poster ABSTRACT

VISION to REALITY 2005

TITLE

Selecting Air Toxics for Geography-based Hazard Tracking

THEME

Advance Environmental Public Health Science and Research or Build a Sustainable National EPHT Network

KEYWORDS

air toxics, pesticides, geography, hazard tracking, linkage

BACKGROUND

The selection of environmental hazards for monitoring by incipient Environmental Public Health Tracking (EPHT) systems is non-trivial. The development of such systems can be facilitated by focusing on hazards that are implicated in scientific and community discussions of their environmental health concerns, as well as by maximizing the probability that such linkage will lead to substantive results. For a demonstration project in EPHT addressing in utero exposures to air toxics and pesticides and their potential associations with health outcomes during infancy and childhood, we face the task of constructing a relevant subset of roughly 190 EPA-designated air toxics and 10,000 commercially applied pesticide ingredients for study.

OBJECTIVE(S)

To apply criteria incorporating community, scientific, and programmatic needs in the selection of air toxics and pesticides for inclusion in a demonstration project in EPHT.

METHOD(S)

We postulated that a constellation of criteria could be applied in parallel to maximize relevance: (a) community stakeholder concern due to widespread and/or involuntary exposure; (b) the existence of multiple biologically plausible mechanisms tying the hazards to the health outcomes under study; and (c) physical and chemical properties that indicate that exposure (and therefore health effects) are likely to be localized and amenable to geographic analysis. We applied feedback from a series of formal stakeholder meetings, broad categorization of biological activities of compounds, and systematic evaluation of their physical and chemical properties in this decision-making process.

RESULT(S)

The application of these criteria resulted in multiple overlapping subsets of chemical hazards. This process and its results have implications for the development of state-level EPHT systems.

DISCUSSION/RECOMMENDATION(S)

Community concerns, biological activities, and physical properties of compounds can be incorporated in the setting of ongoing dialogue to develop a workable list of air toxics and pesticides for analysis.

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