2.06 Public Health
State HIT Initiatives Driving Public Health Improvement in Wisconsin

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Topics

• To Understand HIT, Must Understand Medical Informatics

• Wisconsin’s Public Health Information Network

• Wisconsin’s LHII:
  – Public Health
  – Clinical Care
  – Personal Health
  – Health Research
Medical Informatics

• The Systematic Application of Information and Computer Science and Technology to Medical Practice, Research, and Learning

• Scope includes the Conceptualization, Design, Development, Deployment, Refinement, Maintenance, and Evaluation of Systems Relevant to Medicine
Medical Informatics Domains

Functional Silos?

- Bioinformatics
- Molecular
- Cellular
- Genetic

- Imaging Informatics
- Tissues
- Organs

- Clinical Informatics
- Individual
- Patients

- Public Health Informatics
- Populations

Adapted from Shortliffe
Medical Informatics Hierarchy

Spectrum

Bioinformatics
Molecular
Cellular

Imaging Informatics
Tissues, Organs

Clinical Informatics
Individual Patients

Public Health Informatics
Populations

Adapted from Shortliffe
Public Health Context of Medical Informatics

- PHI Sits Atop The Medical Informatics Hierarchy & is Part of Clinical Research Enterprise
- Every Clinical Action Taken Informed by Evidence Based, Population Level Information (e.g. Clinical Trials)
- Public Health Informatics Is Fundamental to Each Medical Informatics Domain
Need to Foster Diffusion Model: Clinical and Public Health Informatics

Data Interpretation

Data Collection

Information Dissemination

Data Analysis

Data Collection

Clinical Informatics

Public Health Informatics

Two Way Information Flow
PHIN Vision: The Public Health Weather Channel

- Real Time Data Feeds
- Complex Computations
- Simple Intuitive Displays
- Predictive
- Action Driven
PHIN Vision:

Weather Channel - Real Time Data Flows
Influenza, Diabetes, Lead, CTS, Asthma, CVD, etc.
Wisconsin PHIN Vision

- Detection and Monitoring
- Analysis
- Information Resources/Knowledge Management
- Alerting and Communications
- Response
- Create and Reinforce public health partnerships
- Support Entire Medical Informatics Spectrum
- Connect Clinics, Labs, Health Departments, Emergency Response
HAN Home

Health Alerts:

HEALTH ALERT - Revised Influenza Prioritization Plan for Wisconsin.

Topic: Immunization
Posted: Sabor, Gerald  Oct 07, 2004 04:30 pm  Last modified: Oct 08, 2004 12:04 pm
CDC Interim Vaccination Recommendations and Wisconsin’s Revised Influenza Prioritization Plan and Table of priority groups.

Associated Documents:
- CDC Influenza Recommendations.pdf  (Added: Oct 07, 2004 04:33 pm - Downloaded: 114 times)
- Revised Influenza table 2004-05.pdf  (Added: Oct 07, 2004 04:34 pm - Downloaded: 106 times)

Health Updates:

STD*MIS Process Flow
Topic: HEDSS Project Team Documentation - Private
Posted: Locke, Alan  Oct 13, 2004 03:59 pm
MIS-Pocес flow and 4242/4151 comparison

HRSA Req 3 - Board Minutes Sept 8, 2004
Topic: Region 3 Planning Team
Posted: Seaborg, David  Oct 13, 2004 02:52 pm

Hair Mercury Study - Need for Participants
Topic: Epidemiology & Toxicology
Posted: Peters, Debi  Oct 04, 2004 02:46 pm  Last modified: Oct 12, 2004 10:06 am
The Wisconsin Division of Public Health is seeking volunteers for a mercury study.
WI PHIN Today

- 3400 Registered Users Representing 1000 Organizations
- Information “Portal” For Public Health and Partners
  - Customized Content Based On User
  - Users Have Roles & Belong To Groups
- Integration of
  - Health Alert Network (HAN)
  - National Electronic Disease Surveillance System (NEDSS)
  - Surveillance Program Area Modules (PAMs)
WI PHIN: Web-Based Surveys
WI PHIN: Online Courses
WI PHIN: Access To PAMs
WI PHIN: Calendar

Available Events

A calendar of public health events provides schedules of important activities in all areas of public health. Use the search bar below to find specific events. When creating a new event, please specify which audiences or topics an event is targeted for, as well as specifying to which category it belongs. Dates with active events are shown in **bold with a white background.**

1 Available Calendar Event

**CHEMPACK Planning Meeting**

- **Start Date:** 09/27/2004
- **Time:** 10:00am - 2:00pm
- **Location:** Madison
- **Topic:** CHEMPACK

**CHEMPACK Ad Hoc Planning Committee Meeting**

- **Contact:** Joe Cordova
- **Phone:** 608 267-9919
- **Email:** cordova@dhfs.state.wi.us
WI PHIN: Adding Content
WI PHIN: Digests

- Content is “Pushed” to User (E-Mail)
- Digests Can Be Customized – Formatting and Delivery Date
- Types of Digests
  - Site Changes
  - Content Changes
  - Subscribed Topic Content
  - Events (Including Training Events)
WI PHIN: Command Caller

- Multi-Modal Communications – Phone, FAX, Email etc.
- Invoked By Authorized Agents ("Activators") Via Phone or Web
- Based On Pre-Defined Scenarios
  - Who Should Be Contacted
  - How Should Person Be Contacted
  - What Should Be Communicated
IV. Amplify the Wisconsin Idea

The Wisconsin Idea offers a shared medium in which the university can help the state achieve its maximum potential as a participant in a world economy that embraces learning and the advancement of knowledge. As important as it remains for the university and the state to retain their historic partnership, the boundaries of the state are no longer sufficient guidelines for our influence. We are both members of an increasingly global community.

Goals

- To vigorously share advances in science and knowledge with the people of the state, the country, and the world.

- To expand university-state relationships in a way that reflects the new global economy

More...
Division of Information Technology (DoIT)

Quick List • Hours & Locations • Organization Chart (.pdf)

DoIT Profile 2004

About DoIT

The Division of Information Technology (DoIT) provides a wide variety of technology services to the University of Wisconsin-Madison. DoIT also provides limited service to UW System and other State entities. Our services span desktop-to-server-to-mainframe computing, networks, telecommunications, Internet connectivity, administrative and academic systems, instructional technology, plus many support services. We work with colleges, departments and individuals to develop and implement new systems. At the same time, we provide quality service on current systems and work with our customers to migrate them from older technologies.
Beyond PHIN: National Health Information Infrastructure

Examples of content for the three dimensions and their overlap

**Healthcare Provider Dimension**
- Provider notes
- Clinical orders
- Practice guidelines
- Decision-support programs

**Personal Health Dimension**
- Nonshared personal information
- Self-care trackers
- Audit logs
- Personal library

**Population Health Dimension**
- Vital statistics
- Population health risks
- Communicable diseases
- Socioeconomic conditions
- Registries

- De-identified information
- Mandatory reporting
- Community directories
- Public health services
- Survey data

- Inspection reports
- Public education materials
- Neighborhood environmental hazards

- Infrastructure data
- Planning and policy documents
- Surveillance systems
- Health disparities data
Beyond PHIN:
WI Local Health Information Infrastructure

- Statewide Data Exchange to Support
  - Health Care Provider Dimension
  - Population Health Dimension (PHIN)
  - Personal Health Dimension
  - 4th Dimension – Research
WI Health Information Infrastructure

- Health Care Provider Dimension
  - Physician Order Entry
  - Clinical Notes
  - Clinical Decision Support
  - Clinical Practice Guidelines
  - Data Sharing for Service Delivery
- Reduce Medical Errors / Redundant Testing / Waste
- Improve Adherence Best / Evidence Based Practices
- Automate Disease Reporting to Public Health
WI Health Information Infrastructure

• Population Health
  – Disease Surveillance
  – Evidence Based Community Intervention Practice
  – Health Disparities
  – Planning and Policy
  – Infrastructure Data

– Automate Disease Surveillance
– Automate Public Health Practice
WI Health Information Infrastructure

- Personal Health
  - Non Shared Personal Health Information
  - Self Care Trackers
  - Personal Health Reference Library
  - Interaction With Providers
  - Literacy Support

- Improved Patient Compliance
- Improved Patient Outcomes
- Improved Population Health
WI Health Information Infrastructure

• The Missing 4th Dimension - Health Research
  – Clinical Trials Support
    • Harmonize IRB Review & Patient Consent
    • Harmonize Recruitment
    • Automate Analysis
  – Public Health Research
  – Personal Health Decision Support Research

• Make WI A National Center for Biomedical Research
  – Grow State Economy
  – Create Jobs
  – Increase Pace of Medical Discovery
  – Improve Health Outcomes
  – Improve Population Health (Healthiest Wisconsin)

• Networked Research Enterprise (NIH Roadmap)
Viral Respiratory Disease Surveillance Temte et. al. (1999)
✓ Laboratory Reporting – Outbreak / Course of Respiratory Viral Pathogens Circulating in Population
✓ Training, Real-Time Feedback to Residents
✓ Antibiotic prescribing 68% Lower for Upper Respiratory Infections
✓ Education and Public Health Monitoring of Circulating Respiratory Viruses can Increase Disease Knowledge and Reduce Unnecessary Antibiotic Use.
✓ Population Health Domain Improves Health Care Domain
Use Existing Initiatives, or
Create Non-Profit Voluntary Data Exchange
Governing Board – Providers, Payers, Public Health, Health Care Financing
Physician Science Advisory Board
Technical Advisory Board
Use PHIN Initially to Support Data Exchange
Wisconsin Health Information Summit
Thank You!

✓ Questions?

✓ Further Reading on WI PHIN at: