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The Information Imperative for Public Health: A Call to Action to Become Informatics-Savvy

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The time has come when every health department, regardless of size, must be informatics-savvy. This means having a clear vision, strategy, and governance for information management and use; a workforce skilled in using information and information technologies; and well-designed and effectively used information systems. The information imperative is urgently driven by the increasing digitization of data coming into health departments from an increasing number of sources, the need for timely information to inform increasingly complex public health decisions, and the growing costs of aging public health information systems. Information innovation to address growing needs requires an agency-wide organizational approach. In this column, we speak to public health leaders who aspire to the goal of creating the "informatics-savvy health department" and offer guidance and examples of successful informatics innovation.

What can public health leaders do to ensure their health department is meeting this information imperative and is informatics-savvy?

1. Conduct an agency-wide assessment of your current informatics capabilities and processes.[1]
2. Establish a clear and shared vision for how information will be used to impact population health.
3. Develop an informatics strategy roadmap to guide your capacity-building efforts.[2]
4. Ensure that your workforce is "informatics-savvy."

What is the cost of not being informatics-savvy? It can include:

- Not having the information you need, when you need it, to make management and program decisions.
- Loss of credibility with community partners, other governmental agencies, elected officials, and the public, who are all looking for more timely and actionable information.
- Costly failures in replacing aging information systems.
- Inability to leverage the influx of data from within and outside the health system for making critical public health decisions.
- Missed opportunities to leverage resources and connections with community partners.

What does informatics-savvy look like when achieved? How feasible is it at a time of shrinking budgets and workforces? What roadmap might a health department follow to develop informatics capacity?

We answer these questions through case examples. But first, let us review key characteristics briefly described in previous *Management Moment* columns[3-7] that underpin informatics-savvy health departments (Figure).

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Examples of informatics efforts included in this column are the result of direct consultations with each mentioned health department. Each was developed as a result of their work with PHII when providing technical assistance for becoming informatics-savvy.

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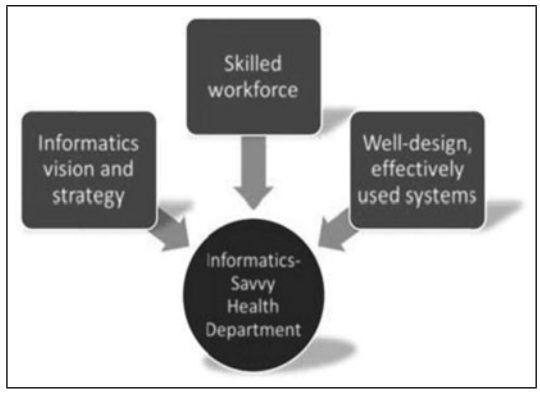

FIGURE Building an Informatics-Savvy Health Department

Informatics Vision and Strategy

Public health is in the information business. There is a sense of urgency for public health to change its model from that of an "information consumer" to an "information broker that supports innovation." Furthermore, as the health care industry moves rapidly into the world of electronic health records and health information exchanges, public health agencies must adapt. Core strategies for adapting include knowledgeable and decisive leadership, effective information policies and governance, strong information partnerships, and a skilled workforce.[3] Having an organizational focus for informatics is also indispensable for facilitating, implementing, and evaluating an informatics strategy roadmap aimed at optimizing your information and information technology resources.[4]

Building informatics capacity must begin with accurate information on agency current capability and capacity; in other words, knowing what information you do and do not have, the knowledge-skills-abilities your staff do and do not have, and the state of your information systems in terms of how they do and do not support your current work,[5] as well as readiness to support emerging needs.

Skilled Workforce

If there is any resource more valuable than your information, it is your staff. As public health informatics becomes as much a core science to public health as epidemiology,[8] having a strategy and a plan to build informatics knowledge-skills-abilities throughout your staff and having one or more designated informatics positions are critical to achieving and sustaining the level of informatics savviness you need to be successful and more innovative.[6]

Well-Designed and Effectively Used Information Systems

In terms of information systems, we highlighted in past columns the need for systematic, rigorous, and standardized information system development and management processes to ensure systems adequately and cost-effectively support the work that needs to be done. Systematic approaches to information systems development enable more innovation, greater financial success, and healthier communities.[7]

Self-assessment tools have been developed that help public health agencies determine how they fare in these 3 areas and what they need to do to make improvements. The following 7 health departments listed next used no-cost, downloadable assessment and planning tools[1] to reach consensus on agency-wide capabilities, needs, and priorities. These brief case examples highlight how local and state health departments of all sizes have undertaken cross-program, agency-wide assessments and planning for improving their information and informatics capabilities based on their own sense of urgency to make progress in this area. In each case, public health leaders and agencies were willing to convene staff from across the department to, usually for the first time, discuss some of the most valuable resources they had in common—data and information.

Examples of Creating Informatics-Savvy Health Departments

- In Washington State, the Department of Health convened representatives from all the major program areas, from 3 local health jurisdictions, and from tribal representatives to discuss their shared information needs and capacities. From that groundwork came their first Informatics Roadmap, which included the overall mission "to improve population health through timely and actionable information," and goals to improve efficiency of intra- and interpartner data exchange and effective use of data, to analyze and disseminate data in a timely, ethical, open, and transparent way, and to create an Information Governance framework that address multidisciplinary information management.[9] The effort at the state level spurred similar efforts in some local health jurisdictions.[10]
- In Tarrant County, Texas, the health department began 10 years ago with a broad vision for exchanging information with health care organizations, knowing they had to build the relationships, the trust, and the programs slowly. They started with building the data exchange

infrastructure for syndromic surveillance, then expanded to reportable conditions, both clearly within the historical and legal boundaries of public health reporting. Once the credibility and the trust had been established, they worked in partnership to expand to other noncommunicable information, including behavioral data. More collective and broad buy-in was built across the health department and with other organizations as the trust built over time, and as health care increasingly saw the need to be engaged in population health issues. The key to acceptance of a shared information exchange system was to enable health care to maintain control over what data were shared. The key to its sustainability was in part to use open-source software that did not require expensive vendor contracts.

- The New Hampshire Division of Public Health Services, in its agency-wide assessment of informatics capabilities and needs, identified a range of strategies to improve coordination and consistency across programs in areas such as building informatics competencies into current job descriptions, documenting who is exchanging data with whom, building training opportunities through federally funded grants and programs, providing access to project management tools, and working effectively with the state's information technology department.
- The Chicago Department of Public Health conducted various informatics assessments in 2016 to document and assess all of its databases and applications, to identify manual processes that might be automated, and other informatics needs across programs. The participants recognized the need for improved communication to support their ability to advocate for informatics capacity building and to increase the visibility of informatics services and support throughout the department. The informatics office planned to complete the informatics-savvy self-assessment and the Informatics Profile[11] on alternating years to monitor progress and identify emerging needs.
- The Utah Department of Health was among the first to create job classifications for informatics, and it now has informatics positions at the Division, Bureau, and major system or program levels. The Department provided on-the-job training in areas of common responsibility, such as project management, use cases, requirements development, and contract management. Informatics was identified as a key component to better linking public health and primary care with a goal for the health department to "integrate its practice with health systems and payors to fully address determinants and outcomes of health in the Utah population and sub-populations."
- At the Minnesota Department of Health, the Office of e-Health and Health IT provided coordinating informatics leadership by leading efforts to create an e-public health shared vision and strategic roadmap, regularly assessing readiness for e-health and health information exchange (public and private), accelerating informatics training and education for staff, facilitating the setting of informatics agency priorities, and maintaining a strong e-health assessment and evaluation program. All of these activities established the health department not just as a credible partner in e-health and information exchange but also as a visionary leader.
- In Detroit, the health department looked at informatics needs as part of rebuilding the overall health department following a period of privatization. In addition to creating a Health Information Officer position, the department identified the need to develop and implement an informatics strategy and to procure a new electronic medical record system.

As these case examples highlight, taking action to strengthen the information and informatics capabilities is not only seen as needed to support innovation across a wide range of health departments, but it is also doable even without outside funding or contracted consultants.

The Value of Taking Action

What have these health departments reported as the value of having acted to assess and build their information capabilities? In addition to the fundamental value of staff from across the agency discussing and problem-solving their common challenges and assets, the participants came away with a deepened appreciation for how data and information must be managed as strategic assets, not just another operational task. They also came to realize the value of a thorough, rigorous agency-wide informatics assessment as a critical foundation from which to develop an actionable informatics strategy roadmap and a sense of opportunity for innovation.

The agencies reported other changes with lasting impacts, including:

- Reorganizing informatics to have agency-wide coordinating responsibilities to accelerate progress and assist programs.
- Better preparation for national accreditation through the Public Health Accreditation Board,

which included a stronger emphasis on informatics in the updated standards that were released in 2014.[12]
- More coordination in response to Meaningful Use requirements and in general to national Health IT policies and standards.
- More coordination and intention in addressing common challenges, and in sharing solutions and expertise.
- Defining knowledge, skills, and roles of informatics staff, which can be integrated into workforce planning and development efforts.
- Creation of new informatics classifications providing career pathway.
- Increased efforts to build informatics competencies and knowledge-skills-abilities among staff.
- Partnering with universities to bring informatics expertise into the agency.
- Increased collaboration with community partners to exchange information.
- Better information on equity and disparity issues.
- Increased exchange of public health data between community partners.

Summary

Information is the life blood of any health department. Informatics is the science that supports the healthy flow of that life blood, maintaining the vitality of the health department in all manner of stress and need.

As a public health leader, you have the responsibility to ensure your information, whether received or generated by you, is available when and where needed to inform decisions and action. This requires articulating and communicating a clear vision for information as a strategic resource and priority. It also requires knowing your current agency-wide informatics strengths and weaknesses. Finally, it requires developing an actionable and feasible roadmap for developing the capacities you need to meet your vision and mission. An effective health department in the digital health information ecosystem requires becoming informatics-savvy or risks becoming irrelevant.

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