Wisconsin Environmental Public Health Tracking Network: Childhood Cancer

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Agenda

- PHIN Infrastructure
- Program Area Module – Requirements - Childhood Cancer
- Wisconsin Cancer & Exposures
PHIN Implementation –
Using The Wisconsin Idea
What Is It?
The Wisconsin Idea is Not About Cheese as Wearable Fashion While Clutching in the Play-offs
The Wisconsin Idea is –
Rapid Technology Transfer
From University to Society
UW - PHIN Applications Provider
CDC / WI PHIN Functions

1. Automated Data Exchange
2. Electronic Clinical Data - Event Detection
3. Manual Data Entry (Web)
4. Lab Data Exchange
5. Case Follow Back Management
6. Automated Analysis and Visualization
7. User Directories
8. Dissemination and Alerting
9. IT Security / Infrastructure Protection
WI PHIN Portal
PHIN Portal

Shared User Base
- NEDSS
- WE-TRAC
- SPHERE
- CASEPOINT
- WBDR
- WNV
- EPHTN Childhood CA

Integrated Data Repository
- Common Demographic Data
- Common Observational Data
- Program Area Module Specific Data

Data Driven Alerts
- GIS/Data Visualization
- Statistical Analysis
- Health Alert Network

Secure access via WAMS for authentication*
Role based access to Program Area Modules
(i.e. NEDSS, HAN, etc.)

Traditional Public Health Partners
Non-Traditional Public Health Partners

Data Driven & User Initiated Alerts

Secure Data Transfer
- State/Local Public Health Agencies
- Labs, Clinics Hospitals Emergency Departments
- CDC

Dotted lines/lighter shade indicate planned functionality

* State of Wisconsin Web Access Management System

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Data Architecture

Reporting to CDC
Messaging surveillance data to CDC
CDC Directory Access for Public Health Officials
Applications Architecture

- PAM Builder Framework
- MVC Paradigm
- XML Data Model
- XSL Presentation
- JSP Controller
PAM Builder Framework

- Platform Agnostic Java
- Rapid and Low-Risk Development
- Conformance and MVC Adherence
- SQL Maintained in XML Document
- Connection Pooling and Caching
- Developers Love It
MVC Paradigm

WEB
XML TO HTML

Voice
XML TO VOICE

GIS
XML TO GIS

SOAP Message
XML TO SOAP

NEDSS IDR
Bi-Directional Messaging

- Fail Safe Data Transfer
- SOAP (Simple Object Access Protocol)
- Several Layers of Security
- In use at SLH and Milwaukee Laboratory
- Lightweight Message Producer
- Hospital Messaging / Tumor Registry
Security

- Physical
- Technical
- Administrative

- HIPAA / CDC Specs
Staff Directory

Integrate State Directory Efforts (WAMS)
Use Infrastructure
Use CDC recommendations / Sharable
Use industry-standard protocols

Staff White Pages
  – Role Based Access Control - PAMS
  – Public Health Response
PHIN Directory Entry

My Profile
To change information in your User Profile, click on the "modify" link next to the specific category. Remember to accept any changes made when finished.

Please use your business or government e-mail address for your account.

1. Wisconsin Emergency Assistance Volunteer Registry - Update your WEAVR participation information
2. Skills Profile - This is where you can update your skills, licenses, etc.

Personal Information

<table>
<thead>
<tr>
<th>Last Name</th>
<th>Hanrahan</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td>Lawrence</td>
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</table>

User ID: hanralp

Organization Information

<table>
<thead>
<tr>
<th>Organization</th>
<th>Bureau of Environmental Health - State Health Department</th>
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<tbody>
<tr>
<td>Job Title</td>
<td>Epidemiologist</td>
</tr>
<tr>
<td>Address</td>
<td>Madison, WI Dane County</td>
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Email Addresses

<table>
<thead>
<tr>
<th>Standard</th>
<th><a href="mailto:hanralp@dhfs.state.wi.us">hanralp@dhfs.state.wi.us</a></th>
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<tbody>
<tr>
<td>WAMS</td>
<td><a href="mailto:hanralp@dhfs.state.wi.us">hanralp@dhfs.state.wi.us</a></td>
</tr>
</tbody>
</table>

- Indicates your preferred email address.

Done
## Data Visualization & Reporting

**Schema / SAS / ESRI**

<table>
<thead>
<tr>
<th>RBAC Level</th>
<th>Case Report / Alerts</th>
<th>Tables</th>
<th>Statistic Analysis</th>
<th>GIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracking Staff</td>
<td>Yes / Yes</td>
<td>Line Listing</td>
<td>Detailed</td>
<td>Detailed</td>
</tr>
<tr>
<td>Public Health</td>
<td>No / Yes</td>
<td>Fine</td>
<td>Fine</td>
<td>Fine</td>
</tr>
<tr>
<td>Public</td>
<td>No / Yes</td>
<td>Coarse</td>
<td>Coarse</td>
<td>Coarse</td>
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</tbody>
</table>
Childhood Cancer Tracking Information Track 1
Hypothesis Generation

• Cancer Case Messaged / Reported
• Record Populates Integrated Data Repository
• Environmental Data Merge / Time / Place
• Data Visualization / GIS
• Geographic / Ecologic / Exposure Risk
Integrated Data Inventory

- DWS: Drinking Water System
- GRIN: Groundwater Retrieval Information System
- SWAP: Source Water Assessment Plan “database”
- BRRTS: Bureau of Remediation and Redevelopment Tracking System
- GIS (formerly SWAP) RR Data Layer
- RR GIS Registry
- GEMS – Groundwater environmental monitoring system
Integrated Data Inventory

- SHWIMS: Solid & hazardous waste information management system.
- FIST: Field Investigation Site Tracking
- TRI: Toxics Release Inventory
- Air Emissions Inventory
- Great Lakes Air Toxic Emissions Inventory
- Periodic Emissions Inventory
- National Emissions Inventory (NEI)
- Census – Age / Race / Gender
Childhood Cancer Tracking
Information Track 2
Hypothesis Testing

• Cancer Case Messaged / Reported
• Record Populates IDR
• Case / Control Interview
• Exposure Histories (ATSDR Interview / Literature Search)
• Employment & Residential Histories
• Hazard / Biologic Monitoring
• Other Risk Factors (Genetic)
Secure Web – Supplemental Exposure Data Entry

### My Reports - Search

Use the following form to search for a particular birth defect report.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Report Date:</td>
<td>Date of report</td>
</tr>
<tr>
<td>Child's Date of Birth:</td>
<td>Date of birth</td>
</tr>
<tr>
<td>Child's First Name:</td>
<td>First name of child</td>
</tr>
<tr>
<td>Child's Last Name:</td>
<td>Last name of child</td>
</tr>
<tr>
<td>Mother's First Name:</td>
<td>First name of mother</td>
</tr>
<tr>
<td>Mother's Last Name:</td>
<td>Last name of mother</td>
</tr>
<tr>
<td>Code/Condition:</td>
<td>Code/condition of defect</td>
</tr>
<tr>
<td>Reporter:</td>
<td>Name of reporter</td>
</tr>
<tr>
<td>Submitter:</td>
<td>Name of submitter</td>
</tr>
<tr>
<td>Physician:</td>
<td>Name of physician</td>
</tr>
</tbody>
</table>

[Search button]
Wisconsin Cancer Registry

- Began in 1978
- 20,000 Reports Annually
- Incidence / Registry
- Linkage to Mortality
- 269 Childhood Cases Annually
Track 1 – Data Linkage Exploration

- National Air Toxics Assessment
- Census
- Cancer Registry
Childhood Cancer
Age Adjusted
1990-2000

Brain

Lymphatic
Childhood Leukemia 1990-2000 & Benzene (National Air Toxics)
Preliminary Childhood Cancer & Benzene Exposure Correlation

- Leukemia: 0.31 (P< 0.01)
- Lymphatic: 0.21 (NS)
- Brain: 0.03 (NS)
Summary

• PHIN – Comprehensive, Secure IT EPHTN
• Scalable Model – Other Conditions / Exposures
• Track 1 – Hypothesis Generation
• Track 2 – Person Level, Hypothesis Testing, Population Attributable Risk
• Moving Beyond Ecologic Fallacy