

Washington State Environmental Public Health Tracking (EPHT) Network

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Outline

- EPHT data systems development
- Challenges we face working with PHIN
- Hope for the future (?)

Washington EPHT program goals

- Data linkage demonstration projects
 - Fish contamination – Birth defects
 - Pesticide exposure – Pesticide-related illness
- School-related environmental conditions & student illness surveillance
- Biomonitoring: State-HANES
- Linkage methods development
- Integrating W-EPHTN with W-PHIN
- Core: Planning, communication, training & evaluation

Fish contamination – Birth defects

- Modify fish tissue contamination databases at Ecology to meet EPHT needs
- Develop geo-referenced database of state water bodies
- Develop geo-referenced database of target populations
- Develop and deploy methods for estimating fish consumption
- Evaluate the feasibility and utility of fish contamination related CSTE-CDC EH indicators
- Develop and implement electronic reporting of birth defects from sentinel hospitals
- Develop and deploy an application for evaluating fish tissue contamination, fish consumption and birth defect data

Pesticide exposure – Pesticide-related illness

- Establish electronic data interchange (EDI) for pesticide exposure case reporting from Poison Control
- Enhance EDI hospital reporting to include pesticide illness hospitalizations & ED encounters
- Establish EDI reporting of pesticide illness cases from L&I Workers Compensation program
- Develop EDI laboratory reporting of pesticide exposure test results data
- Assess the utility of deterministic & probabilistic record linkage methods and software to link pesticide exposures with pesticide-related illnesses

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Cholinesterase Monitoring Data System (CMDS)

- State-mandated cholinesterase [ChE] monitoring of farm-workers who handle ChE-inhibiting pesticides (organophosphates and carbamates)
- Two-fold purpose: to notify program staff for potential enforcement action, and to be basis for evaluation of effectiveness of monitoring program
- Utilizes electronic laboratory reporting (ELR), HL7 messages, probabilistic matching

CMD5: Automated functions

- An incoming case report is matched against the existing database, to determine whether a test result is new (establishing a baseline) or a follow-up test
- Changes from baseline trigger an alert if exceeding a threshold for ChE depression
- Notifications are sent to program staff for purposes of potential enforcement action

Electronic data systems development for EPHT

- Develop new & enhanced electronic surveillance systems for environmental disease, integrating Washington EPHT with Washington Public Health Information Network (WEDSS)

Electronic data interchange

- ELR of laboratory-notifiable conditions
 - Lead exposure blood test results
 - Pesticide exposure blood test results
 - Cancer diagnosis pathology reports
- Hospital reporting of notifiable conditions
 - Birth defects
 - Pesticide-related illness
 - Cancer
 - Work-related asthma

Infrastructure building

- WEDSS-focused
 - EDI middleware (Biztalk)
 - IT staff (salary support)
- Program-focused
 - Program readiness (to receive EDI)
 - Capacity for probabilistic matching-record linkage
 - Automated case ascertainment and case classification (KnowledgeBase)

Challenges

- Policy and priorities
- Standards
- Technology
- State-federal relations
- Local issues

Challenge: Policy and priorities

- Infectious disease vs. non-infectious
- Surveillance vs. case management
- Data in vs. data out (where is AVR?)
- Open source code vs. proprietary
- ELR vs. clinical encounters
 - Notifiable Conditions Mapping Tables

Challenge: Standards

- Interoperability
 - Standards-based data system development
- ELR
 - HL7 vs. flat file

Challenge: Technology

- Interoperability
 - Standards-based vs. CDC-provided?
- Middleware
 - How to reliably parse HL7 messages?
- KnowledgeBase
 - Automated case ascertainment & classification?

Challenge: State-federal relations

- NBS vs. state-developed systems
 - Interoperability (again...)?
- ELR from large national laboratories
 - EPHT at the table?

Challenge: Local issues

- Use of agency staff vs. contractors

Hope for the future

- Commitment to collaboration (partnerships)
- “Many hands make light work”
- “It’s not rocket science”

