



## **PUBLIC HEALTH INFORMATION TECHNOLOGY COORDINATING BOARD**

**FEASIBILITY STUDY  
Final Report - June 30, 2007**



*"Helping Communities and Organizations Create Their Best Futures"*

Founded in 1988, we are an interdisciplinary strategy and analysis firm providing integrated, creative and analytically rigorous approaches to complex policy and planning decisions. Our team of strategic planners, policy and financial analysts, economists, cartographers, information designers and facilitators work together to bring new ideas, clarity, and robust frameworks to the development of analytically-based and action-oriented plans.

**BERK & ASSOCIATES**

120 Lakeside Avenue  
Suite 200  
Seattle, Washington 98122  
P (206) 324-8760

[www.berkandassociates.com](http://www.berkandassociates.com)

**Principals:** Bonnie Berk and Michael Hodgins  
**Project Manager:** Pia Franzese  
**Analysts:** Pia Franzese and Heather Rogers

# **PUBLIC HEALTH INFORMATION TECHNOLOGY (PHIT) COORDINATING BOARD**

## **REPORT**

<b>INTRODUCTION .....</b>	<b>1</b>
Project Overview .....	1
Project Purpose.....	1
Methodology.....	2
<b>CONTEXT AND CURRENT SYSTEM .....</b>	<b>3</b>
Defining Public Health .....	3
Building Interoperability in the State of Washington .....	5
<b>AGENCY SURVEY FINDING AND ANALYSIS.....</b>	<b>11</b>
Local Health Jurisdictions .....	11
Department of Health.....	11
Differences by Size.....	12
Differences by Geography .....	13
<b>POTENTIAL MODELS.....</b>	<b>14</b>
Description of Models.....	14
<b>ANALYSIS OF MODELS.....</b>	<b>22</b>
Level of Stakeholder Involvement.....	22
Top-Down, Cooperative, and Bottom-Up Approaches .....	23
Conclusion.....	23
<b>ATTACHMENTS</b>	
<b>INTERVIEW PARTICIPANTS.....</b>	<b>25</b>
<b>BIBLIOGRAPHY .....</b>	<b>53</b>

# **PUBLIC HEALTH INFORMATION TECHNOLOGY (PHIT)**

## **COORDINATING BOARD - FEASIBILITY STUDY**

### **INTRODUCTION**

#### **Project Overview**

As one of seven committees of Washington's Public Health Improvement Partnership (PHIP), the Public Health Information Technology Committee (PHIT) seeks to ensure that public health professionals will have access to information when and where they need it by employing appropriate and effective technology, in the background, to make the work of assuring the public's health easier, more efficient, and more effective. Given the rapid changes occurring in the information technology field, achieving this goal has become increasingly complicated.

There is growing expectation, internally and externally, for public health agencies to adopt new technologies in order to provide faster and more efficient service. This push has created a need for public health to place a high priority on the development and applications of new technologies. However, these demands have come from a variety of different sources such as state and federal mandates, the need to update old systems, or grants that have specific information technology requirements. Many factors thus combine to put pressure on public health agencies to quickly adopt technologies that are siloed and may or may not be compatible with other programs or partner agencies. Without coordination, siloed applications continue to multiply, draining resources through training and implementation time, the need to transfer data from old systems to new, and maintenance requirements.

Washington State has a particular challenge to achieving information technology coordination across programs and agencies because of the decentralized organization of its public health system. The current information technology environment includes a plethora of different applications and limited interoperability. The PHIT is therefore interested in determining what processes or coordinating bodies are needed to improve the coordination of information technology efforts in the public health field in Washington, most particularly within the Department of Health (DOH) and Local Health Jurisdictions (LHJs).

#### **Project Purpose**

The PHIT sees the need for a collaborative public health technology coordinating board, an entity or forum for information technology planning and coordination across public health agencies in Washington State. This study takes an in-depth look at the public health system in Washington and analyzes four potential information technology (IT) governance models that attempt to address these issues.

Drawing upon interviews with stakeholders in Washington State and interviews and research on models that other states and industries are using, this study assesses the feasibility of applying the four models to Washington State and makes recommendations for how to achieve greater interoperability in Washington State's public health system.

## **Methodology**

Data collection used for research and analysis was based on three methods: interviews, comparative research on other states and disciplines, and a literature review.

### ***Interviews***

Interviews consisted of phone conversations and email exchanges from a broad array of stakeholders in order to gain a comprehensive and balanced perspective on the information system planning and coordination in public health. Interviews were conducted with 19 local LHJs from urban and rural areas in Western and Eastern Washington, seven program managers and directors within DOH, and 16 best practice interviews with healthcare technology professionals, physicians, academics, state and country employees, and Regional Health Information Organization (RHIO) representatives all over the United States. An interview protocol was created for all LHJ and DOH interviews that asked specific questions regarding the benefits, opportunities, and challenges to improving prioritizing, planning, coordinating, and fundraising for technology applications across public health agencies in Washington.

### ***Comparative Research in Other States and Industries***

Analysis and research was conducted to evaluate work being done in other states in regards to planning and coordinating IT efforts within public health. Online research, coupled with phone conversation, email exchanges, and literature review provided the bulk of information on investigating state interoperability efforts. Additionally, homeland security and emergency management, which have some areas of shared need with public health, were also explored for best practices research. These conversations helped determine which models might be applicable for the State of Washington to explore further.

### ***Literature Review***

Information for the report was also obtained by analyzing and reviewing research papers, reports, and academic journals through website and database searches. In particular, reports issued by the National Association of Chief Information Officers (NASCIO) and Association of State and Territorial Health Officials (ASTHO) provided excellent research on material pertinent to technology issues within public healthcare. Attachment B provides a full bibliography of materials and documents used for the report.

## **CONTEXT AND CURRENT SYSTEM**

### **Defining Public Health**

While each state has its own legal definition of public health, a consortium of healthcare leaders from all over the United States identified public health, in general, as providing ten core services<sup>1</sup>:

- Monitor health status to identify community health problems
- Diagnose and investigate health problems and health hazards in the community
- Inform, educate, and empower people about health issues
- Mobilize community partnerships to identify and solve health problems
- Develop policies and plans that support individual and community health efforts
- Enforce laws and regulations that protect health and ensure safety
- Link people to needed personal health services and assure the provision of health care when otherwise unavailable
- Assure a competent public health and personal health care workforce
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services
- Research for new insights and innovative solutions to health problems

These services are carried out by the state and geographically dispersed local health departments. While some nonprofit and private health entities, such as hospital, clinics, and research institutes, do engage in some of these activities, they are not typically focused exclusively on providing these services (whereas public health is).

### ***Relationship of Local and State Public Health across the United States***

Relationships between local and state public health agencies vary across the United States. According to research performed by the National Association of County and City Health Officials (NAACHO), states can be classified into four broad categories: centralized, decentralized, shared, and mixed.

In decentralized states, of which there are 26, local governments operate the local health departments (LHDs) and have considerable control over decision-making and delivery of service. States that fall under this category include Washington, Minnesota, Oregon, Illinois, Michigan, North Carolina, Maine, and New York. In a centralized structure, the state operates all of the LHDs, which are directly under its control. There are thirteen centralized states: Nevada, Louisiana, Mississippi, Oklahoma, Arkansas, Florida, New Mexico, South Carolina, Missouri, Virginia, Rhode Island, and Vermont. Nine states have mixed systems (such as California, Alabama, Tennessee, and Texas) where services at the local level

---

<sup>1</sup> Public Health Functions Steering Committee, Members (July 1995)

are provided by a combination of the state, local government, and boards of health departments in other jurisdictions. Kentucky and Colorado are defined as shared systems, and are states where the state and local government share joint authority of the LHD.

While these groupings do not fully capture the complexity and variation of the United States' public health system, these broad based categories are useful in better understanding how differences in local-state relationships can affect funding, program development, and delivery of services.

### ***Structure of Public Health in the State of Washington***

Public health within the State of Washington is comprised of the DOH, Board of Health, and LHJs. With a decentralized structure, LHJs supply the bulk of direct services, although the State does assume some centralized control in areas where and when it is appropriate. Due to this relationship, strong collaboration and cooperation between LHJs and the State are necessary to provide quality and timely health-related services to Washington residents. The information below provides an overview of the structure and function of these agencies.

**Local Public Health.** There are 35 local health departments and districts serving 39 counties in the State of Washington. While departments are part of the County government structure, districts are independent, but only under the county's authority. Currently there are three multi-county districts: Northeast Tri-County, Chelan-Douglas, and Benton-Franklin. LHJs are required to enforce state public health laws (which include sending specified health data to the state), inspect water systems, provide disease prevention and health promotion outreach, maintain health and sanitation standards, and effectively communicate disease prevention and health promotion issue to the public (RCW 70.05.060).

**State Department of Health (DOH).** A cabinet-level agency, DOH is headed by a Governor's appointed Secretary of Health, a position which is confirmed by the Senate. Within DOH there are multiple programs that offer a broad array of services which include epidemiology, health statistics, community prevention and health promotion, environmental health, and health profession and facility licensing. DOH responsibilities are to analyze the various data collected by LHJs, monitor environmental health measures, provide public health services, and work to improve state and local health state partnerships (RCW 43.70)

**State Board of Health.** The Washington State Board of Health is an independent body comprised of ten members that are appointed by the Governor. While not an enforcement authority, the Board adopts rules concerning water quality, health hazards and waste disposal, prevention and control of disease, quarantine, and cleanliness of facilities (RCW 43.20).

## **Building Interoperability in the State of Washington**

Within public health, interoperability is generally defined as the ability for public agencies to communicate and share accurate information with one another on demand, in real time, through technology. With respect to software, the term interoperability is defined as “the capability of different programs to exchange data via a common set of business procedures, and to read and to read and write the same file formats and use the same protocols<sup>2</sup>.” The capability and integration of systems should not be viewed solely on the technical level, but should be seen as a support system for a defined strategy and business model.

There are a variety of internal and external factors driving LHJs and DOH to adopt new technologies. These demands can be in the form of federal or state regulations, the inability of older systems to work effectively with newer external systems, or grant funding specifications that explicitly call for new or updated platforms or systems. However, these technology improvements have historically been done within the purview of a specific agency, department, or programs, with software and infrastructure needs tailored to specific tasks within those areas. For example, a large portion of LHJs rely on county governments for procurement and assistance of IT applications, with each county having its own system for performing these activities. Within DOH, different program departments are staffed by their own IT divisions, who generally focus on issues pertaining to their department. Over time, this culture of independent planning and coordination of IT development has produced a plethora of siloed systems that do not easily integrate with other systems. While many of these systems function well by themselves, they are often not able to interact with other systems, nor allow users to extract information, or input data in a consistent manner.

Public health in Washington is depending more and more on technology to carry out daily business, as agencies move from paper based systems to electronic storage of information. While capacity and capability vary, at this point, all agencies within local and state public health rely upon some form of technology, be it utilizing email, accessing databases, or utilizing server-based networks and web-based systems. The Public Health Management System (PHIMS), which is used to investigate and report communicable diseases; Washington Secure Electronic Communication and Urgent Response System (WaSECURES), a web-based tool for emergency response communication; and Electronic Data Transfer Hub (EDITH) that allows the exchange of public health information through the internet, are only some of the programs that LHJs and DOH use to provide external and internal services.

As dependency upon technology increases, there is also a growing awareness that vital information is not being effectively shared across public health organizations. The ability to integrate large and varied information systems to consistently and accurately share information is now seen as a necessity for improving staff efficiency and performance.

---

<sup>2</sup> Definition provided by the Schools Interoperability Framework Association <http://www.sifinfo.org>

### ***Benefits of Interoperability***

Based on stakeholder interview and literary research, the benefits of achieving interoperability among public health agencies in Washington are summarized below.

**Improved Communication.** The ability to access information in real time that is accurate and readable would improve the level of services provided by allowing agencies to respond faster to health threats and emergency situations. Improvements in information sharing also provide a clearer picture of health trends occurring across the State, which in turn can be used as a management tool to determine if public health services are targeting the appropriate demographics, or if a given health policy is having a desired outcome.

**Increased Staff Efficiency.** Interoperability could significantly decrease the amount of time inputting data, as there would be fewer requests from different programs and agencies for similar data. Duplication of data would decrease as one program or agency could extract needed information that was already available in another system. Requests for specific information could also be faster and more seamless, as data could be accessed in real-time. These efficiencies translate into real cost savings, as staff would be freed to perform other important duties and tasks.

**Great Accuracy in Reporting.** In developing systems that communicate, the creation of a common framework to record and interpret qualitative and quantitative health information correctly and efficiently will likely be needed. In developing such standards, the recording of information will no longer be done in multiple ways (and will likely reduce errors and misinterpretation of data).

**Better State-Local Relationships.** Having a structure that improves information flow could result in improved working relationships between local and state public health agencies. As data becomes easier to input and access, collaboration and cooperation among state and local health will likely improve as both will realize significant benefits.

**Improved Service to Residents/Customers.** In addition to internal benefits, system integration will also allow public health to more effectively meet the needs of residents by allowing LHJs and DOH to improve service delivery in a number of ways: determining which residents are eligible for certain state health benefits; improved identification of areas (geographic and demographic) that are in need of the greatest assistance for health education and prevention; and the ability to alert residents in a more timely manner of medical and health threats.

**Wider Dispersal of Information and Less Concentration of Knowledge.** At present, only the individuals accustomed to understanding the complexities of a given IT system tend to utilize them. Developing data and technology standards and improving systems architecture to make systems more user friendly should make accessing systems easier to use, thus allowing more people to share, input, and extract data.

### ***Challenges to Interoperability***

Washington faces a complex set of challenges in moving towards an integrated health system. These challenges are as much cultural and political as they are logistical and technical. LHJs have a history of autonomy and independence from the State, as well as one another, which often makes collaboration difficult, as needs vary across districts, agencies, and programs.

**Privacy Considerations.** Although LHJs are required to share health information with DOH, privacy issues still exist regarding the level of information that can be accessed. For example, the Health Insurance Portability and Accountability Act (HIPPA) places strict measures on health information exchange, which means that certain data at the local (or individual) level might not be legally available. Washington should closely examine its own state HIPPA statutes, which may be even more stringent than federal standards, to determine whether modifications are needed to remove legal obstacles to data exchange.

**Lack of Support.** There is reluctance among many LHJs to spend significant time and energy on an endeavor that may not yield immediate benefits. In particular, there is voiced frustration over previous IT projects that have been imposed by the State that have been difficult to adopt or have not provided significant benefits. This history has created a certain degree of mistrust of future development efforts. There is also a perception that integrating systems across so many different agencies is too large a task to implement.

**Financial Limitations.** Due to funding constraints at both the local and state level, public health across the board is facing shortages in staff and resources, together with service demands that are concurrently increasing. For many struggling agencies, IT planning and development is not considered a top priority investment. Many feel that efforts towards interoperability will be costly and there is uncertainty about who should bear the burden of the costs.

**Differing Needs and Capacity.** Local health jurisdictions and programs within DOH vary greatly regarding technology needs, capacity, and capability. For example, rural LHJs do not have the staff, finances, or even the need to heavily invest in technology infrastructure and software. At the other end, urban areas, such as Spokane and King County, have large and complex IT systems that are able to help staff perform high-level functions.

**External Funding Constraints.** DOH and LHJs are obligated to follow many stringent requirements from external sources to obtain funds. Often these funding sources, such as the federal government or foundations, stipulate that money given can only be used for a specified program or task. As such, system integration efforts may be limited to certain funding sources.

**Dispersal of Costs and Benefits.** The benefits of interoperability could be highly dispersed across public health stakeholders. For example, some agencies and departments may have to modify or revamp their IT more than others, which could incur heavier costs. Also, programs and agencies that rely more heavily on technology may realize the positive impacts of systems integration more acutely than programs and agencies that do not depend as much on automated systems.

**Long Time to Realize Benefits.** The process of moving towards interoperability will likely be a lengthy one as garnering consensus, designing standards, and bringing everyone up to the same level of technological capability will take significant time and energy. The full benefits for such efforts may not be realized until many years later.

### ***Comparing Public Health Interoperability Efforts in Other States***

In researching best practices, the study focused on states that were the most similar to Washington in terms of public health structure and demographics. For example, while Rhode Island and Vermont have achieved significant advancements in data sharing and communication within their public health system, these states have highly centralized public health system. The state is therefore able to issue

top-down policies to coordinate IT planning, agree upon data standards, and compatible infrastructure and software procurement. Additionally, the population in both of these states is significantly smaller than Washington, reducing logistical, technical, and financial challenges as there are fewer stakeholders to reach agreement and fewer IT systems to integrate.

While no perfect model exists for Washington to emulate due to each state's unique geographic, demographic, political, and economic climate, there are a few progressive state initiatives that provide useful insight into best practice activities. In particular, Minnesota, Michigan, Indiana, Arizona, and California, are taking strides in moving towards integrating systems within public health. These states have implemented policies that appear financially, logistically, and politically attainable for Washington. Aside from California (which has a mixed public health structure and the most top-down approach, directing LHJs to follow state imposed standards through the leveraging of its funding requirements), all of these states have a decentralized public health care system, where local health is relatively independent from state control.

**Key Elements of a Cooperative System.** While each of these states have used different structures and methods to provide incentives for local health and DOH to develop and plan for compatible systems, all have incorporated three important features in their planning: including the participation of other stakeholders aside from the state; securing multiple funding sources to finance projects and activities; and providing a clear and transparent process to garner public support. Additionally, all five states have passed some form of legislation that encourages the adoption of technology to improve health information exchange. This has led to the development of nonprofit associations that assist in developing architectural software and data standards, providing education and outreach concerning health information exchange, and IT support services such as the Minnesota Public Health Institute, California Public Health Institute, Indiana Health Information Management Association, and Arizona's Health e-Initiative. Some of these organizations will be described in greater detail later in this report.

**A Regional Approach.** These states also view private sector participation as an important component of building interoperability within public health. Currently, public health lags behind the private sector in terms of technological capacity and capability due to political constraints, limited financial resources, and the lack of coordination across jurisdictions. In particular, RHIOs,, which are voluntary, collaborative networks of private and public participants that focus on health information exchange at the local/regional level, are one potential mechanism for local and state public health to become more actively involved in interoperability efforts. Under this assumption, real benefits of system integration may be realized more rapidly between smaller numbers of stakeholders within a confined area than by attempting to begin interoperability at the state level. Over time, as RHIO efforts grow, these networks can join forces to slowly move towards larger systems integration.

In the past, public health agencies, particularly the state, has been absent from RHIO development. This may be partly due to the fact that private health-related businesses do not share all of the same needs as public health agencies. For example, RHIOs are often focused on the exchange of clinical health data, such as individual electronic medical records, which are not generally needed by local public health organizations. However, as many RHIOs are still in the nascent stages of development, greater involvement by the state and local agencies could provide greater guidance in how RHIOs can better serve the needs of public health. This would entail ensuring that RHIOs do not only focus on exchanging clinical data, but also work to develop systems that recognize health trends, response for emergency preparedness, and identifying and contacting individuals on certain medications.

### ***Interoperability Efforts in Other Industries***

The importance of having a functional level of interoperability and having access to timely and accurate data is an issue that extends well beyond the arena of public health. Local, state and federal agencies involved in emergency management, homeland security, transportation and public works, to name a few, have been grappling with these issues, and the stakes are high. Recent events, such as Hurricane Katrina and its aftermath, have highlighted the need for better communications between and across various levels of government.

Each industry and state has comprised of a unique set of local government agencies and other actors, and faces a unique set of political, technical and cultural challenges. While there is not a definitive model that can be pulled from other industries, it is useful to examine the efforts underway and note where progress has been made, with a focus on identifying models and factors that lead to more positive outcomes.

In researching best practices, this study focused on the emergency management and homeland security fields, as information was most readily available in these industries.

**Homeland Security.** In recent years,, there has been a concerted effort to address communications interoperability as it pertains to Homeland Security and public safety. SAFECOM, a communications program of the Department of Homeland Security's Office for Interoperability and Compatibility (OIC) is the overarching umbrella program that manages initiatives and projects pertaining to public safety communications interoperability. It provides guidance, technical assistance and grant funding to states for interoperability projects and recommends that states develop a Statewide Communications Interoperability Plan using a "bottom-up" approach that solicits input from local agencies and practitioners.

Several states have already begun this process. In 2004, Iowa assembled a task force comprised of individuals with differing expertise and experience from across the state. These individuals hailed from first responder agencies, law enforcement agencies and communications positions. Together they came to a consensus on several short-and long-term recommendations. They are building upon existing resources, and approaching implementation holistically.

The State of Maryland took a similar approach. Maryland's plan called for the formation of a work group and a project team. The work group, formed by the State, consisted of state, county and municipal government officials. The project team was comprised of public safety professionals from State, county and municipals agencies and acted in support of the work group. The project team conducted a user needs survey of 62 different agencies, counties and municipalities. The team found that there was a need to improve communications interoperability, training, security and operational standards and that the agencies are trying to address these needs in many ways.

**Emergency Management.** In the absence of a national strategy for interoperability among emergency management organizations, states have taken it upon themselves to create interoperable communications networks for first responders. Several states, including California, Idaho, Kentucky, Louisiana, Maryland, Montana, Oregon, Virginia and Washington, have created Statewide Interoperability Executive Councils (SEIC) to promote cooperation among federal, state, local and tribal agencies. The SEICs identify best practices, develop strategies and adopt funding mechanisms, ultimately setting policies and implementing interoperability solutions.

Funding remains the biggest hurdle to achieving better interoperability, and several states have employed creative mechanisms to fund their interoperability efforts. In Indiana, a \$1.25 surcharge on transactions at the Department of Motor Vehicles (DMV) yields \$15 million per year to maintain its system. The Michigan state legislature funded its communication system and promised funding for equipment upgrades to attract local users. And in Colorado, funding comes from federal grants as well as a state "Public Safety Trust Fund."

Although each state faces unique challenges ranging from funding to geography, states with successful public safety communications programs employ governance mechanisms that bring together representatives from government, industry and local agencies to address interoperability issues, and have developed funding mechanisms to support program operations.

## **AGENCY SURVEY FINDING AND ANALYSIS**

As a foundation for learning the perspectives of the State's LHJs and DOH regarding strengths, weaknesses and opportunities for public health information technology planning and coordination, telephone conversations were conducted with 19 LHJ Directors and seven Program Managers and Directors from the DOH. The telephone discussions lasted roughly between 20 minutes and one hour, with the interview questions emailed in advance of each conversation.

The 19 LHJs that contributed to this study represent a broad distribution of small and large jurisdictions from the east and west sides of the State. Nine of the LHJs interviewed are located on the west side, with ten situated on the east side. Eleven serve smaller populations (fewer than 100,000) and eight serve larger populations (greater than 100,000). Despite the differences in geography and organization scale, there was a large degree of commonality in agency responses.

For a detailed account of comments coming from the LHJs and DOH, see Attachment A. The information below summarizes these comments by population size and location of the agencies interviewed. It should be noted that all 35 LHJs were contacted, as well as nine department divisions within DOH. Those that responded are noted in the list below.

### **Local Health Jurisdictions**

Benton-Franklin Health District, Dr. Larry Jecha  
Benton-Franklin Health District, Cody Lewis  
Chelan-Douglas Health District, Barry Kling  
Clallam County Department of Health and Human Services, Iva Burks  
Garfield County Health District, Leta Travis  
Grant County Health District, Peggy Grigg  
Grays Harbor County Public Health and Social Services Department, Maryann Welch  
Grays Harbor County Public Health and Social Services Department, Karolyn Holden  
Jefferson County Public Health, Jean Baldwin  
Kitsap County Health District, Melanie Dalton  
Kittitas County Health Department, Cathy Bambrick  
Klickitat County Health Department, Kevin Barry  
Northeast Tri-County Health District, Carol Villers  
Okanogan County Public Health, Paul Waterstrat  
Okanogan County Public Health, Ella Robins  
Public Health – Seattle and King County, Dorothy Teeter

San Juan County Department of Health and Community Services, John Manning  
Skagit County Department of Health, Peter Browning  
Snohomish Health District, Dr. Gary Goldbaum  
Snohomish Health District, Tim Murphy  
Spokane Regional Health District, Torney Smith  
Thurston County Public Health and Social Services Department, Sherri McDonald  
Walla Walla County Health Department, Harvey Crowder

### **Department of Health**

Assistant Secretary's Office, David Jennings  
Community Wellness and Prevention, Becky Waite  
Immunization Child Profile Program, Belinda Baker  
Informatics Office, Michael Davisson  
Maternal and Child Health, Michele Perrin  
WIC, James Hammond  
WIC, Cathy Franklin

## **Differences by Size**

Both the smaller and larger LHJs had similar comments about what is working well with respect to public health IT planning and management. They appreciated the collaborative process through which PHIMS was developed and the active effort DOH made to solicit input from the LHJs, although it was noted that the process for creating the system was very slow. There was also general praise for the list serves and web-based applications, as these tend to be central repositories for information where the user is more assured that there is consistency across data. Both large and small LHJs noted that while communication between the LHJs and DOH is improving, there is still substantial room for improvement, particularly with coordinating implementation of proposed ideas and activities.

Both large and small jurisdictions complained that applications were siloed, often requiring duplication of data entry efforts. DOH staff had the same complaint. There was also general agreement that a lack of standards for systems is exacerbating the problem.

The smaller LHJs' opinions, with respect to what is not working well in IT planning and coordination, differed in focus from the larger LHJs. They cited the burden of state-imposed IT applications and a lack of standard protocols for information dissemination as concerns. The larger LHJs focused on problems such as the lack of a statewide strategic plan and a lack of agreement on priorities as their primary concerns.

Comments from the smaller LHJs indicated that they feel more resource constrained. There was also a general consensus that the manual systems and processes they were internally using were still serving their purpose. While they acknowledged a desire for more automated processes, they expressed a strong reluctance to invest in any new technologies until they had been thoroughly tested by other LHJs. Resources for training and IT support were generally more limited in smaller LHJs, contributing to their hesitation around new software. The larger LHJs appeared to have more of an internal business process in place for prioritizing, coordinating, and planning IT-related efforts. This makes sense given their more complex organizational structure (i.e. more staff, more IT infrastructure, etc) than the smaller LHJs.

**Ideas for Improvement.** Both smaller and larger LHJs proposed a number of opportunities for improving public health IT coordination in Washington. Some of the more common ideas included DOH-lead efforts to develop an integrated system, DOH guidance on minimum standards policies, stronger leadership from DOH, and the creation of an independent committee or board charged with soliciting input from LHJs and better coordinating IT planning efforts. Many comments included the formation of an independent board, though the specifics of this board differed. It is important to note that the smaller LHJs tended more frequently to favor DOH taking the lead (and assuming responsibility for funding) on IT coordination, where the larger LHJs tended to favor the creation of an independent committee. Both had concerns about the level of authority an independent board would have and noted such an organization would not be valuable without decision-making authority and broad agency representation.

## **Differences by Geography**

About half of the LHJs surveyed were from the west side of the State (west of the Cascade Mountains), while the other half were from the east side (east of the Cascade Mountains). Both the east and west side LHJs had similar comments about what is working well with respect to public health IT planning and management; these comments are noted above. Of interest was that a couple of west side LHJs stated that there was good collaboration among counties, whereas this comment was not made by any east side LHJs.

The concerns around public health IT coordination differed only in that the eastern LHJs were more concerned about the lack of a standard system for information dissemination, whereas this comment was not raised by western LHJs. They noted that long distance travel is a factor in their area, and cell coverage is not always reliable. These LHJs also stated that they cannot always make scheduled meetings in Olympia (or anywhere on the west side) and would like to see DOH push for more teleconferencing to include them.

With respect to opportunities for improvement, there was no clear theme came from either of the east or west side interviews. As a greater proportion of smaller LHJs are located on the east side, there was a stronger focus on having DOH take the lead on public health IT planning and coordination, as opposed to the west side LHJs, which tended to favor the creation of an independent board to address IT coordination.

## **POTENTIAL MODELS**

The following four models are based on findings from LHJ and DOH stakeholder interviews, best practice research from other states, and literature research. The models were selected for their financial, political, and technical feasibility and are described and analyzed in terms of their governance and organization structure, level of stakeholder participation, funding plan, and potential legal/legislative actions required.

### **Description of Models**

#### ***Model #1: Creation of a Membership Based Service Bureau***

**Overview.** Under this model, the State of Washington would pass legislation to participate in the creation of a membership-based nonprofit service bureau governed by a Board of Directors that is comprised of representatives from local and state public health. The Governance Board would provide oversight to ensure that the service bureau serves the needs of its members. In the first stages of the organization's development, operational activities and membership should be kept small, with only a few pilot projects initiated between specific LHJs and DOH programs. In focusing on a few projects, the organization would have the opportunity to concentrate its resources and efforts on ensuring that the projects are successful, which in turn could demonstrate to potential members the benefits of joining and supporting such an organization. Over time, the private sector could also participate as members to ensure that IT coordination and planning is happening uniformly across health sectors, although initial efforts would only be focused on public health.

**Governance Structure.** One proposition is that the Governance Board would be two-tiered and consist of representatives from LHJs and DOH that have the ability to enforce and influence policy and business practice behaviors within their own organizations, as well as individuals with the expertise to determine what is technically feasible in moving towards systems integration. As such, the first tier would include senior managers within public health such as LHJ administrators, DOH program directors, and someone from each of the Assistant Secretary's offices. The second tier of the Board should include individuals that have the technical knowledge and background to provide information and guidance to the policy makers who may or may not have a broad knowledge of IT related issues. This could include county and State IT department directors and experts in the field.

The Governing Board, in order to be most effective, should be kept small. As such, the Washington State Association of Local Public Health Officials (WSALPHO) could vote to elect three or four LHJ representatives – preferably from rural and urban jurisdictions to reflect diversity – to sit on the Board. Program directors within DOH could also elect three to four representatives. The Secretary of Health will also need to appoint individuals that can provide a big picture view as well as demonstrate that the State is in full support of the Governing Board.

Initially the Board would need to determine what it can and cannot do given the technical, legal, political, and financial limitations. Some important tasks for the Board would be to reach agreement on broad systems architecture issues and standards such as message transmission, data coding, and implementation schedules. The organizations senior management team would be hired through the Governing Board, which would have the ability to change the management if the agency is not

effectively performing. The Governing Board would also instruct the Bureau about what kinds of services its members wanted.

**Roles and Responsibilities of the Nonprofit.** While the Governing Board can make decisions that lead to an overall state integrated environment, the nonprofit will be responsible for implementing the proposed policies, such as designing the necessary architectural software, training public health staff, and serving as a service bureau for technical support. The nonprofit could also be in charge of reaching out to the private sector through communication with RHIOs to ensure that disconnect does not exist in IT planning and development efforts.

**Legislation.** The State would need to pass permissive legislation to participate in the creation of a 501(C) 3 public health institute. Such legislation would allow the State to sit on the Board as well as contract with the health institute without have to go through the competitive bidding process.

**Funding.** As a membership organization, funding would be dependent upon membership contributions. In order to be fully-inclusive, fees could be based on a sliding scale, with smaller and more rural LHJs paying less than larger and more urban agencies. Initially, startup funding would likely come from the State legislature, federal grants, and possibly a few of the larger LHJs. However, over time as tangible benefits are realized for those with fewer resources, fees could become more evenly distributed.

**Benefits.** The benefits to adopting this model are:

- Firstly, this structure employs a collaborative approach as LHJs and DOH would have equal authority and representation (and would likely be more warmly received from the LHJs than a more top-down model). Including representation from such a broad range of stakeholders also ensures that the needs of a variety of users will be met, as opposed to only a few.
- Secondly, having the service bureau as a nonprofit would provide the organization with greater legitimacy than a for-profit business, as increasing revenue and profits would not be the organization's bottom line. Additionally, having the nonprofit function outside of the government gives the organization greater flexibility as it is not limited by political and legal constraints (although the organization will still be accountable to its members, which are government entities).
- Thirdly, having explicit legislation will enable the State to serve on the Board as well as not have to competitively bid contracts, allowing for greater operating flexibility.
- Lastly, assuming that there are enough members to support its business operations, having a membership-based organization, could ensure a consistent funding stream. Additionally, the organization will have incentives to provide quality services as its utility will be reflected by the fees its members are willing to pay (and who is willing to participate).

**Challenges.** Challenges associated with adopting this model are:

- Many LHJs are weary of forming another organization as so many already currently exist within public health. Having senior staff and management serve on the board takes significant energy and time for staff that are already functioning at maximum capacity.

- Most LHJs have very limited financial resources. Finding initial seed money (may it be through the State Legislature, federal grant, or a foundation) will be a competitive and difficult process, as resources are scarce throughout all of public health.
- Not having direct private sector participation from the beginning could cause greater challenges further down the road when trying to link all health-related information (as the private sector might develop a completely different interoperability structure than public health).
- Structuring the nonprofit as a membership-based organization would likely limit grant funding from external institutions, as these organizations could perceive the organization as a trade or advocacy group.

**Best Practices.** This model was proposed by David Ross from the Public Health Informatics Institute (PHII) as well as a few stakeholders (in particular DOH staff) that were interviewed for this study. The PHII is a program of the Task Force for Child Survival and Development, a 501(c)(3) non-profit organization. The mission of the Task Force is to help public and private organizations promote health and human development by building coalitions, forging consensus, and leveraging scarce resources.

Currently, there is no state that employs this particular model. It should be noted that Arizona does have a statewide, membership-based nonprofit (Health e-Initiative), although a large component of its' Board of Directors includes the private and nonprofit sectors.

### ***Model #2: Creation of a Nonprofit Public Health Research Institution***

**Overview.** In this second model, Unlike Model #1, the organization will not be membership-based, but would be financed through a variety of funding streams such as state, federal, and foundation grants, as well as contract work. As an institute, the organization would focus on research, demonstration, and training, although it would also offer IT services. Such an institute would not only be governed by public health, but would have private and nonprofit sector involvement. While participation will come from a variety of stakeholders, the largest representation will come from the State to ensure that the needs of public health are a top priority.

**Governance.** There should be about twelve directors on the Board and should consist of representatives from public health (with at least one LHJ representative), universities (i.e. University of Washington), business, and community organizations. Business participation could include insurers, hospitals, and trade associations and representation from community organizations could be from healthcare foundations or local advocacy groups. Within this structure, the State should have the largest representation on the Board. This will mean that while the organization is not a State-owned entity, the State (and by extension DOH) will possess greater decision-making authority over the other groups.

**Roles and Responsibilities of the Nonprofit.** While the organization can provide IT-related services, its focus would be research, training, and developing technology-related innovations to improve public health. The organization would also be charged with developing and designing standards, as well as recommending to the State which LHJs meet specified standards. This in turn will provide incentives to LHJs to adhere to IT-related requirements, as those falling short will not be eligible for funding. The institute would not only assist LHJs in meeting interoperability needs but would spend significant energy helping LHJs understand the technology demands placed on them by

state and federal government. Projects for the nonprofit would be determined by grant requirements or contracts made through DOH.

**Legislation.** The State would likely need to pass legislation to participate in the creation of a 501(C) 3 public health institute dedicated to improving collaboration among public health agencies. Such legislation would allow the State to sit on the Board as well as contract with the health institute without having to go through the competitive bidding process.

**Funding.** Funding would come from health and community research awards from private foundations, state and federal grants, as well as a fee-for service structure through specified contract work.

**Benefits.** The benefits to adopting this model are:

- This model is a multi-sector systems approach that includes participation from the full spectrum of healthcare stakeholders in the State, and leverages access to different financial, intellectual, and political resources. Having public health involved assures that policy changes needing to occur at the State level are possible, while academic institutions provide research and expertise, community organizations could help garner support at the local level, and health-related businesses are the drivers of products and services available for organization adoption.
- As a public health institute, as opposed to a membership-based organization, the organization will be seen less as an advocacy group and more as a neutral party. This will not only help in obtaining grant funding (as most established private foundations are less inclined to offer money to membership organizations), but will give the organizations increased legitimacy as a neutral party.

**Challenges.** The challenges to adopting this model are:

- As a nonprofit institute, a consistent funding stream is not guaranteed. Funding would need to be continuously applied for or secured through grants. Such a funding structure could affect the organization's ability to deliver on its mission. Accordingly, the organization would need to focus on its fee-for-services and consultant work to diversify and secure its funding base.
- Including participation from the private sector could prove challenging as needs are not necessarily the same as public health.

**Best Practices.** This model is currently being employed in Minnesota with similar governance structures employed in California, Louisiana, and Indiana<sup>3</sup>. The Michigan Public Health Institute (MPHI) is nonprofit entity funded in 1990 by Michigan State University, the University of Michigan, Wayne State University, and the Michigan Department of Community Health. The institute provides research, development, and educational training and is governed by a board of 12 directors, representing state and local government, universities, private sector entities, foundations, and others.

---

<sup>3</sup> For more information, visit the Illinois Public Health Institute ([www.iphionline.org](http://www.iphionline.org)), Louisiana Public Health Institute (<http://lphi.org>), and California Public Health Institute (<http://www.phi.org>).

### ***Model #3: Interagency Agreement between DOH and University Of Washington***

**Overview.** In Model #3, DOH could enter into an interagency agreement with the University of Washington (UW) or Washington State University (WSU) to create a division, staffed by university faculty, that serves as a consultant to the State, liaison between LHJs and DOH, and provides research, training, and assistance on health-related issues.

**Governance.** Under this scenario, the UW or WSU would assume direct control of the division with DOH as the client. The division would be comprised of UW faculty that has expertise and knowledge of technology-related issues within public health care. Staff will not only need to have a deep understanding of how LHJs and DOH operate (politically, structurally, and financially), but also possess strong technical knowledge in IT system integration. Projects would be done on a contract basis with DOH.

**Roles and Responsibilities of the Division.** Under such a contract, the UW or WSU would serve as liaison between LHJs and DOH, develop standards concerning issues such as data input and information sharing, design the necessary software architecture, and provide oversight and guidance in funding, selecting and prioritizing IT-related projects. As a contractor funded by DOH, the Division within the university would initially do an IT assessment across counties to determine infrastructure needs and gaps. This study would then help guide the Division in the development of data standard requirements that can be used by LHJs looking to purchase or upgrade IT applications or systems. The LHJs would then be required to put together a business plan for any proposed IT modifications or improvements that require State funding. Such a report would then be submitted to the division for review to ensure the LHJs, as well as the vendors hired, are able to meet the IT standards and specifications. The Division could then recommend to the State which projects meet interoperability standards, and thus should be funded. The Division could also work with IT projects that do not meet specifications to see how these can better adhere to guidelines. The LHJs would have the option of funding projects by on their own if they wish to pursue non-approved systems. As separate from DOH, the Division can also offer its services (as a consultant) to private and nonprofit sector businesses.

**Legislation.** As an interagency agreement, no legislation would be needed in the creation of the division.

**Funding.** Projects related to public health in Washington would primarily be financed through direct contracts by the State. In order to diversify its funding base, the division should also provide contract work for other health entities in the private and nonprofit sector on a fee-for service basis.

**Benefits.** The benefits to adopting this model are:

- Under an interagency agreement, DOH would not need to competitively bid its contracts and can rely on the division to exclusively work on projects related to systems integration. This will help the division build trust over time as a reliable and quality contractor.
- As independent from DOH, the Division will be seen more (by LHJs and other public health stakeholders) as a more neutral party. UW and WSU already have a reputation for providing quality research, which will help in build trust and acceptance when the division begins its work.

- As staffed by researchers and academics, the Division would likely provide a level of policy and technical expertise that public health might not be able to access on its own.

**Challenges.** The challenges to adopting this model are:

- Finding available qualified staff might prove difficult, as UW faculty already have full time roles teaching and researching. Also, the pool of potential applicants is limited due to the criteria of hiring people that have a thorough understanding of the public health system in Washington.
- LHJs are not directly involved in the process. Ultimately, it will be the State that decides the projects and the UW division that makes the recommendations. Although LHJs should be consulted for their input, they will not have real decision-making authority.
- UW and WSU are their own complex organizations and working within either of these large institutions—with separate missions and objectives than public health agencies—will bring its own set of governing and operating challenges.

**Best Practices.** Model 2 is based on activities that are currently occurring in California between the State Department of Health and the University of California, Davis (UC Davis). Bio-Medical Informatics Research and Consulting Service (BIRCS) is a division within UC Davis and is comprised of seven faculty that have extensive backgrounds in medical informatics. BIRCS offers consultancy and IT services and specializes in information systems architecture, development and deployment of web-based applications, public health informatics, Telehealth and e-Health, terminological systems, biomedical image and storage, and medical decision support systems. Visit <http://www.ucdmc.ucdavis.edu/bircs/> for additional information.

Wisconsin, Nebraska, and Arkansas are other states that have similar interagency agreements with their state universities. At the local level, the Houston Department of Public Health and University of Texas are also employing such a model.

#### ***Model #4: Work with Established Networks and Form a Membership Nonprofit***

**Overview.** In Model #4, the Washington State Health Information Infrastructure Advisory Board (HIIAB), already established under previous legislation (SSB 5064), should continue to encourage public health to work directly with the private sector regarding IT infrastructure development, systems planning, privacy security and confidentiality, and data standards. While public health does not have identical needs as private health organizations, commonalities do exist, and both sectors should work towards identifying areas that can be planned and developed together as a group. HIIAB currently provides a forum where RHIOs can convene to share best practices, pool resources, and move towards exchanging health information with one another. The potential also exists for building upon successful local health information exchange efforts, such as the Whatcom Health Information Network, to create a statewide membership service organization (similar to Model #1 but including private sector participation), that provides support services, education, and outreach efforts. The existing HIIAB could act as the organization's board of directors (or could be expanded to include more stakeholders).

**Governance.** Under the auspices of the Washington State Health Care Authority (HCA), the HIIAB is a 12-member Board composed of consumers, healthcare organizations, researchers, and policy makers. HIIAB's mission is to provide a strategy for the adoption and use of electronic medical records

and health information technologies consistent with emerging national standards and promote interoperability of health information systems. Serving in an advisory role to the Board is the Health Information Infrastructure Advisory Committee (HISAC), which has 43 members and encompasses an even broader range of stakeholders. While the creation of HISAC was not required by legislation, the HCA determined that such a committee would help provide a more transparent, inclusive, and deliberative process. While public health does not have a seat on HIIAB, there is currently one LHJ and DOH representative that serves that on the HISAC.

**Roles and Responsibilities of the Nonprofit.** In addition to HIIAB and HIASAC, Washington should examine the possibility of building a statewide organization dedicated to health information exchange that would engage in education, outreach, and IT infrastructure-related activities. In forming the organization, the HIIAB and HIASAC should initially work with (and examine) the more established RHIOs in Washington that have a proven track record of achievement in information sharing and financial sustainability. Such a local health information organization is the Whatcom Health Information Network (a nonprofit membership organization), which has been successfully operational for over 12 years<sup>4</sup>. This type of organization can serve as a model for other burgeoning information sharing networks or could also be expanded to serve statewide interests. The HIIAB could serve as the Board of Directors to the statewide nonprofit and potentially be expanded to include more representation from public health.

**Funding.** The HIIAB and HISAC are funded by federal grants, private donations, and the State of Washington. In starting the nonprofit, initial funding would most likely be grants, membership dues and transaction fees.

**Legislation.** Legislation has already been passed for the creation of the HIIAB. However, additional legislation may be needed to create the statewide nonprofit (especially if public health wishes to sit on the Board).

**Benefits.** The benefits to adopting this model are:

- By including private sector participation from the very beginning, public health has an opportunity to partner with stakeholders that have greater access to financial resources (and by extension greater technical expertise).
- The HIIAB and HISAC are already formed, which makes forming the nonprofit an easier process (as the governance structure is in place).

**Challenges.** The challenges to adopting this model are:

- Having so many participants from such diverse sectors will make consensus building more challenging, as public health does not have identical needs to the private sector.
- LHJs do not generally have the same financial and technical capacity as the private sector. This could make moving everyone to similar capacity very difficult as the private sector might not be willing to help pay for IT changes and modifications needed within the public sector.

---

<sup>4</sup> For more information on the Whatcom Health Information Network, visit <http://www.hinet.org/>

**Best Practices.** This model is based on activities that are already occurring in Arizona and Washington. The State of Arizona recently passed legislation for the creation of a membership-based nonprofit called Health e-Initiative, which currently has three full-time staff and a 25-member board comprised of RHIO representatives from all over the state, public health, and private foundations. For more information visit: <http://www.gita.state.az.us/>. In Washington, information on the HIIAB and HISAC can be found at <http://www.hca.wa.gov/hit/>

## ANALYSIS OF MODELS

While commonalities exist, each of the four models presents a unique approach to moving public health towards systems integration. Three of these models are already being employed in other states (Model #2, #3, and #4), while Model #1 is a merging of suggestions by public health experts and Washington State DOH and LHJs. Exhibit 1 provides an overview of the political, financial, and legal structure of the proposed models, which will then be analyzed in the following section of the report.

### Exhibit 1

#### Comparative Overview of Models

Model	Entity	Governance	Participants	Legislation	Funding	Approach
Model #1	Nonprofit Membership Service Bureau	12 Member Board of Directors	Public Health (LHJs and DOH)	Permissive Legislation	Initial Seed Money (Public/Private Grants) and Membership Dues	Collaborative
Model #2	Nonprofit Public Health Institute	12 Member Board of Directors	Public Health (LHJs and DOH), Nonprofit, and Private Sector	Permissive Legislation	Public/Private Grants and Fee-For Services	Collaborative
Model #3	Division within UW or SWU	UW or WSU	State (UW/WSU and DOH)	No Legislation Required (Inter-Agency Agreement)	State Contracts, Grants, and Fee-for Services	Top-Down
Model #4	Nonprofit Membership Service Bureau	Board of Directors (HIIAB) and Advisory Committee (HISAC)	Public Health (LHJs and DOH), Nonprofit, and Private Sector	Legislation Already Passed for Board and Committee (new legislation may be needed for the creation of a nonprofit)	Public/Private Grants and Fee-For Services	Collaborative and Bottom-Up

Berk & Associates, 2007

## Level of Stakeholder Involvement

In terms of stakeholder involvement, Model #1 and Model #3 focus exclusively on public sector participation. These models follow the assumptions that the needs of public health differ significantly from private health, which can create significant hurdles in agreeing upon design standards, systems architecture, and project prioritization. As such, efforts should first be concentrated on determining the needs of public health by building and integrating IT systems that are tailored specifically for LHJs and DOH. By focusing within these parameters, public health has a greater chance of garnering buy-in and realizing more quickly the benefits associated with interoperability. Over time, as successful projects are completed and trust is built, other stakeholders (such as private hospitals, doctor's associations, nonprofit foundations) can be included into the process.

Model #2 and Model #4 both include private and nonprofit stakeholder participation. In these two models, private and nonprofit sector participation is vital to provide the necessary technical, financial,

and intellectual resources that public health may not have access to on its own. The private sector already has significant expertise and experience in integration efforts, and public health can leverage this knowledge and capacity through direct participation. In Model #2, while the private and nonprofit sectors are represented on a board, public health has the largest number of seats and by extension, greater decision-making authority. Under this structure, the needs of public health will be viewed as the highest priority, although the private and nonprofit sector will still be able to provide significant input. With Model #4, the public sector has a far limited level of representation on the board, and will likely have less influence and bargaining power.

### **Top-Down, Cooperative, and Bottom-Up Approaches**

Model #3, which is currently being employed in California, is the most top-down approach of all four models. Under this model, the State would take the lead in deciding which projects should be initiated, with the UW or WSU carrying out the actual implementation. While LHJs would be consulted to determine IT needs and system gaps, they would not have decision-making authority. While this model is likely to meet with some resistance due to the lack of inclusiveness, many LHJs feel that the State should take the lead on interoperability efforts<sup>5</sup>. In fact, several LHJs (as well as a DOH staffer) noted that the State already imposes IT requirements on LHJs within its funding contracts, which is a standard and mostly accepted practice.

In terms of cooperation among public health stakeholders, Model #1 and Model #2 appear the most collaborative as both LHJs and DOH will have equal decision-making authority (by each having representation on boards that oversee a nonprofit). In terms of overall collaboration (not just including the public sector), Model #4 and Model #2 have the broadest and most diverse range of participants, as all three sectors, private, public, and nonprofit, would be directly involved by serving on a board. While such collaboration can provide greater insight and access to resources, the challenges would be finding commonalities, garnering buy-in, and implementing policies and moreover, projects that benefit everyone.

In addition to being collaborative, Model #4 is the most bottom-up approach. Local health information exchanges (RHIOs) are seen as the drivers of real change in health systems integration. Many RHIOs have been operational for quite some time, and can serve as best practice guides to other local health networks that are emerging. Local health networks are viewed as an important starting point for improvement, due to the limited number of stakeholders (which can reduce the number of logistical challenges) and the increased probability that their projects, which are relatively smaller in scale than statewide projects, will be successful and meet immediate needs.

### **Conclusion**

While Model #1 and Model #4 suggests the creation of a membership-based nonprofit, Model #2 calls for the creation of a nonprofit public health institute, and Model #3 proposes the formation of a division inside the UW or WSU, all four models advocate for the creation of an external organization (with its own staff and mission) that can serve statewide needs. All stress that while public health agencies should be involved in determining policies and providing oversight for the systems integration process, DOH and LHJs should not attempt to create an agency or division within their

---

<sup>5</sup> This comment is based on interview findings garnered from speaking with LHJ and DOH staff.

own internal structure to handle actual policy implementation. Such activities should be reserved for an outside structure which is not subject to the same financial, political, and legal limitations. While differences lie in the funding structure and organizational makeup of the organization, the models are also similar in identifying the services the organization provides, which are designing systems architecture, proposing data standards, serving as a liaison between stakeholders, and providing education and outreach on interoperability benefits.

The four alternative models analyzed need not be mutually exclusive. For example, the State of Washington can enter an interagency agreement with UW or WSU (Model #3) as well as sit on a board that includes private and nonprofit sector participation (Model #2 and Model #4). While the level of State participation varies across models, some degree of Executive or legislative support will likely be necessary for the implementation of any model. In evaluating the models' commonalities and features, any of the proposed approaches will likely take significant time and effort to reach a functional level of statewide interoperability. Initiated projects will likely start out small and focus on targeted areas (not across the board) to build trust, learn from past mistakes, and efficiently use the limited resources available. As such, public health agencies will need to agree early on which projects are the most easily attainable and can realize the widest degree of benefits in the shortest amount of time. Finally, active and continuous communication is an essential component of all four models. The purpose of engaging in activities that move public health towards interoperability need to be explicitly detailed so participants are aware of the benefits of integration and the costs associated with maintaining siloed systems at the State and local level.

In determining which model is most feasible for Washington, public health agencies should first begin a dialogue that discusses the following questions:

- Should interoperability efforts be done in sections (i.e. starting with small pilot projects at the local and regional level) or should they have handled at the State level?
- To what level should the private sector be involved in moving public health towards interoperability?
- What should be the State's role (lead or participant)?
- What is the most sustainable funding structure when creating an external organization (i.e. membership dues, applying for grants, having for-fee-services, etc.)
- What is the feasibility of legislative and Executive action?

## **ATTACHMENT A INTERVIEW SUMMARY**

### **INTERVIEW PARTICIPANTS**

#### **Local Health Jurisdictions (LHJs)**

Benton-Franklin Health District, Dr. Larry Jecha  
Benton-Franklin Health District, Cody Lewis  
Chelan-Douglas Health District, Barry Kling  
Clallam County Department of Health and Human Services, Iva Burks  
Garfield County Health District, Leta Travis  
Grant County Health District, Peggy Grigg  
Grays Harbor County Public Health and Social Services Department, Maryann Welch  
Grays Harbor County Public Health and Social Services Department, Karolyn Holden  
Jefferson County Public Health, Jean Baldwin  
Kitsap County Health District, Melanie Dalton  
Kittitas County Health Department, Cathy Bambrick  
Klickitat County Health Department, Kevin Barry  
Northeast Tri-County Health District, Carol Villers  
Okanogan County Public Health, Paul Waterstrat  
Okanogan County Public Health, Ella Robins  
Public Health – Seattle and King County, Dorothy Teeter  
San Juan County Department of Health and Community Services, John Manning  
Skagit County Department of Health, Peter Browning  
Snohomish Health District, Dr. Gary Goldbaum  
Snohomish Health District, Tim Murphy  
Spokane Regional Health District, Torney Smith  
Thurston County Public Health and Social Services Department, Sherri McDonald  
Walla Walla County Health Department, Harvey Crowder

#### **Department of Health (DOH)**

Assistant Secretary's Office, David Jennings  
Community Wellness and Prevention, Becky Waite  
Immunization Child Profile Program, Belinda Baker  
Informatics Office, Michael Davisson  
Maternal and Child Health, Michele Perrin  
WIC, James Hammond  
WIC, Cathy Franklin

#### **Experts in the Field/Best Practices**

ACCIS, Brian Ferris  
Arizona Government Information Technology Agency, Brad Tritle  
Kansas Health Institute, Ron Liebman  
Louisiana Public Health Institute, Gaurav Nagrath  
Michigan Association of Local Public Health, Mark Bertler  
Michigan Public Health Institute, Jeff Allison  
Michigan Public Health Institute, Jeff Taylor  
Minnesota Department of Health, Bill Brand  
NACCHO IT, Vonna Henry  
Office of the National Coordinator, Betsy Ranslow  
Public Health Informatics Institute, Dave Ross  
University of California Davis, Cecil Lynch  
University of Washington Center for Public Health Informatics, Mark Oberle  
University of Washington Center for Public Health Informatics, Bryant Karras  
US Department of Health and Human Services, Chris Muir and  
Washington Health Care Authority, Juan Alaniz  
Whatcom County e-Prescribing Project, Lori Nichols

## **INTRODUCTION AND SUMMARY GUIDE**

- This draft Interview Summary encompasses the results of interviews conducted with local health jurisdictions (LHJs) and Department of Health (DOH) staff from mid-May through mid-June 2007.
- The Summary is a collection of the comments made by interviewees, organized by theme.
- Each bullet point represents a single person's comments.
- All points made and issues identified in this Summary are those conveyed by the interviewees. To obtain useful information, interviewees were assured that responses would not be attributed to specific individuals or organizations.

## **THE BIG PICTURE: A WHOLE SYSTEMS PERSPECTIVE**

The following comments are regarding planning, coordination, and fundraising for IT development across all of public health in the State of Washington.

### **What is Working Well**

#### ***Smaller LHJs (serving populations of less than 100,000)***

- There is communication between LHJ and the State – there is an effort to talk back and forth. The PHIT is the primary form of communications. I sit on the Users Group for the SECURES system. All this IT stuff is just a way to improve communication. You have to be able to listen and understand people's views.
- Access the vital records and putting in information works well. The WIC program works well as far as entering in the data. Also, the DOH website is also more user friendly than it used to be.
- I think SECURES works OK. We don't use it much, but it seems like it is functional system. On a couple projects, such as PHIMS, the State was really good about asking local health for input on what we needed. It took a long time for the system to be created, but overall, it was a good process.
- What works the best is the list serves for communicating information. They are from DOH but are really from each of the programs. They send out information such as if there is a communicable disease issue that we (LHJs) should get on top off. This is much more accessible than SECURES is setup to be.
- There has been a fair amount of progress regarding collaboration with DOH and LHJs in the past few years. We collaborated on a funding project where we received \$20 million, which shows we can work together.
- What is good is the way DOH was able to get SmartPH and SECURES up and running in such a short amount of time. This may be due to the fact that the product was developed by an outside third party and not by the government. This was a good structure. Although there was internal coordination of these projects, the development and implementation was handled by an outside entity. Typically, non-government entities are more efficient and responsive as they are not constrained in the same way DOH is.

- We have an email list serve that works really well if I need to ask a policy level question. These are confidential list serves which were created by DOH. Using that system is really useful. It's much easier to share information when you have an intranet.
- User groups (WaSECURES and PHIMS) work well – they bring the local health perspective to the State and vice versa. We should have more systems like them.
- WaSECURES is OK. It has some flaws but it is generally interactive, timely, and easy to use.
- The Child Health Profile is terrific. It gives immediate feedback, and current information can be used around the community.
- Collaboration among some of the counties works well. This is partly due to the contractor/customer relationship with the software provider and counties. One or more counties can raise issues and the changes and integrations are implemented such that everybody has access to them. It's more of a "grassroots" process, and the costs are shared.
- Web-based reporting works well – we like knowing that everybody is reporting things in the same, synergistic, manner.
- The birth certificate system is beneficial. We are getting the training we need, and it allows us to do data analysis within the program. The benefits were almost immediate and upfront – this is a statewide system that any LHJ can access.

***Larger LHJs (serving populations greater than 100,000)***

- The attempt to involve LHJs with these issues of IT coordination and planning is a good start. The PHIT Committee is doing a good job in regards to preliminary communication.
- We have not done a lot well. We have certainly come a long way in the ten years with discussion but nothing has been implemented. Doing web based applications (through DOH) is a dramatic improvement. In the case of communicable disease, WIC is web based and it works well. Maybe the water database is web but I'm not sure. Child profile is web based and is great.
- People are beginning to pay more attention that technology and informatics can be tools to support public health.
- In regards to systems that we are engaged in that works well across local and state I would have to say that PHIMS has had successful implementation. Perhaps this is because it got sufficient amounts of input in the design process so the users accurately defined their needs. However, it took a long time—the development of PHIMS took three to five years. We went through a lot of business case definitions. We had a prototype built and it failed. Then we studied why it failed. There was a group of people called the PHIMS User Group (PUG) who were asked repeatedly if it met their needs. This worked really well.
- I think there is a lot of dialogue between DOH and local health. We have a lot of avenues for communication and I think we make use of most of them. However, when it comes down to actually implementing a large-scale idea or plan, then things immediately become more

difficult. This is because we all have so many different needs and it's hard to make sure everyone gets what they want.

### ***Department of Health (DOH)***

- I think some of the list serves DOH has work well. WASAPHLO also work well in regards to getting the message across to LHJs. They are an inexpensive way of communication (way to post important information).
- I have worked on two projects. With the first, DOH deployed assistance to the LHJs and implemented the system in a straightforward manner with clear requirements. The second project built a collaborative process between LHJ and DOH. The overarching process worked well. What didn't work well was the mechanism that was used to transcribe and validate the input (proofing the input). We didn't make sure that it met the user's needs. The mechanism for getting people together was good but the mechanism for implementing them was not. It was a tight collaboration with a limited number of local health jurisdictions. This was a joint project. Setting up the framework and the requirements were good. Validating and prototyping the requirement was a failure. The developers on the project did not know how to talk with the locals and really proof things.

### **What is Not Working Well**

#### ***Smaller LHJs (serving populations of less than 100,000)***

- We have to track a lot of communicable disease information (whenever there is a food or illness investigation) and it would be nice to log onto an internet site and enter this data. Right now we type it out and send it over. We should be able to click in and find our section and enter our data. Then DOH staff would have these quality reports tabulated for them.
- It's hardly ever that the State asks local health what we need. The State often imposes applications that end up being unnecessarily complex.
- Sometimes the State imposes all these IT requirements and we don't really understand what the benefit is of making all these time consuming and costly changes. We need better communication to understand what the benefits are.
- The PHIMS process was appalling and took forever. The system still lacks an understanding of the user needs. For example, the PHIMS web format is not the same as the written format which creates inconsistency in data reporting. Ultimately PHIMS is a very important and beneficial tool, but the process of getting it started was not good. However, I think things are getting better now that the management approach is more user and results oriented.
- If DOH asks us to make IT changes we need to know up front what the benefits are. Right now a lot of new systems from DOH (i.e. PHIMS) are actually cumbersome to use. It's fairly complex right now. My nurses really struggle with the automated computer systems but don't see the benefits. They have not really improved our working environment. The balance is swayed towards the receiver of information and not the sender.

**PHIT COORDINATING BOARD  
INTERVIEW SUMMARY**

- There is no coordination. We have to repeat data. Programs that should interface and interchange do not. Everything is siloed due to funding streams and the parochialism of the staff. This is a DOH problem. This is an issue that needs to be resolved by DOH leadership. DOH needs to start asking the questions. It should be done by a contractor hired through DOH to find out what the needs and gaps are.
- It seems like each program is setting up its own database. Our staff working with a specific program learns that database intimately. But other people here hardly ever use the information. So there is concentrated knowledge. We don't have the ability to go in the different systems and look and see what reports we can get because we are not used to the software. The different systems that have been setup seem to work well, but there are too many of them. If you only use it once a year you just don't know how to use it.
- IT systems are islands on their own, and information that is reported is not "apples to apples." There is a lack of universally available information on systems and software options, and each LHJ goes through its own costly RFP process with mixed results.
- PHIMS could be better – it's too cumbersome and clunky. Furthermore, it has structural issues, containing some communicable diseases but not others, depending upon which DOH department the diseases fall under.
- Tobacco and HIV reporting are problematic because staff reports directly to DOH and there's no way for the LHJ to monitor and track what its staff is reporting. This makes it difficult to budget and manage staff if there are problems.
- It's haphazard how information flows from DOH to the LHJs – there's no systematic method for information dissemination. Perhaps online meetings could improve this.
- DOH and LHJs don't have access to the same information. For example, through MCH we receive a great compilation report based on nurses' data entry after each visit, but DOH never sees this. Furthermore, things like family violence and mental health are not included in the state database, and it's a pity how flawed hospital databases are. We have a real concern about the quality and comprehensiveness of data.
- New, state-mandated systems do not work well. Often times they are less efficient than the system they are designed to replace, so the county keeps its original system and duplicates efforts in the new system to meet reporting requirements. It's very discombobulated, and time is lost.
- The State never rolls out systems on time, and sometimes the delay is over a year. This is very frustrating for management purposes, as one gets employees geared up for a roll-out that doesn't happen. It makes the transition more time-consuming and difficult.
- Communications should be improved, with a standard for disseminating information (perhaps video conferencing and an email retention system). These types of things are too costly for LHJs to develop on their own, and they don't have the expertise to do so.
- There are a number of programs being developed that still have issues, including SECURES, PHIMS and SmartPH. The State needs to involve the people who will be using these programs in the development process.

***Larger LHJs (serving populations greater than 100,000)***

- There is not a business process for developing a strategic plan. What do we want to have in the State, what is the gap, and what do we need to build? We need a capital and strategic plan. If we build a statewide system, DOH should be providing the leadership and the funding. The problem with the funding is that things get built on opportunistic funding opportunities. If the State is in charge of building infrastructure they can control things. I'm just thinking we can tackle some of the big systems (such as communicable systems) but not local databases. What role does IT play in standards, and if we prioritize, what are the business requirements? This whole area needs to get run more like a business than an informal collaboration. The strategic planning process needs to include locals. We will all agree to be part of one system. If the State has the money then the agreement has to be that you don't waste the money. The problem with this is that is that the State cannot mandate. It can mandate that the data be sent, but they can't mandate what system we use. This means we need to develop a set of core requirement that meet people needs.
- The State often over promises and under delivers. This just creates a lack of trust and cynicism. The current quality of the systems is just not high. It's hard to get talented IT people in state government. It's not a lack of desire but more a lack of core competence. Not enough investment for a strategic plan. The State should take the helm but make sure to include local health jurisdictions. The State should not just be convening but be the lead.
- We as a state and local system have not come to an agreement about what our priorities are. We have followed our funding sources. We are forgetting that systems can't talk to each other and that end users ought to be the main entry people. Our workforce is aging and our seasoned workforce members are not ready to use technology as their preferred method of documentation. Data collection resides in so many different divisions in DOH. The Chief Technology Office (CTO) has little power over everything he needs power over as each program area has its own technology division and don't report to the CTO (they report to the Assistant Secretary).
- Putting data in is easy but getting data out (for planning and reports) is difficult. We have to sometimes wait three years before we can get it. With communicable disease planning we need that information quickly. There is no prioritization or coordination that is happening. The management of data is an essential part of DOH. It would have to be led by the State and the locals. You could get people on board quickly who would be happy to do this. We would donate our time to get involved.
- There is a lack of trust between local health and the State. This is due to the fact that the State has big dollar projects and has asked for input through committees. However, the State has not been good in incorporating the ideas that LHJs have put forth. There is not a lot of good project management at the state level to work with LHJs. Basically there is an overall lack of coordination and communication.
- You can't do anything without the money. But you need a public health community advocating for capital to get these monies. So you need a system in place that spells out how to do it. There might be fear that the system will not work. We need to see benefits up front quickly.

- Alerting networks (SECURES) met minimal needs early on but does not function like we need it to function. It seems like just bought something off the shelf and tried to implement it fast. It was not done in a thorough fashion.
- There may not be a sense of commitment by the State to LHJs. If the State has a task it doesn't always take into account that its eyes and hands in the field are the LHJs. They are not looking from a LHJ perspective. Some of this gets done through the PHIT committee. But the PHIT committee has no authority and can only make recommendations. We need to build trust through open communication. This would be just as productive as having the authority.

### ***Department of Health (DOH)***

- There is a lack of consistency and lack of looking at what the needs are as a whole. In emergency planning, we need to know what data systems need to be used. In the initial planning process there wasn't a comprehensive look or a tallying of system needs. It was too high level and people really didn't know it was needed. There is also a lack of consistency of what kind of support DIRM offers. Rules change all. DIRM does whole level agency coordination and planning and they also do high level computer systems. DIRM staff talks on a need by need basis. Divisions are not hiring an IT lead to make that happen. The IT lead talks to DIRM and channels information. This is a relatively new structure.
- You can't just bribe people with money to follow along. That only works to a point. You need to get people to want to participate because integration offers tangible benefits.
- There is not a lot of working well although the infrastructure is finally starting to be there to support some of the technical needs at the state and local level. When I first started there was local health that didn't have computers. Now at least everyone has a computer and is joining us in the technology world.
- There are too many silos which leads to duplication of data entry at the local level (i.e. we collect data for the same people for different systems). This concern has been expressed at the local level. Why do LHJs have to give DOH information that we know they already have? They have this information in one system but can't communicate across programs to see who has similar data. Ultimately, there is not a good connection between DOH and local health. The stronger local health departments do their own thing as they don't expect support from DOH. But the smaller and less advanced LHJs are expecting support and DOH doesn't provide it. DOH needs to be more of a leader but instead we are doing our own thing and hoping that local health will join up with us.
- There is no overarching system. I do see the need for coordination. However, there is just not a strong impetus or funding. Perhaps we need to create a group that would be raised to the level of the Cabinet Committee to get funding from the Legislature. They would need to involve LHJs (as they are major stakeholders). In the private sector, maybe the hospitals could be involved. Maybe there are two tiers so you don't get too big. It could be that PHIT submits some agency request legislation as there is a movement for healthcare reform (which came out of this past session – it is an initiative to broaden healthcare to all kids).
- People only find solutions to their own immediate problems and just move on. They don't think about the future or what anyone else is doing.

## **Opportunities for Improvement**

### ***Smaller LHJs (serving populations of less than 100,000)***

- Before you do anything, the State needs to get its act together first. So it's a question of sequence. DOH first must fix itself. If the DOH is going to ask LHJs to make changes, they must lead by example. They must first tackle this issue.
- DOH and local public health were recently awarded \$20 million by the State Legislature. DOH gets some of that money. They should set aside some of this to develop a plan and then really start building the necessary infrastructure.
- We need local level to also set the direction because when the State takes the role of leadership a lot of local health doesn't participate. DOH should take a seat at the table and be one of the players, but not necessarily serve as the leader.
- As we deal with multiple state agencies we would like some sort of coordination of their data systems (so you don't have to repeat yourself when putting in the data). The State needs to be the lead on this. Maybe there should be a web portal for all public health where the data could be shared across the systems.
- It's nice to be able to log on and get information. We should do this at the larger scale. DOH can create an intranet (to share best practices, policies and procedures etc). They talk about it with different programs (nursing, environmental health) but they should create one large system with different parts. I need access to different programs but I don't have that. We should have one big shared site that we can log onto it.
- I think we can do this with strong direction at the State level. But DOH needs to first make internal changes. When the tobacco program puts out a reporting system, the WIC program puts out a system, and maternal child put out a system, they ought to look the same. They should be able to share platforms. If it's a DOH reporting system, then the users should be able to use any one of those systems to input the data. It should be consistent (this is how you input data and you learn it once). You should not have to learn five different systems. Most also have to work with DSHS, which is different from DOH. We also have Department of Ecology grants, which is different. So it's not just DOH, it is whole state government.
- The State could send out an RFP on behalf of all the local health to develop a platform (and the local health would each be responsible to paying their share). The software would take care of all the needs in the health department. It would need to be a really broad software system. It would have to be extended over a long period of time as a lot of LHJs have spent a lot of money recently putting in new systems. So they would have to wait for their systems to retire before getting a new one.
- We are very small and have programs (and needs) that most LHJ's don't have. This is because we have a chemical dependency program that only a few LHJs offer. What we may need might be really unique for us. It would be great if we could integrate our prevention and treatment programs under one state agency as having all this data in one place would be really great. DOH would be the logical place for all this data to reside (CPS referrals right now are in DSHS).

- DOH is the only one that can solve this problem. They need to put something together and make sure they let us know well in advance. I'm not sure what they should exactly do, but it needs to be lead by DOH.
- Another governance board will not provide us with insight with what we need. We need someone with authority to problem solve. DOH already issues mandates about systems required for use. They can just keep making IT related mandates—it would be no different than the way they operate now. They can just say to LHJs "if you don't do this, we will not pay you." We get about 65% of our funding that comes directly or indirectly through DOH. They have many requirements when they give funding. The SmartPH is tied to our contract on emergency preparedness. We must use SmartPH if we want the money.
- DOH can get LHJs to do things because of funding as there are a lot of deliverables for the contracts. For example, with emergency preparedness we have to shown DOH emergency plans by a certain date. If DOH is funding contracted programs, they can request standards. However, DOH should talk with WSALPHO to determine what is needed to be built. However, we need to determine who is going to take care of the system. Who would host it and manage it?
- To work towards interoperability, you need to start with a few simple things. A restaurant inspection is recoded in many different ways by many different LHJ's. You need a uniform way of reporting this. We did a pilot project last summer to find out what type of reports LHJs produce (we looked at all programs in this pilot project). WSALPHO is in charge of this pilot project, although DOH is involved. Although different programs need different information, there are still commonalities that exist. We have to find these commonalities.
- From my perspective, what would actually work better for reporting information is for DOH and their programs to clearly define what they know about a particular program when they issue the contract and let me figure out for myself how I will get that information. DOH should give some kind of standards (format, reporting timeframe). All DOH programs have different standards. There is no consistency. DOH needs to get together internally and get some level of customization. There used be standardized application formats and forms but they no longer exist. Every program has something different.
- You can mandate standards as they are tied to funding. So if LHJs want money they have to adopt standards. All the LHJs just got 20 million dollars from the legislature and can only spend it on certain priority areas. DOH gets 5% of this funding. Part of the requirements for this funding is that we have to track and report communicable diseases. This would be a great way to start and develop system standards. The legislature is tracking us to make sure we follow these requirements. We need to create a plan (which is approved in November) and part of it should include electronic tracking. If LHJs decided that data collection and reporting is important to us then we need to create a system that should be streamlined. This is a good opportunity for DOH to create standards and systems. We have to be unified on how we report the same things and it has to be similar to the way they do it nationally. Although communicable disease is just one thing, this could kick off a whole set of reporting.
- I think a central group is necessary to be in charge of planning and coordination with LHJ's included in this process. DOH should be the central group as whatever we share it would

need to be a secure system. And all of us would have to feel conformable that this is a secure system. It should be housed by them. Maybe DOH could contract out the expertise. However, DOH would have to take the lead in this. If this streamlined our processes with DOH, local health districts would sign on. We have so many contracts with DOH and it is so confusing. It would be nice to have our contracts online (such as an electronic way of submitting our invoices for each quarter). Right now it's all paper.

- The State should develop policies that set minimum acceptable standards for new systems and applications.
- There could be an IT "super critical" committee at the DOH level comprised of visionaries from organizations like the Gates Foundation and Lockheed. If these visionaries focused on public health IT issues, they could make improvements.
- At a minimum, there should be quarterly meetings of all LHJs' IT people to talk about best practices and tackle tougher issues. Although not all LHJs have a dedicated IT person, probably about 80% do.
- Clean up PHIMS, and put ALL reportable diseases in there, breaking down the silos in DOH.
- Develop policy guidelines applicable to any new software or system that would guarantee a feedback loop allowing LHJs to see what their staff is reporting to DOH and that would guarantee some discussion of new systems at the local level before rollout
- Create a discussion group, a "geek group," to talk about IT principals and gather local input.
- There should be an "umbrella" system, paid for by the State, where LHJs can use one website or program to access and input all information. This should be designed from the top down, not trying to piece together and work around the systems already in place. It must be easy to use.
- There should be more discussion and upfront planning before new systems are implemented so siloed system development doesn't continue and systems can talk to each other easily. LHJs need to participate in this process, especially if a system is going to be mandatory. An IT governing board would be useful to facilitate this, but only if they had the proper authority to veto new systems if need be.
- It would be helpful for DOH to compile a list of ALL the systems the LHJs use, what DOH uses and what they REQUIRE others to use. There ought to be somebody at the state level that understands all of this and can help manage the mandated system requirements.
- The State should purchase an integrated system through which the LHJs could use their own systems and have them be linked to the larger system. Identifying data trends would be easier with a statewide, consistent system. Currently non-emergency public health issues like E-Coli do not get surfaced quickly or easily.
- An IT governing board could be beneficial if it has either sufficient funding or authority to invest in and change systems. It doesn't necessarily need the authority if it is adequately funded.

- The State needs to involve the people who will be using new programs in the development process. This needs to be a collaborative effort with LHJs. Work groups are very beneficial, but the meetings should also be held on the east side, not just in Olympia. It's important to get a broad perspective (rural, urban, mixed, etc.)

***Larger LHJs (serving population of over 100,000)***

- If you are talking about reporting of programming data, then a web based system with user involvement is vital.
- You could take all the IT work that happens in DOH and you centralize it (so the CTO has authority) and then staff PHIT with senior management (comprised of local health, DOH, and academics). You need to make sure there is representation (large small, program, technology, line staff and administrators) and give them real authority. You make the newly formed PHIT the final decision making body for projects. If LHJs want to use the system (and they will need to as they are required to report) they have to follow. If you are mucking up the data by not following the standards then you don't get to use the system. I should note that when I say system I mean a series of systems that follow certain standards and are integrated.
- Perhaps a governance board needs to be created. There should be representatives from LHJS as well as senior officials at the State. The governance board does not necessarily have the IT experience (it needs more senior level players). Perhaps there are different levels. There could be a working group that can examine the technical issue and then the governing board. We currently have boards of health (not necessarily in public health but are educated in the issues and do have the authority to make decisions). If the State has received grant funding to create a new database (i.e. tracking volunteers in emergency situations) we are going to need this information at the local level. I need to have access to this at the local level. I need to have the ability to enter into that system and download from it (extract information). Two way data transfer. We have to make sure these issues are looked at both the local and the state. The technical level can be left at the PHIT committee and they can make the recommendations to the board. And the LHJs board can be drawn from WASALPHO and the State could identify one or two people.
- It would nice to know what resources are out there. We should have phone numbers and email address. We did do a big feasibility study a while ago that looked at all the systems, but nobody every looked at the information. They counted the number of computers, servers, and software applications. This was done five to six years ago. I think the best way to really exchange information is just get the right people into a room and talk
- You need to create a method or entity that is not the state and not the locals (separate entity) that is governed by a joint effort. A policy board would be a great idea. It could be a combination of state and local. PHIT is not a decision making board so people on this policy board would need to have more authority. This is not mutually exclusive with the state taking the helm. The policy board would make them accountable.
- We feel like DOH could put together a coordinating plan (and purchase necessary infrastructure) as they are getting 5% of the 20 million dollars we recently were awarded from the state. The LHJs could give DOH more than 5% if DOH committed to a clear set of deliverables. The money doesn't get dispersed until January. We could start in July and bill

back in July. So many of us feel like putting five grand out of our 20 grand would be money well spent. The economies of scale would be good. People can keep their systems but they also need to find out if their system communicates to another system. We need to do work to make them talk. We need to determine what can be shared. A consultant would be hired to see what the commonalities are. The PHIT committee could help with this. However, each one of these people comes with their own specific interest and programs. We need someone to see the bigger picture. That is where the coordinating board would be better.

- The PHIT committee would have to be part of this although I'm not sure if the whole committee can speak for public health. It's not inclusive enough and it doesn't have the authority or know the fiscal or legal concerns. A board that would work in cooperation with PHIT might work. The board would need to have the authority and ear of the whole of public leadership in the state. Administrators would be a good fit for board members. It would probably have to try to include everyone. The board might also need experts who could help explain technical information to administrators.
- I don't like the term governance board. So much is dictated by budget. I would like to call it more of an information sharing group which could be more informal. Anything that has policy or standard behind it is going to scare people off. There are enough leadership committees that already exist. The PHIT committee has only two or three technology professionals. If you have an information association, it should be made up of people with IT backgrounds. This information association could provide technical advice to LHJs (share IT info and support). I would start with something more informal. An IT summit or conference would increase networking communications and resource. There is not currently a forum for the whole of IT to meet.
- I think there can be progress over the next few years in creating interoperability with programming data but not with internal systems. We need to really examine what should be shared and what should be kept internally.
- One large integrated system is not necessarily feasible. We should have integrated systems that work independently but have the ability to share data. The PHIT can work in an advisory role but they can't really lead the project. They need a project manager and staff to work with them. If it is a statewide system than it makes sense that DOH takes the lead of this. My guess is it would be DOH (utilizing staff) or by third party contract. The PHIT is a good sounding board. PHIT has been recognized as a group of people that have an interest in solving technology challenges. Good for oversight and input of that implementation. They would help build the buy in from the local health community (they would deal with the political portion).

### ***Department of Health (DOH)***

- A coordinating board is a good idea that needs to consist of set officials from the local health jurisdictions that is elected by WSALPHO. There needs to be a charter that allows LHJs to vote for representatives to sit on the board. If they had a charter they would be ethically bound to it. The DOH would be elected by DOH and locals would be elected by locals. This steering committee would essentially hire an impartial project manager that would take on building these requirements. This board can hire a project manager to do requirements gathering and

scoping. They would have a third party who would hire the people and have the staff to do the basic work and then bring it back to the coordinating board to approve it up or down.

- We do to the locals with funding with what the federal government does to us. We attempt to control through funding. However, it's better to get buy-in.
- Another model if Washington State Association of Local Public Health voted on things. The Association right now does not really vote. If they voted that these are going to be the people representing the LHJs then there would be more authority. If you had the WSALPHO voted in people who were going to be on the PHIT and these people had the power then they could do something. Rather than having a cooperation setup, the PHIT would be a bit more dynamic. They would not directly control the money but they would be able to control how the project moved forward.
- If you are going to setup a coordinating board then everyone needs to pay a little (to pay for the coordinating board itself). If the locals pay a little they will be vested in it. In terms of the projects that we do, then that money comes from the state or federal government.
- We should communicate as much as possible between different programs but we should not put everything into one information system. We should have multiple systems that work together.
- DOH should be building systems that LHJs want to be join. DOH needs to figure out the needs of LHJs before we create systems (right now we don't consider local health and just look at our own needs and hope local health can figure it out). We need broader input. Within my DOH program we do go out and query local health on their needs. But this ought to be a broader and higher level discussion. I would support the idea of some type of governing board. This is a big piece of what is missing (a group that connects the pieces together). There is good work being done at the local and state level but currently there is not way of connecting them.
- We need to be strategic what we focus on in regards to coordination and planning. We want to bring everyone to the table but we might not want a cumbersome bureaucratic process. Collaboration should be more flexible.

## **Benefits to Interoperability**

### ***Smaller LHJs (serving populations of less than 100,000)***

- There would be great time savings. Generally if there is only place to put the data it will be more consistent. And it may be easier to protect going into the system – better controls.
- It would make things easier for small health jurisdictions because less time would be spent on reporting. I don't know the cost benefit relationship.
- Accessing information when you needed it and having data that you can extract (that is readable in report format) would help us do our jobs better.
- I could see some benefit in developing a common system for communicable diseases but I don't see too many benefit of local health having similar systems across the board. Right now

we just call up other local health if we need data. If you impose standards or have some sort of structure setup, this is not appealing to many LHJ. SmartPH is a system that was purchased by the State (for local health to use) to help with training records and such. It was initially purchased as the larger jurisdictions could not manage the history of training they sent their staff too. So the State buys the SmartPH and imposes it on all the LHJs. Now our once simple system is very complex. Some training requires SmartPH and other types of training don't. Now we are pushed to use it and it is cumbersome and complex.

- Staff time would be freed up as systems would be easier to use and data easier to obtain.
- There should be some cost savings over time due to increased efficiency. That is, if we do it right.
- Local health jurisdictions could continue to use the systems they have already invested in, but reporting would be more standardized.
- A higher standard of care would result if the State and LHJs had better access to information and trends.
- It could save time and reduce the likelihood of having to duplicate efforts.
- LHJs would be able to contribute valuable input on what they need and what is already working well.
- Data from the LHJs would be linked, and the time and inaccuracies that manual reporting promotes would be reduced.

***Larger LHJs (serving population of over 100,000)***

- There would be greater accuracy in reporting and obtaining data when we need it (in a timely manner).
- Needs are going to be better met. Work will be more coordinated and it will address the needs that exist as there is a mechanism to make that happen.
- There is a benefit of IT people getting together to figure out who has developed what and who can share what with who. Put together a day long meeting somewhere and have some of the IT present and get them to talk with each other (and just make people aware of resources).
- Having systems integration would help serve the public as we could better foresee trends and impending health risks.
- The benefits are many. Information is power. If we all have similar information we can draw from we can create a system of public health in WA that works well together. That is critical to protecting the lives of citizens of this state.

### ***Department of Health (DOH)***

- Being able to access information when you need it is incredibly important in public health. This will help agencies see trends, prevent disasters, and better serve the public in general.
- Better information and maximizing the use of available data.
- With better communication in IT planning, you wouldn't have people building infrastructure that already exists somewhere else. This would offer great financial saving and staff time. People can pool resources and also develop expertise across the board. You would have people both at state and local level that could understand different aspects of the work so knowledge would not be centralized.
- Ultimately the biggest benefit should be for the clients so they have a seamless system. In other WIC programs across the country (particularly the south), it is all one system. I see advantages and disadvantages to that. The client really should have a more seamless entry into getting services.

### **Challenges to Interoperability**

#### ***Smaller LHJs (serving populations of less than 100,000)***

- Costs would be involved. This could be very expensive – that would be the limiting factor.
- There are privacy concerns. Because of HIPPA not all information can be displayed. For example, we do a lot of investigation for communicable disease (general information is presented to the State). But if anyone wants specific data at the county level, we can't give out that information.
- We have to follow federal guidelines, not everyone is on board, or a state grant or federal grant comes in that says you have to do something differently. Also, there are so many players and it gets really hard to coordinate.
- Problems are time and money. This has been a stated and unstated goal for many years and nothing has happened yet. The State has to pay for getting its internal system in order. You should also give LHJs the option of either using a DOH system or creating their own system with its own interface.
- DOH is fragmented because they answer to higher masters. I have no idea how one would change that. I don't think it could be changed. I don't know if there a problem interacting with LHJs – we interact quite successfully with other agencies. We also interact well with DOH but it is fragmented. Our own data at the local level isn't integrated well either. In our organization, our applications are siloed. I don't have access to the WIC or dental program.
- I was on the development committee for the WIC software. It took eight to nine years of development to get that system out the door. It was wonderfully managed and various groups were present at the table (i.e. certified clients, nutritionists, management, people from the state). The WIC system has worked pretty well. But the funding is consistently there (for hardware, updates, etc). DOH is responsible for this and paid for the system partly through federal money. There is a lot of buy-in throughout the state for the WIC program. But when

people tried to design that software to deal with other issues such as maternity and immunization, we found we couldn't do it because WIC way paying for it. So we could not add a maternity or immunization field. So every time you try to do software development at the state level, they have strict criteria on how you spend it (probably due to federal restrictions). It would probably need to be state money to fund this to get out of federal restrictions in order to work with multiple programs.

- It would cost DOH a lot up front. Also, everything is so fragmented it seems hard/impossible to fully share data.
- There are a lot of financial and political challenges (getting local health and State to agree on this would be really hard). LHJs have invested a lot of money in their systems. We just put \$300,000 of IT-related updates just in our small county. We would not be enthusiastic with doing away with it in a year or so.
- Local health jurisdictions are small and resource constrained. It might be too costly to upgrade systems unless the State is willing and able to provide the funding for this.
- Local health jurisdictions are invested in their own systems, and forcing decisions on them could have a bad outcome.
- DOH would probably need to be restructured because reportables run across departments and use different systems. If all reportables were to be tracked through PHIMS, DOH would need to be more centralized.
- Funding and security issues are the primary challenges.
- There are 35 jurisdictions with different needs and different existing systems. Coordinating this is quite a challenge, especially since authority is so decentralized. Furthermore, with respect to new, mandatory systems rollouts, there is pressure to show the system is up and working.
- There are budgetary constraints. Some LHJs have already invested money in their own, more integrated, systems. This investment would be lost.
- The biggest hurdle is time and resources. If the funding is there, the LHJs would be supportive. Most LHJs are faced with a lot of issues and problems and no resources to address them. We would be opposed to giving any money to the State, as there is such a deficit with small, rural health jurisdictions.

***Larger LHJs (serving population of over 100,000)***

- Getting everyone on board would be really hard. However, there are some leaders across the state that could help with this. We have the PHIT committee but that particular group hasn't yet to take on any authority. Defining what we need and getting all the right people in the room is vital but would be hard.
- You don't know who to get in the room to get buy-in. In this state there is no similar capability for the locals to buy-in. The governing folks in the health realm are not IT. One of the challenges in a successful IT project is how do you communicate with them effectively.

**PHIT COORDINATING BOARD  
INTERVIEW SUMMARY**

- There would be no challenges except getting people to release some of the money they planned to spend. Also getting people to limit their scope (do fewer things and do them well). People will give us more money if we do a few well rather than a lot of things badly.
- There will be a lot of challenges at the state level. They have gigantic silos that are almost sub-businesses in the DOH. There really needs to be some type of centralization of IS at DOH. Any new programs, projects and funding goes through a centralized office to make sure we are not spawning these silos. Internal resistance will be significant. At the local level, we would prefer not to be creating our own databases. We would prefer that the State provide the IS that we need. The LHJs are a lot more similar than different and we can find something that can work for all LHJs. If the State can be an application service provider and help the LHJ that don't have the finances. It would be one system that everyone can use. It would be hard to gain consensus of the locals. This would be a perfect role for the governance board. We need to come up with some kind of standards to move forward. There has not been any type of standards or adopted best practices put forth that the LHJs can follow. This means that we are all going in different directions.
- We have to make sure LHJs see a lot of benefits such as staff don't have to do double entry. The locals need access to the data. They don't want just a look up function but should actually be able to download the data. The standards are really going to come into play (field lengths, descriptions). We can integrate siloed programs if we have standards.
- Coordinating, funding, and financing. This is big dollars and time. The State should not necessarily pay for everything; there could be contributions from State and local health. The State could be an application service provider and the LHJs could pay into that as fees (it would be a lot less expensive for them as they wouldn't have to maintain equipment and IT staff). Many LHJs are wedded to their systems. So there needs to be some sort of transition. Nothing is going to happen easily. This is a gradual process that is going to require commitment of funds. We will probably have to take on one piece at a time (so some pieces will remain siloed and at odds with other systems until we have finances to change the system). The governing board would have to do some research and determine what will be the most immediate benefits (i.e. what will save time and money).
- I think it's going to cost a lot up front and right now nobody has the money. Also, LHJs are very independent and getting consensus from everyone (from larger to small, from east to west) is going to be tricky. Getting everyone in the room to talk sounds like a good idea in theory, but that can also just be chaos.
- Whenever you try to do something of this magnitude you have many different opinions on what is needed. Overall, there are more similarities than differences but there is a wide variety of capacity. There are a lot of things that are not working well. There have been efforts to try to make communications as effective as possible among different groups. The nursing directors use a package (Catalyst) that works really well. There has been discussion now for what other groups should be using the product. It has been talked a lot about not really tackled. This is the environment where you have to lead and not push. So you have to offer incentives (how does this make the work more effect and efficient).
- The challenge really comes down to funding. We are really struggling to keep staff on board. We don't have the monies. I don't think it's practical that the state pays for all of it. The State

builds these standards that locals can financially adhere to. The PHIT can help facilitate to build those standards. They could take it to the different directors and have these discussions. The PHIT can perhaps find a firm who can do this. They would need to do a contract with someone to get that information.

***Department of Health (DOH)***

- One of the main problems is the multiple funding sources and the requirements needed to obtain funds. It's important for the whole community to accept that the way public health is funded, which is based on independent grants. Ultimately this is going to dictate the data that is going to be collected. We are looking at a five to ten year kind of planning process as most of us are doing grant applications on an annual basis. Even if there is a common vision there needs to be an acceptance that funding is going to direct what is collected and how. I'm thinking about the funding at the state or local level (the funding streams come from many different sources). In public health a lot comes from CDC, but there are a lot of private grants. I don't think there could be true coordination with USDA and CDC. It would be too hard to get these federal entities to talk with each other. This means we need to look at what we can do within the State.
- You always have to be carefully when you impose anything. You need to make sure that people understand the process if change is going to occur (are jobs going to change, chain of command going to change, etc). You need to give a chance for everyone to be heard and respected. The importance of clear communications is important.
- It would be hard to get everyone at the table. There are a lot of logistical challenges as people are spread all over. There may not be people who feel as connected to IT issues as their local health doesn't prioritize in the same way. Also initially it would be expensive, but over time it would pay for itself.
- It would be hard getting people who know IT as well as program needs (i.e. finding someone who can bridge the gap). We need senior management and the technical expertise being able to communicate. In regards to a coordinating board, I just hate having another layer of bureaucracy.
- Challenges would be time and money. There also might be a political backlash (i.e. perception of the State driving the agenda for local health jurisdictions). We should try to make benefits tangible to those who are delivering the service.

## **WITHIN YOUR ORGANIZATION: INTERNAL SYSTEMS**

The following comments are regarding planning, coordination, and fundraising for IT development within agencies, programs, and divisions.

### **What is Working Well**

#### ***Smaller LHJs (serving populations of less than 100,000)***

- We are really small so I don't think we have some of the same problems larger local health has. We don't have to work hard to coordinate as there are not a lot of us here!
- I don't think we have anything that could be used as a model or best practice. We use really simple systems and planning and coordination is not difficult for us.
- We use the EDEN system and are pretty happy with that. However, we would like to do some upgrades to better tailor the system to our needs
- Although we don't have our own IT division (it's through the county), we have a pretty good internal system.
- We have a really good IT department. We submit everything through an electronic system and sharing information is really easy.
- We purchased an application from an independent software developer that was very cost effective and user-friendly – it is connected with other systems and allows for easy uploading and integration. Our environmental health records are now digitized, sewage records are backed up, and health inspectors take electronic tablets with them on inspections, entering everything right into the system.
- KIPS is working well. It's good with billing and interconnectivity. We no longer have any manual systems, and [online] trainings have the potential to work really well.
- IT support works well – once per week an IT professional comes out to address any issues we're having, and we have access to a 24 hour help line (this is terrific.)
- KIPS is works well, and it interfaces with many other systems too. This was an organic process amongst some counties that was client driven, but we're afraid that now that we've invested in KIPS, the State will change its mind and require something different.
- Last year we received a grant from PHIP to make an Access database to track latent TB caseloads. This is great because it tracks the information in one spot and has some flexibility in how queries can be run.

#### ***Larger LHJs (serving population of over 100,000)***

- We have a lifecycle management plan (which is a schedule for updating hardware that we use for budgeting purposes). Internally, there is interoperability between programs. We are small enough that when we do our research, we coordinate everything. We keep everything on the same platform and design everything to be interoperable.

- In terms of coordinating, I think we do a pretty good job. Of course, there is always room for improvement. We make sure our business plan incorporates IT coordination and planning. We actually have a small technical committee that meets once a month to discuss IT related issues. Our operations and maintenance system is a well designed program. We don't have a good public health nursing program. Public health nurses are essentially doing the same thing throughout the State (the activities are all very similar county to county).
- We do have centralized IS and centralized purchasing. We don't have siloed technologies. All the purchasing is centralized (even if it is grant funding). Any piece we build is keeping integration in mind. We have a committee called Information System Operations that is made up of one or two representatives for each division that meets and talks about technology issues. It is a great place to talk and look at the big picture. The committee is comprised of people not in the IT department but they understand IT systems.
- We make sure that our senior staff that oversees different departments regularly get together and talk about IT developments. We make this a priority. Sometimes IT staff will attend these meetings too in order to provide insight. That way there is open communication about what is being purchased, built, or needed. Of course, we still have some siloed systems, but we are working hard on changing that.

### ***Department of Health (DOH)***

- We have developed within the WIC Program our own information systems shop. We have a cross-program group that does the prioritization of any changes to the applications (i.e. imposed by new federal regulation or enhancements). There is authority at the program level to then make the decisions. When I talk to other state WIC programs in the western region, the prioritization and decision making program has been moved outside of the program to a centralized shop (and it seems to suffer because of this). When this decision making body is moved out of the program then it's not just competing with WIC service delivery, it's also competing with family planning, immunization, etc. The prioritization impacts the delivery of the program and often delays the process.
  - Historically in our prioritization we were always putting what was happening at the local health clinics first. However, this year our prioritization group now has two tracks (client services and state applications) so they are being prioritized separately. Having the cross-sectional prioritization group allows us to acknowledge that all applications are not equal. The applications each have value but have a different customer base.
- I'm in one program in community and family health. What is working well for us is that we have built a lot of connections with local health. We have marketing and training people who visit with local health and see who needs training. We make those relationships happen and it really benefits us.
- In the WIC Program, we have several state automation models that are being funded and developed at the federal level. We are hearing that for any new automation program in the WIC program we will have to use one of these models. In Washington we have PHIMS (which documents referrals, collects data, eligibility, etc) which was designed specifically for us. PHIMS has a robust functionality. If we were to say to the federal government we need money to revamp our PHIMS system, the federal government would say you must use one of

these five automation models (which would be a major step back). We are trying to see if our PHIMS vender can become one of these models. From the WIC perspective (user end) it is a great system although it doesn't talk to any other programs. It is very siloed. In the best of all worlds there should be greater data transfer. We didn't create WIC in a vacuum. But with WIC you can't do other things (you can't get immunization data from it). With WIC there are strict confidentiality rules about data sharing.

- On the sharing part, we are regulated and siloed pretty strongly. Federal regulation strongly prohibits us to share due to client confidentiality – this is more stringent than HIPPA. We share very little information. We do try to do some collaboration with other agencies but we mostly receive data and don't give it out. We do give out summary data (but we can't release a client's ID). We also provide adhoc reports. I am interested in putting up a web service that provides access to summary data and client data for people that are authorized to see it. This is just a desire at this point – we have not formally approved it.
- I oversee the IT efforts for the division of Environmental Health. We have good communication with LHJs and environmental health directors. Every other month we have a meeting that is comprised of LHJs (environmental health directors) and representatives within DOH. There is cost to integration and not integrating. You need senior leadership that understands this (like an executive sponsor at the local and state level). The need to integrate everything is a misnomer. We should be integrating only some things. Within Environmental Health we have consolidated our IT team and that is working well. We have a centralized IT team supporting all of the office (this has lead to greater efficiencies, economies of scale).
- We have a fairly robust system that serves our clients and users well. We issue checks to our clients as soon as input is entered. It's very efficient.

## **What is Not Working Well**

### ***Smaller LHJs (serving populations of less than 100,000)***

- We have a lot of IT turnover. The state pay scale isn't the same as the private sector. We have a high vacancy rate and have trouble recruiting within IT.
- The EDEN System is not working too well.
- I don't think on our side (internally) that we have too many challenges. We are pretty small and don't require a lot of high-tech infrastructure. We use basic databases and have an intranet. That works just fine.
- We have a very small support staff that we highly depend upon. However, if one or two people are gone (our sick, vacation, etc.) we have often found ourselves in trouble. It would be nice if we could get some more technical expertise, but we don't have the funds.
- Our systems don't interface with DOH well. We have not invested heavily as we are so small.
- On the IT side we have limited IT staff so support varies month to month as there is high turnover. What isn't working is that we have a number of systems like SECURES and PHIMS with maybe only one person that understands how to use these systems.

- We just put out an RFP for a whole new communications system because we're still using hand-me-down phones from the local elementary school.
- For the past two years, quality of the IT services provided by the county has dramatically decreased. County IT staff is incompetent, often shutting down systems for several days at a time when they try to fix things. The LHJ doesn't have adequate access to county IT services when it needs them, and these services are extremely costly.
- SmartPH is frustrating. It was mandatory to use, but it is worse than the system we already had. So now we use both our legacy system and SmartPH. The State didn't understand what we had, and a committee developed SmartPH without soliciting input from the LHJs.
- The PHIMS system for communicable diseases is poor because it doesn't incorporate all conditions like HIV, Hepatitis, etc.
- There are programs and systems that could potentially benefit our LHJ, but cost is too prohibitive. So for different tasks, we use different systems, some of which are manual.
- Our IT person has other responsibilities and isn't always available when we need support.
- We are a small rural county without the capability or organizations of larger counties. There is not a lot of coordination within the county, and we don't have the IT skills or resources. There is a tendency to forget that we don't have cell phone coverage or a satellite phone.

***Larger LHJs (serving population of over 100,000)***

- We don't have good leadership or guidance from any higher level of public health or body. Our inability to share information from county to county is preventing us from getting the similarities and differences.
- The main challenge is that we have a 14 year old clinical system and outside field system that doesn't talk to the other systems. The restaurant inspection program is hopefully starting to automate in a few months (but before it was a paper system). We are going through a business process analysis with an outside firm for our community health division and communicable disease division. We are hoping to build some functional specifications to do an RFP for technology solution to replace our major clinical program and field nurse program as well as try to incorporate a STD module. There is not a lot of vendors out there that is writing applications for public health. There are very few players to actually choose from. LHJs might have to get together and pool resources.
- We had gone out to bid on a financial management system (we had four different tracking products which was silly). We went through an enormous process to integrate our systems, but the vendor found out they couldn't do what was needed. There are systems we had tried to integrate but realized we couldn't. We have made some systems complimentary. We had dozens of small access databases which we have been migrating on an SQL platform to share data. We are now starting to ask the right questions and learning as we go.

### ***Department of Health (DOH)***

- We don't have enough input from the local staff that are working with the WIC clients. We are setting priorities without this group's active involvement. Within the DOH there are perceptions that are not necessarily backed by knowledge (i.e. what we can do based on federal requirements and funding). We are expanding our communication in DOH up through the chain of command to better understand/communicate what the WIC program's priorities are (and timeframe).
- There are so many sources of this data that tracking them and trying to get connection is hard. We have connections with health plans that all use their own systems such as many of the pharmacies. So trying to build each individual connection that will interface with our system is hard.
- Our challenges are the standard issue of not enough time or resources.
- While WIC is great in many regards, you can't use it for other things (i.e. you can get immunization information data from it or find out if WIC participants are eligible for Medicaid). In WIC we have strict confidentiality rules about data sharing.
- Turn around of system updates is good but it could be better. We are in a mode of constantly putting out new versions on the system (due to federal regulation, or changing the way we collect race and ethnicity data etc). These changes are cumbersome but necessary.
- At DOH, DIRM says they will be a resources but that doesn't always pan out. It is not clear about what DIRM can and cannot do. However, they are very responsive in general (they are helpful when you call the help desk). However, with new or special projects there appears greater challenges and inconsistencies.

### **Opportunities for Improvement**

#### ***Smaller LHJs (serving populations of less than 100,000)***

- There are several LHJs that are using the applications that we are using. We sat down and demonstrated the software. We showed them how we are using it (and it was helpful to give them this information that was not from the company sale's person). We know what we need much better than the State. It would be better just for the State to facilitate connections between LHJs.
- We need to tailor the EDEN system more to our needs. Right now data is limited to administration. Perhaps we can talk to other LHJs about this.
- We don't have a lot of money for the type of IT infrastructure that we would like to have. Perhaps if the LHJs got together and pooled IT resources then we could afford more.
- IT improvements (such as planning, development, and procurement) are not necessarily our top priority. There are so many competing issues we need to focus on. We should make more effort to examine what areas within our internal IT systems can be streamlined.
- We would like to digitize medical records and improve communications in general.

- The county could hire more qualified IT professionals and push towards more online trainings (with Blackberries, etc., there is a lot of potential here.)
- We would like a web-based reporting system within our LHJ to eliminate the need to compile manually written reports.
- There is potential for interface between hospitals and public health through Community Choice, but it doesn't seem to be functioning currently. The private sector is a very important component, and for communicable diseases, we need that interface with the hospitals.
- More effort and support for teleconferencing is a good idea. We have a lot of travel time now, and it takes a long time to cover our county or go to a regional meeting. DOH should improve teleconferencing.

### ***Larger LHJs (serving population of over 100,000)***

- We are trying to standardize IT in our county and it's hard. However, we truly think that the push towards integration will lead to better services, so ultimately it is worth all the effort. We just have to be tenacious about it.

### ***Department of Health (DOH)***

- I know across programs DOH can better plan and coordinate. It's just a question of really spending the time and effort.
- Finding and agreeing upon what can be shared or integrated can be just as hard internally as externally. All of our programs serve such different needs.

## **Benefits of Interoperability**

### ***Smaller LHJs (serving populations of less than 100,000)***

- I know a lot of other LHJs use the same internal system as us (EDEN system). However, it would be difficult to tailor the EDEN system as you would need to get buy in from all the counties using the system. However, we can't make changes just by ourselves as it's very costly. If some of the needs were similar, then the counties could pitch in to tailor the system together. It might be easier to find software that satisfied health care needs and not use EDEN directly for that purpose but that would be compatible with EDEN for specific functions.
- We already share a lot of data. Further integration I suppose is possible, but we are small and don't have too many problems with exchanging internal data.
- Pretty much the same benefits as I stated before.
- It would save time.
- It would save time and money.
- It would save time, and the data would be more consistent.

***Larger LHJs (serving population of over 100,000)***

- Increased efficiency and better communication between staff.
- The same as before.
- This would reduce redundancy. Right now using all these different systems that don't communicate is very time consuming. Accuracy goes down if you keep repeating information. If we have some big emergency, then counties and state could help each other. There could be centralized training on the system. Certainly it becomes more universal (training and portability). This will make the systems much more useful.

***Department of Health (DOH)***

- If we internally integrated our systems, that would have ramifications externally. It would benefit LHJs as we would not ask them for duplicate data. Also, we could better understand what was going on in other programs. It would provide better oversight and could serve as a good management tool.

**Challenges to Interoperability**

***Smaller LHJs (serving populations of less than 100,000)***

- Budgetary constraints are the biggest challenges.
- The constraints are budgetary and political. If, for example, the LHJ contracted its own IT services, the county would probably have to lay people off.
- We would be reluctant to adopt new technology, given the learning curve and potential costs it entails. Because the county is so small, manual systems work just fine. Often times people don't know what they want until they are working within a given system and dealing with its shortcomings.

***Larger LHJs (serving population of over 100,000)***

- The challenges are a little different as ours are continuing to meet the needs of our stakeholders. As the stakeholder community continues to use our system, we have to continue to build upon it and make sure it doesn't fall behind. Trying to keep pace with expectations is hard.
- Without having a framework to look at we don't know what we need. What are the most important parts of public health and what lends themselves to the gathering and sharing of good data? There needs to be some sort of prioritization so we focus on the most important things first.
- Other challenges are the changing environment of technology. Being able to utilize web based applications is relatively new. Ultimately, you spend a lot of money and don't want to make dramatic costly changes in three years. The cost of integrating systems is significant but there is a whole lot of cost incurred when people can't communicate. We need to quantify the costs of siloed systems to local health jurisdictions.

***Department of Health (DOH)***

- We have so many divisions within DOH that have so many different needs. How do you prioritize needs? What should be standardized? These are very difficult questions.
- If the Chief Technology Officer (CTO) in DOH had greater oversight over IT changes/modifications that would be great. However, changing the chain of command in order to improve efficiency and communication might be difficult. Program divisions are used to doing things a certain way and making structural changes could be confusing.

## **INTERVIEW PROTOCOL**

Interviewee(s):

Role(s) \_\_\_\_\_ (i.e. Administrator, IT, etc.)

Agency \_\_\_\_\_

Do you have an IT division/section inside your agency? Or are they outside your agency (i.e. County IT; contract for this services, etc):

If DOH, which division: \_\_\_\_\_

Interviewer \_\_\_\_\_

Date \_\_\_\_\_

### **Introduction**

Hello. Thank you for taking the time to participate in this telephone interview. My name is \_\_\_\_\_, from Berk & Associates. We have been hired by the PHIP Public Health Information Technology (PHIT) Committee to conduct a feasibility study around improving coordination of public health information technology across the state. We are interviewing public health leaders and their IT directors from LHJs and DOH, to get your perspective and creative ideas on this issue. We will also be researching how others in similar situations are approaching such coordination. We will be reporting finding from these two lines of inquiry and proposing some options / models for how to move toward better coordination, to the PHIT committee this summer. You will be hearing more about this work from the PHIT committee later this summer.

### **Context**

Many factors combine to put pressure on public health to adopt new, often siloed technology, that may not be compatible with other programs or partners, with out the benefit of a broader systematic business process analysis. These pressures include: Federal and state laws (i.e. Federal law on medical record handling – HIPAA); Federal or other grant requirements that require DOH, LHJs, or tribes to develop or use an application for a specific siloed issue or program; program staff feel the need to automate a process, develop a new database or update an old one; changes in computer operating systems; changes in agency procurement policies; collaborating with new partners. These pressures, and funding sources, also provide opportunities – but without coordination, new siloed applications or dead end projects just multiply and gobble up resources (implementation and training time; resources spend transferring or translating data from old systems to new; maintenance and updates; etc). This is not achieving our goal of employing appropriate and effective technology, in the background, to make the work of assuring the public's health easier, more efficient, and more effective.

Generally, because there is no forum or time for evaluating such pressures and opportunities in a system context, public health is pushed from one product or application to another without a clear or intended course. The opportunity to thoughtfully evaluate, coordinates, and integrates technology across issues and program or across agencies statewide is lost.

The purpose of this interview is to get your perspective and creative ideas on coordination of public health information technology. Specifically, the Committee wants to learn your perspective with regard to:

- 1) the broadest level of prioritizing, planning, fundraising, developing, and implementing technology applications across the public health system, state and local, in Washington state;
- 2) long-term oversight and management, including receiving and incorporating input (i.e. user groups) and prioritizing and managing upgrades and improvements for specific applications;
- 3) any additional technology issues that you think are important for public health to address

## **Questions**

### ***The Big Picture: A Whole Systems Perspective***

At the broadest level of prioritizing, planning, fundraising, developing, and implementing technology applications across the public health system, state and local, in Washington:

1. Currently, what is working well (top two or three things)? Why?
2. Currently, what isn't working well (top two or three things)? Why?
3. What are the opportunities for improving how this system is working? Do you have any specific ideas for implementing this improvement?
  - a. What would be the benefits in adopting your idea?
  - b. What would be the challenges in adopting your idea?

### ***Within Your Organization: Internal Systems***

Think for a moment about some of the applications you or your staff use.....with regards to long-term oversight and management, including receiving and incorporating input (i.e. user groups) and prioritizing and managing upgrades and improvements for specific applications;

1. Currently, what is working well (top two or three things)? Why?
2. Currently, what isn't working well (top two or three things)? Why?
3. What are the opportunities for improving how the system is working? Do you have any specific ideas for implementing this improvement?
  - a. What would be the benefits in adopting your idea?
  - b. What would be the challenges in adopting your idea?

### ***Closing Questions***

1. What other technology issues do you think are important for the public health system to address?
2. Is there anything else regarding the issue of coordination of public health information technology that you would like to add?

Thank you for your time and input. You will be hearing from the PHIT committee about this work, later this summer. If you have any questions, please don't hesitate to contact the committee co-chairs, Frank Westrum or Ed Dzedzy.

## **ATTACHMENT B**

### **BIBLIOGRAPHY**

Arzt, Noam. "The Evolution of Public Health Information Exchange." 2007. Public Health Informatics Institute (PHII).

Leatherby, Drew. "We Need to Talk: Governance Models to Advance Communications Interoperability." 2005. National Association of State Chief Information Officers (NASCIO).

Foldy, Seth and Ross, David. "Public Health Opportunities in Health Information Exchange." 2005. Public Health Informatics Institute. (PHII)

Fraser, Michael and Downing, Keith. "NACCHO Survey Examines State/Local Health Department Relationships." 1998. National Association of County and City Health Officials (NACCHO).

Sweden, Eric. "Electronic Records Management and Digital Preservation: Protecting the Knowledge Assets of the State Government Enterprise. 2007. National Association of State Chief Information Officers (NASCIO).

"Two Thousand and Six Best Practices in the Use of Information Technology in State Government."

"Profiles of Progress: State Health Initiatives." 2006. National Association of State Chief Information Officers (NASCIO).

"Interoperability Innovation: State Best Practices and Models for First Response Communication." 2007. First Response Coalition.

"Information Management for State Health Officials." 2006. Association of State and Territorial Health Officials (ASTHO).