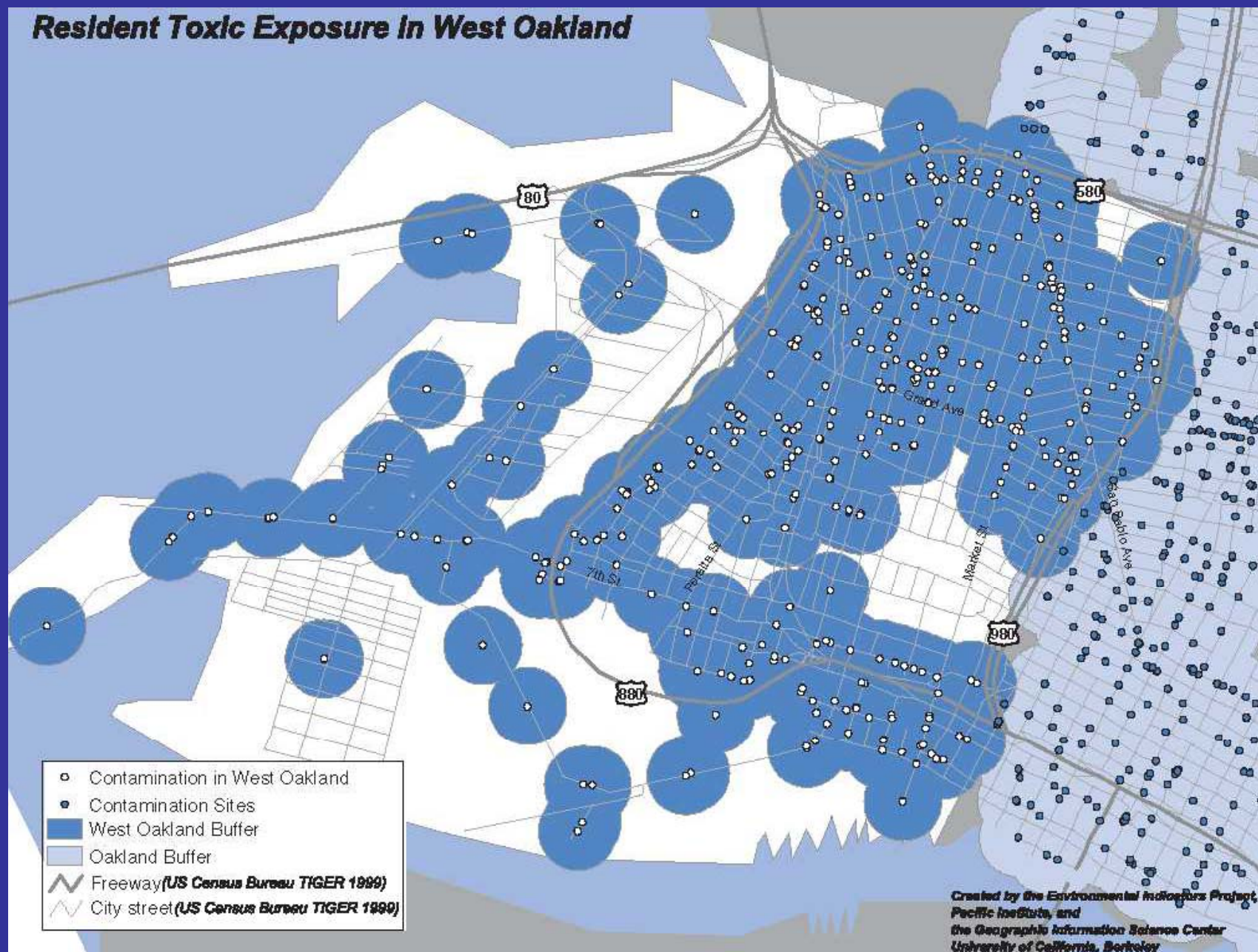
Figure A – Non-sequential Relationships among *PAGE EH* Tasks



Systems approach in PACEH



Resident Toxic Exposure In West Oakland



West Oakland Environmental Indicators Project. Community Knowledge for Change. 2003.



Legend - Leyenda

Symbol	Land Uses	Existing	Propose
	COMMUNITY CENTER - CENTRO COMUNITARIO	3.64 acre	4.62 acre
	FIRE STATION - ESTACION DE BOMBEROS	0.20 acre	0.20 acre
	HOSPITAL / MED CLINIC - HOSPITAL / CLINICA MEDICA	0.90 acre	2.33 acre
	INDUSTRIAL / MARITIME - INDUSTRIAS / MARITIMO	138.21 acre	71.57 acre
	PARKING - ESTACIONAMIENTO	2.98 acre	17.57 acre
	PARKS - PARQUES	6.36 acre	51.56 acre
	RESIDENTIAL - RESIDENCIAL	38.72 acre	53.63 acre
	RESIDENTIAL / RETAIL - RESIDENCIAL / COMERCIO	0.00 acre	22.61 acre
	RETAIL / OFFICE / COMMUNITY USE - COMERCIO / OFICINAS / USO COMUNITARIO	29.26 acre	43.36 acre
	SCHOOL - ESCUELA	4.28 acre	5.26 acre
	ENHANCE STREETS - CALLES DE ENFOQUE		

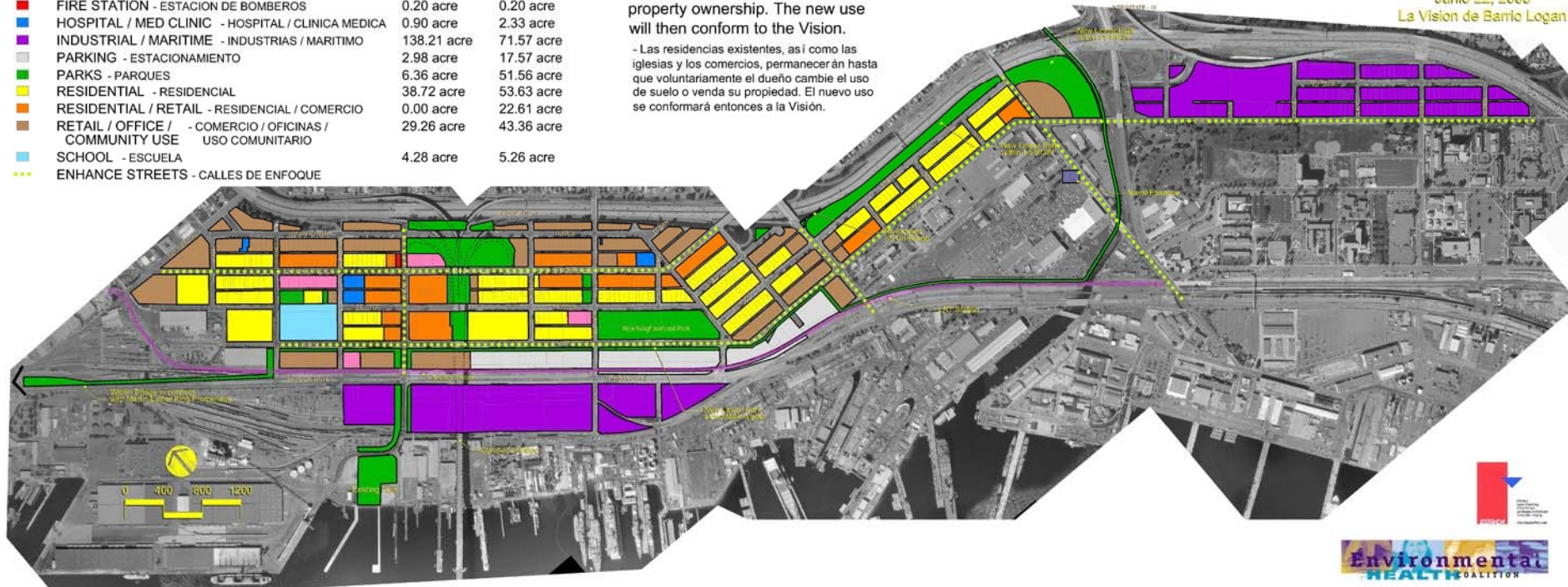


Existing housing, churches, and retail businesses will remain until voluntary change of land use or property ownership. The new use will then conform to the Vision.

- Las residencias existentes, así como las iglesias y los comercios, permanecerán hasta que voluntariamente el dueño cambie el uso de suelo o venda su propiedad. El nuevo uso se conformará entonces a la Visión.

June 22, 2005
Barrio Logan Vision

Junio 22, 2005
La Vision de Barrio Logan



Environmental
HEALTH COALITION

M:\Projects\40014\1902\plan\Mapa.dwg

Key findings I

- The key issue appears to be a need for effective advocacy that links the knowledge and data resources to what can be done to make conditions better.
- This is the missing link

Key findings II

- Community representatives want greater engagement by academic and technical experts in ways that are responsible to community understanding and community concerns and that contribute to action (rather than justify more research).
- Bring knowledge and credentials of the academic and research communities to the discussion.

Key findings III

- Many community representatives would also like to see the government agencies that are charged with environmental protection and public health take a more active and proactive role to achieve the objectives of their agencies

Key findings IV

- We need to better learn the lessons of the past.
- Identify what caused unfavorable conditions that exist and then not repeat the same mistakes.
- Undertake more thoughtful and engaged inquiry into causes, looking more at the underlying rather than just the proximate cause of disease.

New (necessary) metaphors



"Let's dare to imagine Los Angeles as the cleanest and greenest big city in America...The great cities of the 21st Century will not be famous for their factories or have smokestacks in their skylines. They won't be the traditional homes of polluting or extractive industries. They'll be places where residents are at home in vibrant, clean, and sustainable communities."

— Mayor Antonio Villaraigosa, "City of Dreams" Remarks, November 9, 2005

PRINCIPLES & VALUES

GREEN LA's environmental and environmental justice recommendations for the City of Los Angeles are founded upon a set of deeply held principles and values:

Do No Harm

The "precautionary principle" asserts that where threats of serious or irreversible damage to human health and ecosystems exist, lack of scientific certainty relating to cause and effect shall not postpone measures to prevent further harm to human health and the environment.

Count All Costs

The integration of new accounting practices that consider the full costs of an activity or investment – including resource, labor, and disposal – to better understand the long-term and social impacts of decisions.

Value Natural Systems

An accounting practice that measures the vital contribution to human health provided by nature and ecosystem functions, so they can be maintained and enhanced through policy.

Strong Green Economy

A "green" approach to economic development and job creation based on protecting and restoring ecosystems, producing useful goods and services, and reducing transportation and distribution networks.

Social Equity

The elimination of disparity and promotion of full social, economic, and geographic equality as intrinsic to environmental sustainability.

Open Government

Decision-making processes centered on community needs and global interconnectedness, and which are transparent, democratic, and accountable.



Photo by Sarah Wauters

1996: Analytic and deliberative

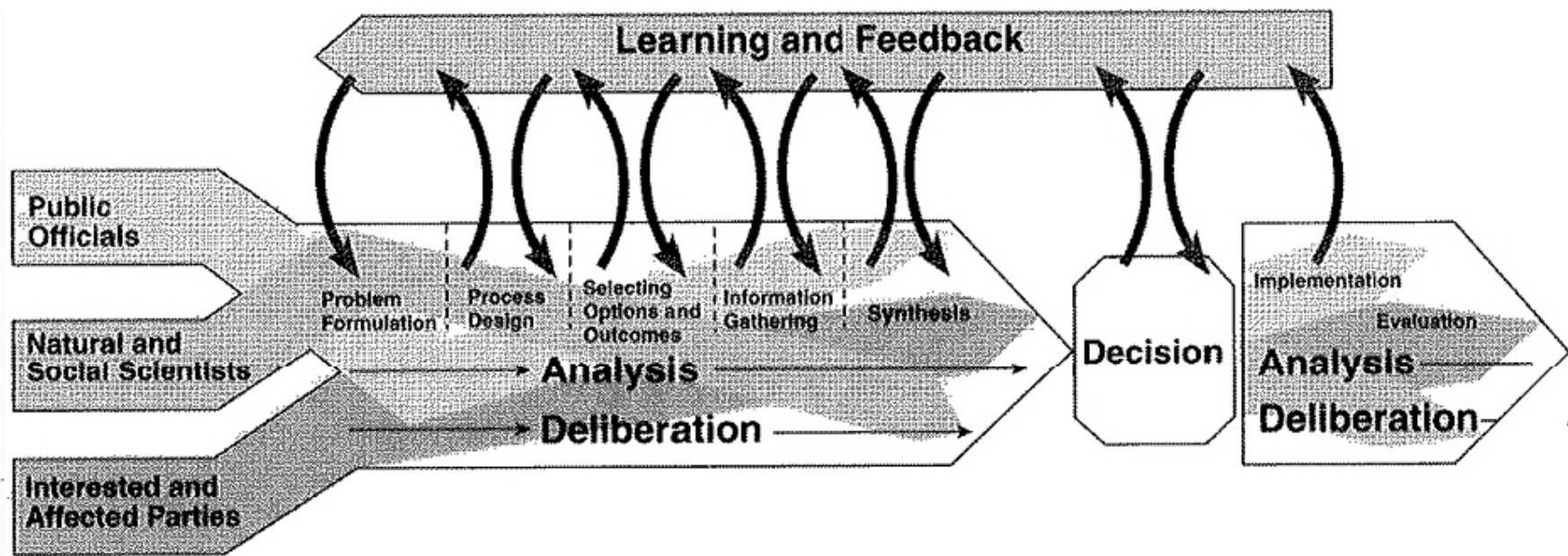
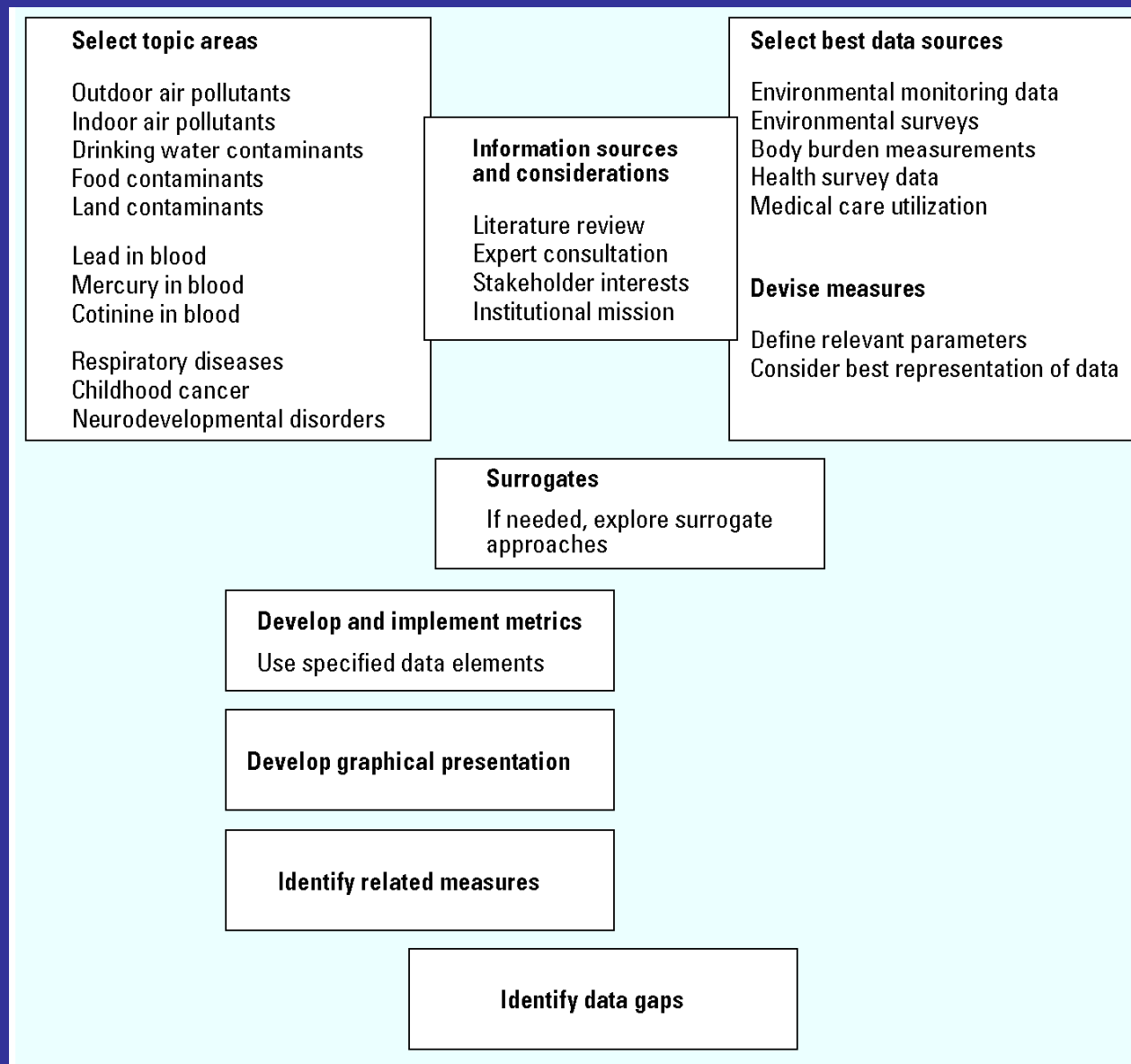


FIGURE 1-2. A schematic representation of the risk decision process.



What needs to be understood

- Vulnerability, susceptibility
- "New" factors
- Other sectors
- Questions and information needs of those who seek to act
- Community and individual level issues

New factors and sectors

- "Built" environment
 - Constructed space - buildings, roads, community structure
- Personal environment
 - Indoor, consumer products, cosmetics
- Related sectors
 - Transportation, energy, housing, planning, education, etc

“Many to many” relationships

- Many-to-many relationships create challenges for methods
 - Not one-to-one as per simplified models
- Multiple environmental “hazards” can contribute to a single outcome
 - Other factors will also matter (including host factors)
- Single outcome can have multiple causes
 - Environmental causes may not predominate but one that is modifiable to reduce population risk
- Tremendous complexity to portray everything this way

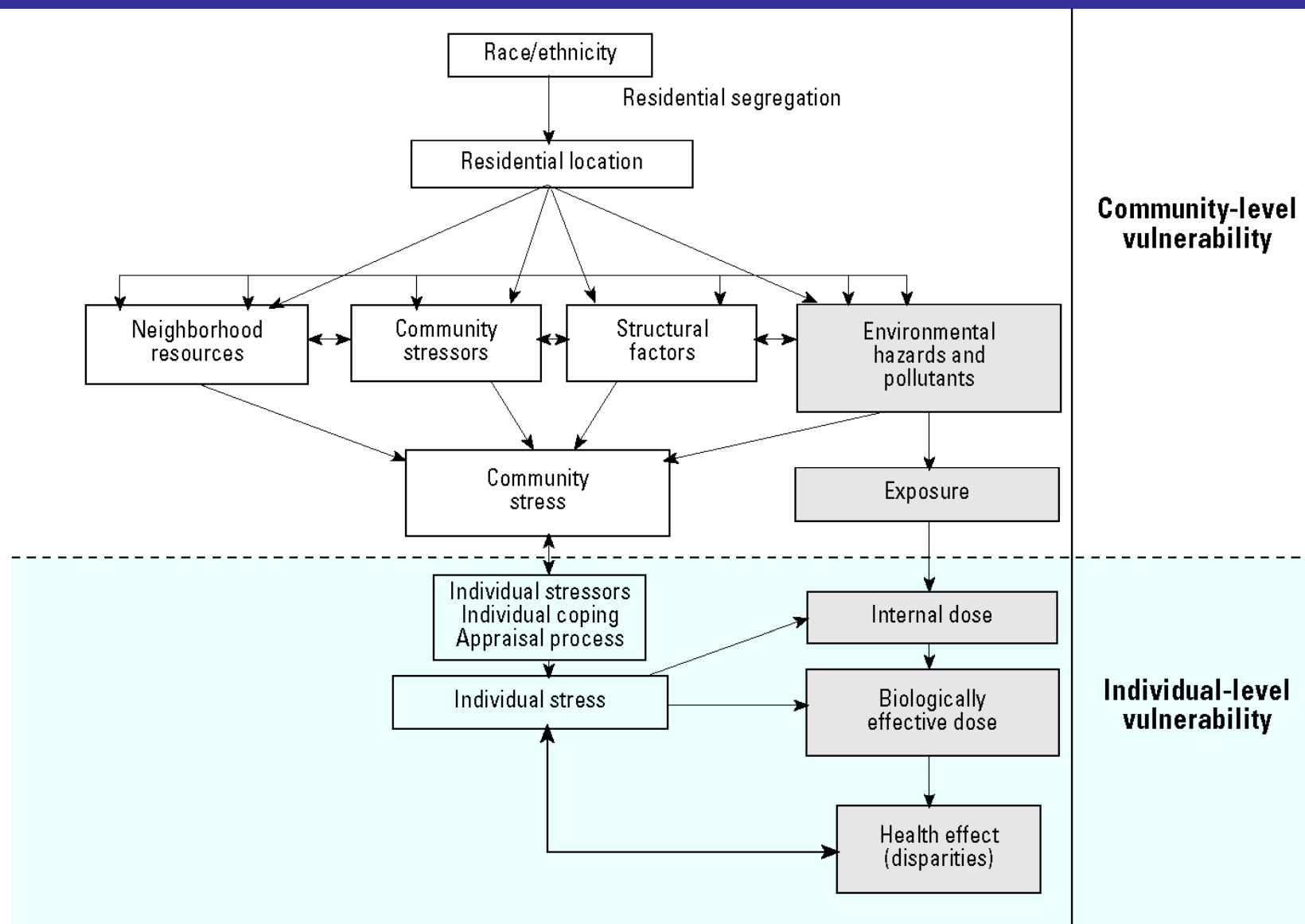


Figure 1. Exposure-disease-stress model for environmental health disparities.

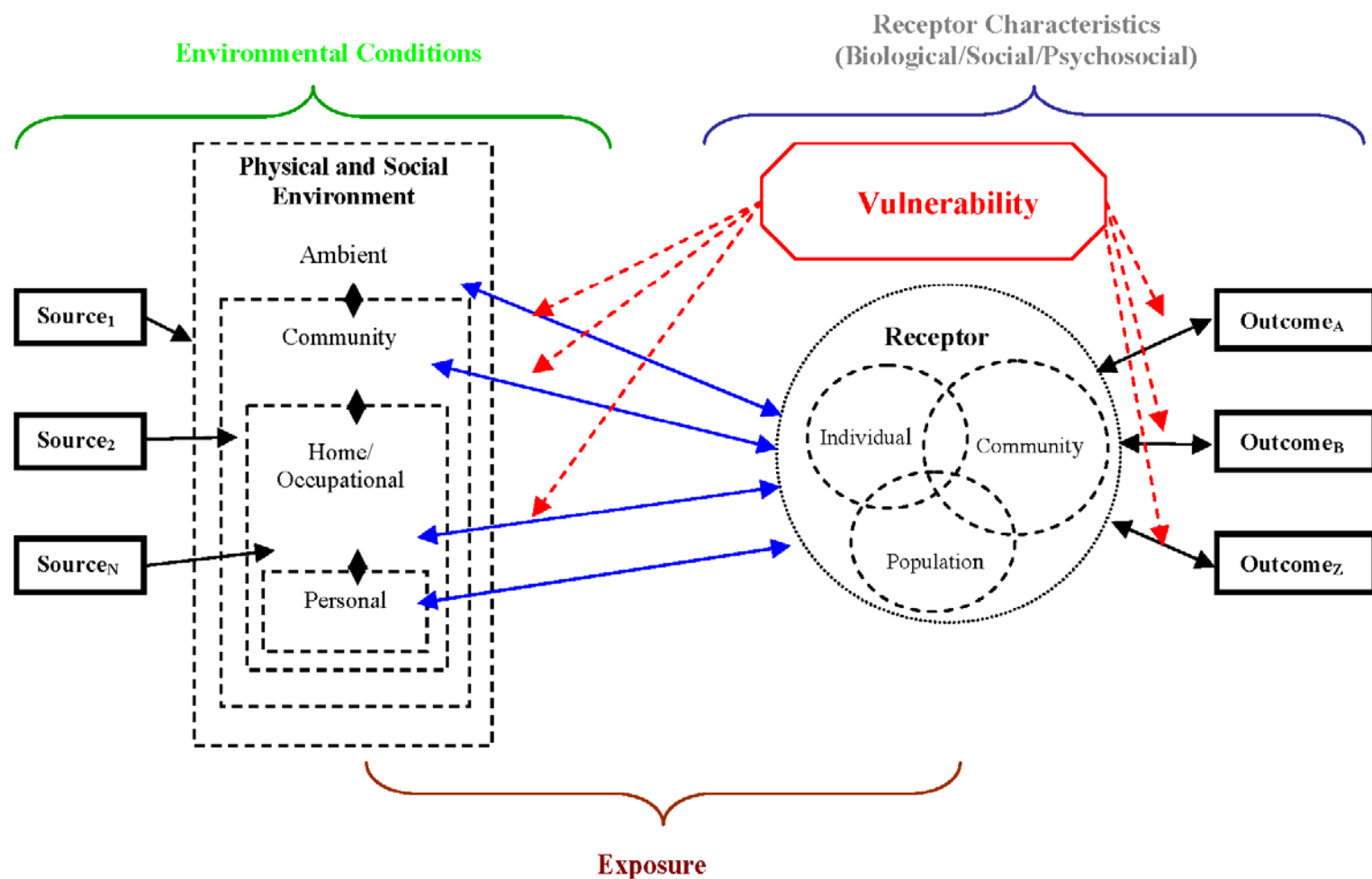


Figure 1. Conceptual Model for Incorporating Vulnerability Factors into Cumulative Risk Assessment.

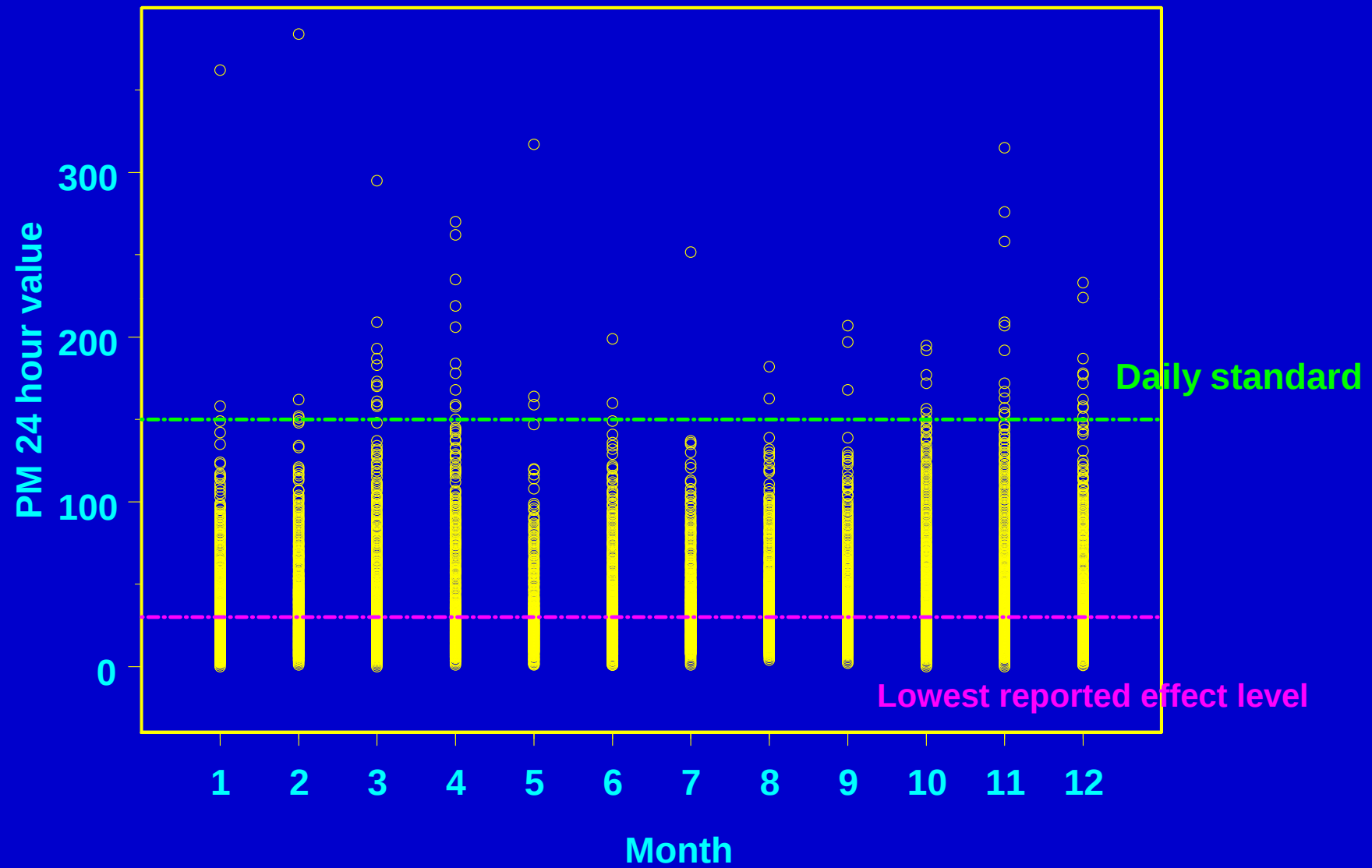
Our next steps

- Reconcile demand and value of indicators with need for different kind of engagement
- Scaling of broader understanding and approach to environmental health to communities
- Write the papers!

Paths forward

- “What” and “who” as much as “how”
 - Broader audience -- many actions
 - Support decisions for less toxic and safer products and communities
 - Need for input and leadership
- Solve underlying problems
 - Get information that is needed

Measured Values for PM-10 in 1995 (ug/m³) in the US



Comparing Measures: Average Annual PM v. Number of Exceedances

