phinews
PUBLIC HEALTH INFORMATION NETWORK
CONNECTING PUBLIC HEALTH

Spring 2008 Volume 2 Issue 3

In this issue

- In and around PHIN
- Grid technology: A search for the future of PHIN
- Regional Health Information Organizations: An overview
- Profile: Government-education collaboration
- PHINMS: Critical information, secure transportation

From the Director's desk

Dr. Les Lenert

This year, the National Center for Public Health Informatics (NCPHI) and its partners are collaborating to provide a real-time picture of America's health. We're advancing initiatives to help the public health community get and use data – while meeting CDC's health protection, health equity, health system transformation, and organizational excellence goals; addressing individual states' security and state statutes; and linking to the Nationwide Health Information Network (NHIN):

- **BioSense**: BioSense is evolving into a federated program that benefits state and local public health as much as it benefits the CDC. Our prototype system will support both NEDSS and BioSense reporting.
- **Open source initiatives:** We're collaborating with the open source public health informatics community, relying on each other for solutions in the public health space, developing data exchange and software development partnerships, and working on automated data acquisition technologies.
- **Education:** A new CDC educational program for public health practitioners—similar to the American Medical Informatics Association (AMIA) 10x10 Program—will advance a new generation of public health informatics evangelists inside their public health departments.
- **Regional Health Information Organization (RHIO) grant program:** We'll launch our $8.75 million grant program for integrating RHIOs with public health. This launch—and our subsequent work with the Office of the National Coordinator to move the program forward—will have long-term, positive consequences for public health and its relationship with clinical care partners.

We look forward to developing close working ties with the many partners we serve and to creating an interoperable, interconnected public health informatics community.

Les Lenert,

Director, NCPHI

In and around PHIN

by Phyllis McGuire

On the PHIN site
www.cdc.gov/phin

Grantee IT Solutions Inventory

PHIN Vocabulary

PHIN Headquarters, Atlanta, GA

- The Division of Knowledge Management Systems (DKMS) staff worked in collaboration with the National Center for Health Marketing (NCHM) to roll out a new functionality of Google® One Box to display *"Get Vaccinated"* health messages when Flu keywords are being searched. For more information, contact Andreea Bealle with NCPHI/DKMS.

- On January 9, 2008, NCPHI's Division of Alliance Management and Consultation (DAMC) hosted the first NCPHI Monthly Partner Call of the year. Mamie Jennings Mabery presented on progress by the *Public Health Vocabulary Community of Practice/Vocabulary Access and Distribution System (VADS)*. An update on the Outbreak Management System (OMS) was provided by Dr. Scott McNabb and Jennifer Ward, who announced the re-convening of the OMS Workgroup. All interested in participating are encouraged to contact them. The next NCPHI Monthly Partner Call is scheduled for Wednesday, April 2, 2008.

- In January, NCPHI's Office of the Director (OD) partnered with Tarrant County TX, Dallas County (TX), and the University of Pittsburg to establish and begin the development of the first-ever public health informatics research grid.

- During the February 9 NCPHI Partner Call, Barry E. Nangle Ph.D., Director, and Tong Zheng from the Center for Health Data at the Utah Department of Health presented on the community of practice *Indicator-based Information System for Public Health (IBIS)*. Also, Nancy L. Barrett, PHIN Coordinator for the Connecticut Department of Public Health, and Robert M. Kline, Program Manager, CDC PHIN Certification Program at the Pennsylvania Department of Health, proposed the idea of initiating roles for PHIN Program Managers at the jurisdictional level.

- On March 4, NCPHI hosted *Lessons Learned: Managing Open Source Software, an HMS Perspective*, by Kevin Hutchison, CEO of Health Monitoring Systems (HMS), and Steve DeFrancesco, CIO of HMS. They provided an overview of their experience in the open source realm.

On the PHIN Collaborative Forum

Main Page
The main page of the forum. If you're not a member, e-mail a request to phin@cdc.gov.

Requirements
Ongoing discussion of the PHIN Requirements V. 2.0

Messaging
Forum devoted exclusively to PHIN messaging and the messaging implementation guides.

In and around *(continued)*

- Coming up March 12, 2008, Dr. Jeffrey Sitterle of the Georgia Tech Research Institute will speak on open source development.
  Attendee URL: https://www.livemeeting.com/cc/cdc/join
  Meeting ID: ZM59FD
  Audio Conferencing (Toll-free): +1 (877) 939-3613
  Participant Code: 1687271

- Two major efforts are being conducted by NCPHI's Division of Integrated Surveillance Systems and Services (DISSS). The first is the posting of the *Vaccine Preventable Diseases (VPD) and Food Borne Message Mapping Guides* to the PHIN Forum for external review. Secondly, the PHINMS Team along with the Data Message and Brokering Team are ready to accept TB, Varicella, and Lead HL7 messages via PHINMS. DISSS is testing this process with New Jersey and Oregon. For more information, contact Aaron Aranas, Jose Aponte, or Michelle Mayes with NCPHI/DISSS.

- Tim Morris, Director, Division of Integrated Shared Services (DISS), recently accepted an offer to work in the Research and Health Sciences Information Technology Division at Emory University. He began his new position at Emory on February 1, 2008 after 20 years of service at CDC. Tim was instrumental in developing NCPHI's informatics services and was widely recognized for his technical expertise and Electronic Laboratory Reporting (ELR) experience. In addition to his significant contributions to ELR, Tim was instrumental in the development of PHIN Messaging System (PHINMS), Countermeasure and Response Administration (CRA), Outbreak Management System (OMS), PHIN Vocabulary Access and Distribution System (PHIN VADS), among other major services and applications.


Tim Morris

- After 29 ½ years of federal government service, Marty Cicchinelli, MS, retired on February 1, 2008. Marty led development of the OMS and co-chaired the 2006 and 2007 PHIN Conferences. This past year, Marty served as NCPHI lead for the HIE/ RHIO public health focus group and worked with the American Health Information Community (AHIC).


Marty Cicchinelli and Steve Solomon, 2007

Remember these dates

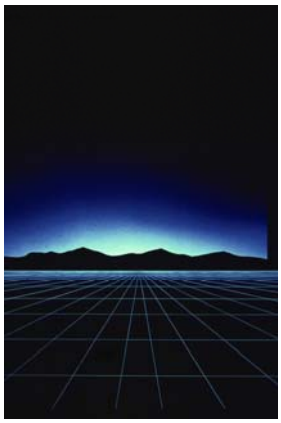
- 2008 PHIN Conference, Atlanta, GA, August 24—28
- Partner calls are on the first Wednesday of each month.

Grid technology: A search for the future of PHIN

by: Jay Jones, photograph by Scott Wilson

In the world of public health informatics, it sometimes seems we are introduced to a new technology buzzword daily (or even hourly). It's easy to become overwhelmed keeping up with definitions, much less finding time to perform the research necessary for real understanding.

Grid technology, a term coined in the 1990s, is used more and more in the PHIN community, so *PHINews* decided to find out what it's all about. We talked with some experts on the CDC campus about the exciting research that is going on in the NCPHI laboratory and their plans for the future.



A *grid* is a way to connect multiple computers running different operating systems (Windows® XP, Linux®, etc.) at different organizations on a national scale. Every one of these connected servers—known as *nodes* in grid terminology—can share data, applications, storage capacity, CPU capacity, and other computer resources. Ken Hall, NCPHI consultant, explains: "In public health, given the many local and state public health departments located all over the country, there are hundreds and thousands of isolated servers, data, and applications. Grid computing is one way to connect all these data and applications together. With the added capability from a toolkit, grid connectivity enables secure, controlled views of distributed data and access to analysis and other services that grid participants build or use. The elegance of grid is that the control of data and applications (services) remains local; once the owner places the data or service on the grid, anyone else on the grid may consume it so long as they have appropriate user and access rights."

The grid metaphor is adopted from the nation's electric power grid. When you plug your device into an outlet to get electricity, the electricity you tap into is distributed across the local power grid. The power flowing into your outlet may not ultimately be supplied by the city, state, or region you live in, although the power certainly has to travel through your local grid. Like every large city in the US, Atlanta has a power grid that continually "trades" and shares electricity with the nation's other regional power grids. Together, city, state, and regional grids make up the US power grid.

Grid *(continued)*

A computer grid works in a similar fashion: Once the public health grid is created, your computer can tap into the resources and services at each of the public health and healthcare organizations connected to the same grid. Ideally, the activities of a public health professional entering and retrieving data would not change.

> ***"Grid could play a key role in a revised PHIN architecture."***
>
> ***Crystal Watson***
> Director of PMO for NCPHI's OD

Types of Grids

There are three main types of grids, though they are often a dynamic mixture of the three types:

- **Data Grid:** A data grid lets users query across multiple databases without needing a specialized application—also known as a *federated query*. For example, you can create and submit a query that goes out and retrieves the information from other databases on the grid, regardless of where the database is on the grid or how it is configured. A data grid provides an interesting mechanism for overcoming the highly distributed and isolated data challenges within public health. The process of building the public health grid requires focused collaboration between partners, which lays the groundwork for future collaboration efforts.

- **Computational Grid:** When multiple computers divide work and share computer processing power for more efficient task completion, it is referred to as a computational grid.

- **Collaboration Grid:** A collaboration grid enables voice and video capability to anyone on the grid. This type of collaboration is similar to Microsoft® LiveMeeting or other conferencing software, but the technology is built into the grid so there is no cost. Plus, a collaboration grid uses the same infrastructure as the data and computational grids; therefore, at the same nodes where data and computational power are shared, the virtual public health community may also collaborate.

Grid *(continued)*

Not another new technology!

Some readers may sense a change coming, one that will force them to scrap the work processes they've nurtured and results they've accomplished over the past few years to adopt the "latest and greatest" technology that will itself be replaced in a few years.

That's not the case with grid technology.

Ken Hall, NCPHI consultant and "grid guru."

"One goal of the grid is to reduce redundant data collection while increasing the amount of data available to a public health workers without changing the way they do their job," contends Hall. "With the grid, all node sites would be connected together 'behind the scene.' An important design principle with grid is to leverage as many existing applications as possible. In this way, user interfaces would remain the same. Query requests would be similar. Public health informaticians would still be doing their job, but on the backend the data available to them would be greater due to the federation enabled by the grid. The ability to view data from a much broader range of sources would increase public health knowledge and awareness, and, at the end of the day, improve public health."

Although the use of grid technology is growing considerably in the US, there are literally thousands of grid organizations in other parts of the world. During the 2003 SARS epidemic, for example, there was no collaboration mechanism in place to help Pacific Rim public health professionals communicate with each other, but they realized that they had an existing grid infrastructure with many nodes upon which they were able to collaborate successfully. In the last five years, Europe has developed and implemented a €7 billion production grid infrastructure that handles thousands of transactions a day in the medical and science domains. And here in the United States, caBig™—the National Cancer Institute Cancer Biomedical Informatics Grid™—enables federated data sharing and collaboration among a community of cancer researchers across the country.

Grid *(continued)*

Security and reliability

Computer grids are built on open technologies and use replication (a grid function which constantly distributes data among the other nodes on the grid) to assure that a major shut-down will not happen. If a node goes down, replication ensures that its data exists on multiple other nodes on the grid. Therefore, the data isn't lost, and the loss of part of the grid doesn't bring down the entire grid. If a node or several nodes are lost, the grid allows the query to find the information on other node sites. Another real advantage of grid technology, specifically computational grids, is that in the event of a national emergency, computers on grids that are performing routine tasks can be redirected to support the event.

Like books in a public library…

… data on a grid must be published before it is available for use. And like library patrons, data users on the grid must both have -- and use -- the proper protocol and credentials to view, "check out," or retrieve their data (specifically, a digital certificate, which is a common security model implemented at CDC).

Present and future use

So does grid have a role in PHIN? Crystal Watson, Director of Program Management Operations (PMO) for NCPHI's Office of the Director (OD), believes that "grid technology can play a key role in a revised PHIN architecture. CDC is currently engaged in grid-related research that will be used to determine its potential use in the future. If adopted by public health, full implementation is at least 5 years away."

NCPHI is now conducting grid technology research in its laboratory, focused on two current projects:

- **Intramural** uses the caBig™ model, which employs a strong governance structure. The research team is trying to determine if caBig™ could work within the public health domain.
- **Extramural** uses the Globus Tookit® (an open-source software) and a Globus Tookit® extension called MEDICUS (Medical Imaging and Computing for Unified Information Sharing), a distributed application that allows access to radiological data. The NCPHI lab has created its own grid, connecting to node sites in Tarrant and Dallas Counties in Texas, and a node at the University of Pittsburg.

Grid *(continued)*

In addition to learning and teaching others how to set up and replicate nodes on the research grid, the NCPHI lab hopes to:

- Establish grid nodes that can work in tandem;
- Begin sending files across grid nodes (initially HL7 files);
- Catalog these files;
- Request a file (which can be anywhere on the grid) to be retrieved and displayed;
- Perform a distributed query, whereby a request for information is made and the query goes to all the different node sites to retrieve the data;
- Develop a Geographic Information System (GIS) service using Google Maps to show clusters of activity in a specific region of the country.

With this research, NCPHI hopes to discover the most efficient and cost-effective means of creating a grid. NCPHI will co-sponsor the 2008 US Health Grid conference this summer, where public health informaticians hope to leverage European grid activities and discuss how the US will build its own grid. Several NCPHI staff are participating in planning the event.

"The long range goal is to move from centralization to a distributed and decentralized model that ties into the open source environment that the PHIN community is moving towards," says Hall. "Decentralization is all about the PHIN community. CDC can't move toward a distributed, decentralized, open source world without its PHIN partners. CDC can't do this alone."

For more information:

- European grid
- Grid projects around the world
- Collaboration grid
- University of Pittsburg RODS project
- Globus Toolkit
- 2008 US Health Grid conference
- SARS Pacific Rim Allocations and Grid Middleware Assembly
- caBig™

Regional Health Information Organizations: An overview

by Claudia Vousden

Summary: Regional health information organizations (RHIOs) have been embraced as essential to the success of the nation's development and use of health information technology. RHIOs have both contributions and needs that align well with public health interests. This alignment supports collaboration and partnership between public health and healthcare delivery stakeholder organizations across national, state, and local levels.

A 20th century precedent for RHIOs

In the 1990s, collaborative projects known as Community Health Information Exchanges (CHIEs) were initiated to enhance the delivery of health services through electronic information exchange. However, most CHIEs never progressed beyond their planning stages. Although multiple reasons for the failure were cited, the general consensus was that the US health care system simply was not ready for this innovation.

Less than 10 years later—at least partly in response to the federal government's emphasis on establishing an interoperable health information infrastructure for the nation—some communities renewed their efforts based on the CHIE concept by establishing RHIOs. National leaders quickly embraced RHIOs as essential to creating the national health information infrastructure.[1]

RHIOs as a manifestation of today's Health Information Exchanges (HIEs)

The terms "RHIO" and "HIE" are sometimes used synonymously. However, the Healthcare Information and Management Systems Society (HIMSS) defines these terms in a way that suggests that the RHIO concept can be subsumed under the broader HIE domain. HIMSS notes that an HIE is "a project or initiative focused around electronic data exchange between two or more organizations or stakeholders."[2]

The primary purpose of HIEs is to facilitate electronic exchange of health-related information between participants. The information may include clinical, administrative, and financial data. HIEs may or may not have formal business agreements between participating entities.

RHIOs *(continued)*

In comparison, HIMSS describes a RHIO as a group of organizations and stakeholders that come together and adhere to a formal governance structure. RHIOs focus on the secure electronic exchange of data among participants to improve healthcare delivery in a specific medical trading area, community, or region.

Monitoring the number of RHIOs and their progress is difficult due to the frequently changing landscape and their decentralized nature. RHIOs' jurisdictions range from single communities to large multi-state regions. In September 2005, over 200 individual RHIO initiatives in 42 states were reported to be in varying stages of progress.[3]

The HIMSS State Dashboard[4]—a virtual interface for tracking RHIOs and other state, federal, and private health information technology (HIT) initiatives—enables access to information voluntarily provided on over 600 HIT initiatives in all 50 states. The dashboard database currently includes information on 390 active RHIOs, over 90 proposed RHIOs, HIT projects funded by the Agency for Health Research and Quality (AHRQ), and relevant state legislation.

Emerging ties—RHIOs, Public Health, and PHIN

While most RHIOs have formed with limited government involvement, the findings of a 2006 survey of 50 RHIOs indicate that associations with government agencies seem to increase as RHIOs mature.[5] Both public health organizations and RHIOs are likely to benefit from closer collaboration. The contributions of state and local public health departments include existing data, experience with coalition building and data sharing agreements, and a wide scope of existing activities that may be leveraged to help ensure RHIOs' progress. Collaboration can also provide mutual benefit through combined expertise, reduced duplication of effort, and enhanced public-private partnerships.

Many of the healthcare issues of interest for RHIOs align with those of PHIN and CDC to enhance interoperability and promote exchange of information among public health organizations throughout the nation. Areas of shared interest include, but are not limited to, disease and immunization registries, ambulatory care, emergency room visits, and laboratory records. Examples of PHIN applications and standards that are likely to help meet RHIO needs as well as those of state and local public health organizations include LIMS, BioSense, NEDSS, and HL7 standards for messaging and vocabulary.

RHIOs can also align with PHIN on the national level as participants in the "network of networks" envisioned for NHIN.

RHIOs *(continued)*

The intent of NHIN, as described in the May 2007 Gartner Summary of the NHIN Prototype Architecture Contracts, is to provide interconnection to support information exchange beyond the bounds of a single network.[6] While the Gartner report does not specifically reference PHIN, its identification of public health organizations, RHIOs, and other HIEs as NHIN participants strengthens the justification for collaboration on all levels between those concerned with development and use of the information technology systems needed by public health practitioners and healthcare delivery stakeholders alike.

For more information:

[1] DHHS, Office of the National Coordinator for Health Information Technology. July 2004. The decade of health information technology: Delivering consumer-centric and information-rich health care. Framework for strategic action. Retrieved June 13, 2007 from http://www.hhs.gov/healthit/documents/hitframework.pdf.

[2] The Healthcare and Information Management Systems Society. Definitions and Acronyms. Retrieved May 18, 2007 from http://www.himss.org/ASP/topics_FocusDynamic.asp?faid=143.

[3] Texas Institute for Health Policy Research. Regional health information organizations: State of the industry. September 2005. Retrieved June 28, 2007 from http://www.hcphsc.hctx.net/Documents/TIHPR%20RHIO%20Final%20Report.pdf.

[4] HIMSS State Dashboard. Retrieved December 10, 2007 from http://www.himss.org/statedashboard/mapPage.aspx.

[5] Christopher M. and Jensen M. June 2006. Funding RHIO startup and financing for life: The survey of regional health information organization finance 2006 findings. Public summary of the 2006 survey report. Retrieved June 21, 2007 from http://www.hittransition.com/RHIO_Survey_2006.

[6] DHHS, Office of the National Coordinator for Health Information Technology. May 2007. Summary of the NHIN prototype architecture contracts. Retrieved June 13, 2007 from http://www.hhs.gov/healthit/healthnetwork/resources/summary_report_on_nhin_Prototype_architectures.pdf.

Profile: Government and education collaboration

by Christine Van Roosen, photograph by Scott Wilson

A mere 10 years ago, says Bryant T. Karras, MD, the field of public health informatics was mostly a highly specialized subfield of prevention and population. Since then, though, the field has grown and sub-specialized even more—a trend that Karras seeks to address with a far-seeing approach. As Karras sees it, epidemiologists and public health informaticians need to learn to work together.

Dr. Bryant T. Karris

"Epidemiologists working on communicable diseases need to know something about databases and using informatics tools to do their job appropriately," notes Karras, who was until recently a professor of public health informatics at the University of Washington. He has just been appointed into a dual role: public health informatics officer and senior epidemiologist at the Washington State Department of Health's Epidemiology, Health Statistics, and Public Health Laboratory. Karras will remain a university affiliate and teacher. "At the end of the day," he continues, "primarily epidemiologists, not informaticians, will develop, use, implement, support, or evaluate tools in a public health environment at NCPHI, a state laboratory, or a local public health department."

Conversely, he notes: "Pure informaticians who don't know anything about public health are just as dangerous as pure computer scientists who don't know anything about the field that they're programming in. They can make false assumptions and develop applications that don't help the real work flow. I think it's really important that we have people that really 'live' in both worlds—especially as the field of public health informatics is being defined."

Along with a working group of experts from around the country, Karras and his CDC colleague, Denise Koo, MD (MPH, CAPT, USPHS, and Director of CDC's Career Development Division at the Office of Workforce and Career Development), have collaborated to develop public health informatics competency definitions that specify the required skills for public health informatics proficiency and address the nation's growing need for quality public health informaticians.

Profile *(continued)*

Karras points out that the certification of public health professionals is part of an even larger competencies trend. "Certification should be inherently based in a competencies process," he suggests. "We're at the very early stages of doing this. Public health informatics competencies, like all competencies, help to define a profession and ensure that its members are able to do their jobs successfully. Ultimately, as the public health informatics profession moves towards certification and credentialing, competencies will become increasingly more important." He adds that "competencies are not a static entity: the competencies developed in 2007 will change and evolve, just like the field is changing and evolving."

> ***" . . .the competencies developed in 2007 will change and evolve, just like the field is changing and evolving."***
>
> **Dr. Bryant T. Karras**

Karras admits that his new, dual role will force him to "walk the walk" and bridge epidemiology and informatics, both of which are competency-based. "I've gone from being a primary educator to being the primary practitioner. My new position provides a good chance to validate that the competencies we put together are appropriate. I'll be training my team at the state Department of Health to match those competencies."

Meanwhile, the University of Washington is increasing its collaborative activities with the global public health informatics community. Its annual Public Health Informatics Conference draws international attendees and presenters. "One of the philosophically interesting things is that public health in many countries is not separate from healthcare or medical care. It's part and parcel," Karras says. "In many ways, some of the efforts around RHIO funding and new initiatives coming out of NCPHI are trying to look at bringing public health and clinical practice closer together—whereas in other countries, they were never separated, because of socialized medicine or the fact that whole healthcare systems takes a safety net approach. It depends on the resources of the country."

For more information:

- Public health informatics competencies
- Center for Public Health Informatics at the University of Washington
- To contact Dr. Karras, e-mail him at bkarras@u.washington.edu or bryant.karras@doh.wa.gov
- Creating a Global Partnership in Public Health Informatics (PHI2007)
- Council on Linkages documentation on competencies in public health, job classifications, and roles in public health
- University of Washington Public Health Informatics Conference

PHINMS: Critical information, secure transportation

by Amy Hearin and Mamie Jennings Mabery

A clinical laboratory sends a patient's blood test results to a physician's office.

A state health department transmits a notification concerning a potential case of tuberculosis.

A hospital sends emergency room data to the CDC for bio-surveillance purposes.

The information contained in these messages can be critical; timeliness and accuracy are key when an individual's or the community's health is at risk. These kinds of messages can be sent quickly and securely through the PHIN Messaging System.

What is PHIN Messaging?

The PHIN Messaging System, or PHINMS (pronounced fin-em-ess), was developed over four years ago by CDC and is used by CDC, health departments, laboratories, and other organizations in every state to send records, reports, and other information over the Internet safely and securely. The system is also flexible: organizations can send any type of data (HL7, binary, text) using PHINMS.

Reporting jurisdictions send messages when they have determined that there is a possible case of a nationally notifiable disease, such as tuberculosis, or another critical event such as a bioterrorist attack. PHIN messages are also used by epidemiologists and public health officials to enhance their syndromic surveillance operations.

The PHINMS system is composed of two parts: a client, called the *sender*, and a server, called the *receiver*. The sender program can run on a regular workstation, while the receiver runs in conjunction with a Web server and can be implemented on multiple operating platforms, including Windows®, UNIX®, and open source systems such as Linux. Just as the system has two parts, each PHIN message has two components: the structure of the message and the message content.

PHINMS *(continued)*

Message structure

Message content may be text, graphics, or other file types, including HL7 protocols. HL7 is a Standards Development Organization (SDO) which works with clinical and administrative healthcare data. PHIN messages can use HL7 standards to increase understanding and minimize ambiguity when information is exchanged. PHIN messages are HIPAA-compliant and secure. When a message is sent from the PHINMS client, it is given a digital wrapper that contains a digital signature, time stamp, and unique identifier. PHIN messages are sent through Secure Socket Layers (SSL), ensuring that health information is encrypted and safe. If public key infrastructure is available, PHINMS also verifies the encryption's integrity with digital signatures and public key verifications. These technologies assure that messages are received and understood only by their intended recipient.

Message content

The previous issue of *PHINews* featured an article on the importance of standardized vocabularies. PHIN messages use those standard vocabularies to make the information contained in these messages consistent and more efficiently comparable.

Developers at CDC are continually working with CDC Programs and Partners to improve PHIN messaging products, including Use Cases, Profiles, and Mapping Guides. Consistent implementation of these standard messages will enhance interoperability among public health systems, government agencies, public health practitioners, and other external networks. Interested users are invited to view the current message standards work products, located on the PHIN Web site.

PHIN Messaging in the field

JA Magnuson, a Health Informatics Scientist at Oregon Public Health Division, says that electronic messaging has many benefits. Oregon has been working with electronic lab reporting since 2000, and in 2007 tested case notification reporting to CDC. Dr. Magnuson reports that the CDC Messaging Team has been "extremely helpful" with their case notification work. She also notes that electronic messaging has the potential to make public health data exchange faster, more accurate, and more environmentally-friendly. It is important to remember, though, that message transmission is not the only factor involved—both data format and data content standards must be encouraged in order to improve the message itself.

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PHINMS *(continued)*

Magnuson's colleague, Stephen Ladd-Wilson, adds that with any system there are trade-offs and no panaceas. Ladd-Wilson, a disease surveillance manager, also believes that the focus on standardized electronic messaging is a better approach than building one-size-fits-all applications, because of the flexibility allowed. He believes that having messaging standards will allow every state to develop the application it needs for itself, knowing that its application can still communicate with other systems as needed.

Ladd-Wilson advises his colleagues to "try to be at the table with the folks building the standard," emphasizing that this will "promote a productive dialog between those who develop standards and those who use them." By getting involved in the standards development process, stakeholders can help to "bridge the gap" between the academic and the practical, creating robust and flexible messaging systems that help public health workers at all levels to improve the health of the nation.

For more information:

- PHIN Messaging
- Vocabulary article in *PHINews*, Volume 1, Issue 2

If you would prefer to receive *PHINews* in MS Word format, e-mail phin@cdc.gov with your request. To be removed from the mailing list, click here.