



# Common Ground: Transforming Public Health Information Systems

## An RWJF national program

*Common Ground: Transforming Public Health Information Systems*, a national initiative of the Robert Wood Johnson Foundation (RWJF), helped public health agencies improve both their information systems and their systems performance in order to better respond to health threats, such as pandemics and bioterrorism, as well as to chronic diseases, such as obesity.

RWJF's Board of Trustees authorized up to \$15.4 million for the program, which ran from May 2006 through December 2010. The [Public Health Informatics Institute](#), a program of the Task Force for Global Health, which is based in Decatur, Ga., managed the program and provided technical assistance to the grantee organizations. NORC at the University of Chicago evaluated the program.

### CONTEXT

State and local public health agencies must have access to timely, accurate, and appropriate information to respond effectively to a range of health threats affecting the populations they serve. Public health informatics—the use of sophisticated information technology to collect, analyze, and share information—is a core capacity, helping agencies to address acute emergencies, such as an infectious disease outbreak or a bioterrorism attack, and to prevent and control chronic diseases, such as obesity, diabetes, and asthma.

Adequate information also allows public health agencies to meet day-to-day operational needs more efficiently, and to exchange information with other public health agencies and the health care system—a function that is becoming increasingly important as the country moves toward adoption of electronic health records and health information exchanges. (Health information exchanges allow health care information to move electronically across organizations within a region, community, or hospital system.)

In 2006, when *Common Ground* was launched, many agencies lacked the information capacity needed for a coordinated response to large-scale health problems. A 2003 report by the Institute of Medicine, *The Future of the Public's Health in the 21st Century*, pointed in particular to “weaknesses in the nation’s disease surveillance systems and inadequate access to information systems and communication tools,” and emphasized the need for an integrated information infrastructure to overcome many of these problems.

Improving such processes has the potential to impact health departments on a number of levels—from making everyday activities more efficient, to strengthening internal and external relationships, to building new information systems. But introducing process-improvement programs into the culture of public health has been hindered by the commonly held belief that each public health agency is unique and “when you’ve seen one agency, you have only seen one agency.” This paradigm has led to agencies operating in silos, isolated from one another and from other partners in both the health and nonhealth sectors.

### **RWJF’s Interest in This Area**

*Common Ground* built upon previous RWJF initiatives to strengthen the public health system and accelerate innovative use of quality improvement and information technology principles in public health. Fifteen of the 31 *Common Ground* grantee agencies participated in one or more of these related initiatives.

### **Information Systems for Public Health**

From 1991 to 2001, RWJF supported a national program *All Kids Count: Establishing Immunization Monitoring and Follow-up Systems* that was managed by the Task Force for Global Health.<sup>1</sup> *All Kids Count* was designed to improve child health and the delivery of immunizations and preventive services through the development of health information systems. The task force worked with 38 state and local health agencies.

This program produced lessons about developing information systems for public health that the Task Force for Global Health incorporated into subsequent initiatives. For example, the importance of involving stakeholders from the beginning, addressing common problems collaboratively, and defining the requirements of the system to support users’ needs are at the core of *Common Ground*.<sup>2</sup> For more information on *All Kids Count*, see [Program Results](#).

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<sup>1</sup> The Task Force for Global Health is a 501(c)(3) nonprofit organization that helps public and private organizations promote health and human development by building coalitions, forging consensus, and leveraging scarce resources.

<sup>2</sup> KN Saarlans et al. “All Kids Count 1991–2004: Developing Information Systems to Improve Child Health and the Delivery of Immunizations and Preventive Services.” *Journal of Public Health Management & Practice*, 10: s3–s15, 2004.

After the program ended, RWJF provided further support to the Task Force for Global Health to establish a program called the Public Health Informatics Institute. The program staff experimented with different approaches to transform public health informatics work until they settled upon the Collaborative Requirements Definition Methodology (CRDM) as the key lever. *Common Ground* was the expansion of that early work. See the [CRDM section](#) of this report for more information.

Before *Common Ground*, however, RWJF funded *InformationLinks* (2005–09), managed by the informatics institute, which stimulated the participation of public health agencies in emerging health information exchanges. RWJF awarded 21 grants to state and local health departments and public health institutes to help them secure a “seat at the table” in health information exchanges—which make it possible to share patient information and thus enhance the quality of health care and promote health both on an individual and a population-wide basis. For more information on *Information Links*, see [Program Results](#).

In addition, from 2005 through 2010, RWJF supported the *Public Health Informatics Fellows Training Program* at four of the National Library of Medicine’s 18 informatics training sites. The purpose was to catalyze the development of the public health informatics field and create a sustainable pipeline of future leaders in public health informatics. See the [Program Results](#) for more information about this training program.

### **Quality Improvement in Public Health**

Simultaneous with its support of developing information systems and informatics for public health, RWJF was focused on quality improvement. *Turning Point: Collaborating for a New Century in Public Health* (1996–2006) was its national program, funded in conjunction with the W.K. Kellogg Foundation. *Turning Point*’s mission was to “transform and strengthen the public health system in the United States to make the system more effective, more community-based and more collaborative.” The two foundations partnered to support projects in 22 states and 41 local communities in those states. RWJF also supported five National Excellence Collaboratives that allowed states to work together on important public health infrastructure challenges.

An evaluation concluded that *Turning Point* strengthened the public health infrastructure through partnerships that engaged stakeholders who had not previously been involved with public health activities (e.g., businesses, educators, faith communities, and community organizations). It also contributed to the national movement toward accreditation for state and local health departments and to the expansion and growth of statewide public health institutes. For more information about *Turning Point*, see [Program Results](#).

*Exploring Accreditation* (2005–08) was a national effort that RWJF co-sponsored with the Centers for Disease Control and Prevention (CDC). It followed up on the Institute of

Medicine’s call, in its 2003 report, for a steering committee to determine whether a voluntary national accreditation program would be a feasible strategy for improving state and local public health performance. A steering committee and workgroups composed of more than 650 public health stakeholders concluded that such a program would be feasible.

In May 2007, the Public Health Accreditation Board was established as the nonprofit entity to implement and oversee public health department accreditation. For more information about *Exploring Accreditation*, see [Program Results](#).

After incorporating feedback from beta test sites, the accreditation board released the *PHAB Accreditation Standards and Measures* in July 2011.<sup>3</sup> The report identifies 12 domains that incorporate a broad group of public health services, including performance, management, and quality improvement.

From 2005 to 2011, *the Multi-State Learning Collaborative: Lead States in Public Health Quality Improvement* supported teams in 16 states to prepare for public health accreditation and apply quality improvement practices to achieve specific goals, such as increasing immunization rates or increasing the number of adults exercising in a community. Teams included state and local health departments working in collaboration with other stakeholders—such as public health institutes, health care providers, and universities. For more on this program, see the [Mid-Course Program Results](#).

## THE PROGRAM

*Common Ground: Transforming Public Health Information Systems* was a three-year, \$15 million national initiative designed to help state and local public health agencies better respond to health threats by improving their use of information systems and the overall quality and efficiency of their operations. The program’s overarching principle was that public health agencies do essentially the same kind of work throughout the country and function in many similar ways. Finding this “common ground” was key to helping them share their experiences and best practices and to develop common approaches to solving problems.

Specifically, the goals of *Common Ground* were to:

- Increase awareness among public health departments and associations of the need to apply informatics principles and to develop collaborative requirements for information systems. (Collaborative requirements are common to all agencies, but they can be tailored to meet individual agency needs.)

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<sup>3</sup> *Public Health Accreditation Board Standards and Measures: Version 1.0*. Approved May 2011. Available [online](#).

- Help public health departments develop more effective and efficient business processes that support essential public health services and their functions.
- Have stakeholders at the local, state, and federal levels widely adopt, implement, and endorse redesigned business processes and requirements definitions for information systems that support public health preparedness, and chronic disease prevention and control.

### National Program Office

The national program office for *Common Ground* was the [Public Health Informatics Institute](#) at the Task Force for Global Health. The institute has expertise in health information technology strategy, requirements development, and performance improvement.

### National Advisory Committee

In 2008, the institute and RWJF convened a national advisory committee to assist with planning and the selection of the organizations to receive grants. See [Appendix 1](#) for a list of advisory committee members.

### Collaborative Requirements Definition Methodology™

The framework for *Common Ground* is the institute’s [Collaborative Requirements Definition Methodology \(CRDM\)](#), which its website calls “a facilitated collaborative approach to developing requirements for public health information systems.” See the website for a [nine-minute animated introductory video](#) on CRDM. The methodology brings together public health agencies to collaboratively think through a three-step process:

- **Business-process analysis: How we do our work now?** In the first step, public health agency leaders think about how their work is currently done and identify the necessary activities, participants, and information flows to meet specific public health objectives. Three tools are used:
  - *Business-process matrix* focuses on higher-level attributes of a business process, such as the goals, objectives, and business rules.
  - *Context diagram* focuses on who (person or computer system) is involved in the business process and what information they exchange.
  - *Task-flow diagram* focuses on the sequence of tasks performed to carry out the process. Similar to the work-flow diagram frequently used in business, the task-flow diagram shows who (job title or job descriptor) is carrying out each task.
- **Business-process redesign: How should we do our work?** The second step involves rethinking the current tasks to increase effectiveness and efficiency. It focuses on how

work should be done to improve performance. The redesign provides the opportunity to identify inefficiencies or duplications in activities, and to revise current business processes.

- **Requirements definition: How can an information system support our work?** In the third and last step, public health agencies describe what the information system must do to support redesigned tasks. Requirements can inform the purchase, enhancement, or development of efficient information systems to make it easier to share information within public health and its partners in the health system. Generally, defining requirements involves specifying in words and graphics how the information systems should be structured to support the work of the organization.

Collaboration is a natural strategy for developing information systems in a complex environment in which organizations have more in common than not. It enables public health agencies to agree on a common vocabulary and definitions to describe their business processes. It also provides opportunities for health departments to review each other's approaches to core business activities and to redesign processes to improve quality, performance, and interoperability.

### ***Evolution of the Methodology***

The CRDM methodology the program used evolved from two earlier initiatives, according to Deputy Director Ellen Wild. “With each project, we have learned more about how to tweak private industry’s approach and tools for quality improvement to make them more usable for public health practitioners.”

The first was the Laboratory Information Management Systems project, a collaboration among the Public Health Informatics Institute, the Association of Public Health Laboratories, and numerous state and local public health laboratories. From 2002 to 2005, the project aimed to increase the capacity of laboratories to respond to bioterrorism and other threats through a more efficient use of information tools and technology.<sup>4</sup>

“The project demonstrated that defining business processes (a common approach in private industry to define system requirements) is feasible and results in a product that is highly useful to public health. We also tested a collaborative approach to requirements definition for public health information systems, which is not necessarily a best practice in private industry,” Wild said.

Terry Bazzarre, PhD, a former RWJF senior program officer who oversaw *Common Ground* in its early stages, agrees that the Laboratory Information Management Systems project entered new territory. “No one had ever tried applying this type of business-process analysis and redesign to any public health agency, but, at a time when terrorism

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<sup>4</sup> *The LIMS Project: Summary of Evaluation Findings*. Atlanta: Public Health Informatics Institute, June 2007. Available [online](#).

and anthrax attacks were concerns, it was a good idea.” Public health labs now routinely use the methodology, said Bazzarre.

The evolution of the methodology continued in 2005, when the institute partnered with the National Association of County and City Health Officials (NACCHO), and local health departments in seven states to define business processes common to the nation’s public health departments.

The partners identified nine business processes, based on the framework of NACCHO’s operational definition of a functional public health agency. They are outlined in [a report, \*Taking Care of Business: A Collaboration to Define Local Health Department Business Processes\*](#).<sup>5</sup>

Wild commented on this project’s contribution to the methodology. “In the NACCHO project, we learned that public health practitioners want to *learn* how to do CRDM [Collaborative Requirements Development Methodology] themselves, as they found it very useful. That led us to figuring out how to teach the methodology.”

The success of the institute’s collaborative work with public health laboratories and local health departments signaled to RWJF that it would be feasible to proceed with a larger demonstration of the methodology. “These projects were critical to being able to think about ‘How do we get more spread for the CRDM?’ and ‘How can we extend it to other public health functions, not just laboratory information systems?’” Bazzarre noted.

### **Implementing *Common Ground***

In June 2006, RWJF released a call for proposals inviting state and local health departments around the country to apply for funding to use the DRDM to improve the capacity of their information systems. Proposals were due by August 15, 2006.

In December 2006, RWJF awarded 31 grants—18 to local health departments and 13 to state health departments or statewide organizations. Grants were awarded either for informatics capacity or requirements development.

### ***Informatics Capacity***

RWJF awarded 15 Informatics Capacity grants of up to \$30,000 for 15 months (January 2007 to March 2008). These grants were designed to prepare public health departments to analyze and redesign business processes related to a specific public health problem and to create a plan for developing information systems requirements in the future.

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<sup>5</sup> *Taking Care of Business: A Collaboration to Define Local Health Department Business Processes*. Atlanta: Public Health Informatics Institute, 2006. Available [online](#).

One Informatics Capacity grantee organization was a municipal health department, 11 were county health departments, one was a regional organization covering 13 counties within a state, and two were state health departments:

- [Alaska Department of Health and Social Services](#) developed criteria for prioritizing information technology issues and improving tracking mechanisms.
- [City of Austin/Travis County Health and Human Services Department](#) (Texas) worked with local providers to improve the timeliness of disease reporting.
- [Genesee County Health Department](#) (Michigan) redesigned its sexually transmitted disease reporting system to improve its accuracy and timeliness, while moving the county toward electronic reporting.
- [Kane County Health Department](#) (Illinois) worked with the local Office of Emergency Management and Animal Control authority to redesign overlapping processes. See the Grantee Story of [Paul Kuehnert, RN, MS](#).
- [Louisville/Jefferson County Metro Government](#) (Kentucky) redesigned a follow-up to family planning services to see if clients made referral appointments.
- [Madison County Health Department](#) (New York) analyzed their internal accounts-receivable and billing processes, and decided to implement electronic billing for insurance companies.
- [Mahoning County District Board of Health](#) (Ohio) redesigned their septic system permitting process. See Grantee Story of [Matthew Stefanak, MPH](#).
- [Maricopa County Department of Public Health](#) (Arizona) documented patient and chart flow in all clinics to prepare for the implementation of an electronic practice management system.
- [Monroe County Health Department](#) (Michigan) redesigned their enrollment procedures for the Special Supplemental Food Program for Women, Infants, and Children (WIC), and the Maternal and Infant Health Program.
- [Montana Department of Public Health and Human Services](#) redesigned the system containing their internal mailing list of partner organizations.
- [Multnomah County Health Department](#) (Oregon) analyzed and redesigned their reporting processes for tuberculosis. They also analyzed their reporting process for sexually transmitted diseases, and developed requirements for a new information system.
- [The University of North Carolina at Chapel Hill](#) worked on restaurant inspection business processes. Their overall goal was to improve the usefulness of information systems for environmental health services.

- [County of Santa Cruz Health Services Agency](#) (California) focused on child obesity data collection and reporting to inform more effective prevention programs. They implemented a standardized survey to ensure comparability with other data sources.
- [Sonoma County Department of Health Services](#) (California) focused on streamlining the billing process for their targeted case-management referral program for Medicaid beneficiaries.
- [Summit County Health Department](#) (Utah) redesigned their business processes surrounding foodborne illnesses, harmonizing business processes between their environmental and nursing divisions.

### **Requirements Development**

RWJF awarded 16 three-year grants of up to \$600,000 to 10 state and six local health departments. Ten of the Requirements Development grantees focused on chronic disease prevention and control; six focused on public health preparedness.

“Our experience with the *InformationLinks* grantees taught us that the two most urgent areas were public health preparedness and chronic disease management, so we chose those for *Common Ground*,” said Deputy Director Wild.

“We decided that if we could define public health system needs for those two areas and share them with health information exchanges, this would increase the chances for a successful linkage between the exchanges and public health agencies.”

The following are brief descriptions of the local projects that the Requirements Development grantees implemented within their own agencies (referred to as their “home” projects in program reporting to RWJF).

#### **Chronic Disease Prevention and Control**

- [Public Health Authority of Cabarrus County](#) (North Carolina) worked with two local health departments to develop functional and technical requirements for an electronic health record system, and tools for evaluating and selecting a system.
- [California, Health and Human Services Agency](#) redesigned the agency website to serve as a portal for chronic disease and other public health data that provides de-identified, geographically referenced information for assessing programs, analyzing disease patterns, and assisting with targeted resource planning.
- [Coconino County Public Health Services District](#) (Arizona) applied CRDM to more than 75 processes in all service units of the agency. It developed curricula and trained 55 percent of health department staff on the techniques of business-process analysis and redesign.

- [Kitsap County Health District](#) (Washington) documented current capabilities for receiving and using chronic disease information from local medical providers, redesigned the process, and documented the requirements, barriers, and willingness of local medical providers to share the data using information technology.
- [Louisiana Public Health Institute](#) worked with 25 clinics to assess processes for chronic disease management and to develop a set of requirements to use in an integrated chronic disease management system.
- The [Minnesota Department of Health](#) developed a profile of more than 20 chronic disease information systems to assess each system’s functionality and explore opportunities to modernize the systems in order to promote interoperability. Minnesota also applied CRDM to specific agency business processes, the statewide implementation plan for interoperable electronic health records, and a project exploring options to integrate state-level chronic disease reporting.
- [Missouri Department of Health and Senior Services](#) focused on streamlining the state’s chronic disease information systems and identifying opportunities to coordinate across program areas. The state also worked with local health departments to develop web tools and a common chronic disease web portal to foster collaboration and information sharing.
- The [Rhode Island Department of Health](#) developed an online directory of evidence-based community health resources to help consumers manage chronic disease. They analyzed and redesigned business processes related to the directory, and developed a standardized method for maintaining the information on the web and evaluating the quality and relevance of the resources.
- The [South Carolina Department of Health and Environmental Control](#) developed requirements for a chronic disease surveillance system using existing system structures, with a focus on interoperability and integration to facilitate data sharing and linkages. Their state-level plan describes the concept of the surveillance system, indicators, and systems requirements.
- The [Wisconsin Department of Health and Family Services](#) integrated their chronic disease information systems and explored the requirements for receiving electronic health record data for chronic disease surveillance. See Grantee Story of [Lawrence Hanrahan, PhD, MS](#).

### Public Health Preparedness

- [Children’s Hospital Corporation](#) (Massachusetts) worked with the Massachusetts Department of Public Health and the Cambridge Health Alliance (an integrated health care system in the Boston region) to redesign the web-based Health and Homeland Alert Network, used to support bioterrorism preparedness. See Grantee Story of the [Children’s Hospital Corporation project](#).

- The [Health and Hospital Corporation of Marion County](#) (Indiana) focused on defining normal public health business processes that may be performed on a larger scale during an emergency, and on teaching process improvement techniques to staff at state and local health departments. See Grantee Story of [Joseph Gibson, MPH, PhD](#).
- [Health Research Incorporated](#) (New York) used *Common Ground* tools to provide quality improvement training to health department staff at the local, regional, and state levels. See Grantee Story of [Geraldine Johnson, MS](#).
- [Maine Department of Health and Human Services](#) developed requirements for a public health preparedness data dashboard that incorporated appropriate user roles and functionality for state and local users. The state also developed survey tools for assessing informatics competencies among public health staff and provided training statewide on CRDM.
- [Metropolitan Government of Nashville and Davidson County](#) (Tennessee) identified and analyzed business processes that support the information needs of the metropolitan Incident Command System.<sup>6</sup>
- [Spokane Regional Health District](#) (Washington) worked with community partners, health district staff, and Washington Department of Health staff to collaboratively identify business-process requirements for a more robust, interconnected alert system for the state. Additionally, the health district built business-process analysis into agency-wide quality improvement efforts. See Grantee Story of the [project in Spokane](#).

For a list of the 31 grant projects, including contact information, see [Appendix 2](#).

### **Common Ground Activities**

“*Common Ground* was a huge program,” said National Program Director Dave Ross. “We like to think of it as three grant programs in one [the Informatics Capacity program and two Requirements Development programs] with multiple layers within each program.” Key activities included:

#### **Training**

The institute convened and trained the *Common Ground* grantees and taught them to apply CRDM. Both the Informatics Capacity and Requirements Development grantees attended trainings on business-process analysis and redesign. The Requirements

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<sup>6</sup> The Incident Command System (ICS) of the Federal Emergency Management Agency (FEMA) is a standardized, on-the-scene management approach that allows public health and other public and private sectors to respond to a variety of emergencies in an integrated, coordinated manner. ICS is used by all levels of government—federal, state, tribal, and local—as well as by many nongovernmental organizations and the private sector.

Development grantees also attended training on how to define requirements for functional information systems.

Agencies selected teams to attend the trainings, typically including senior health department leaders, program staff, and information technology staff. Team members also received individual coaching on the use of *Common Ground* tools, including CRDM, via phone, e-mail, and conference calls.

### **Home Projects**

Team members applied what they had learned from the trainings to a local/home project that was of strategic interest to their health departments and that could benefit from *Common Ground* tools, including CRDM. All grantee agencies analyzed and redesigned their current business practices. Requirements Development grantees also developed information requirements for specific business processes that could be automated and supported by information systems.

Informatics Capacity grantees developed two- to three-year action plans that reflected how the redesigned business processes would influence their agency's information systems development strategy and/or organizational thinking.

Grantees in both groups were also expected to train others within their agencies as well as external stakeholders in *Common Ground* tools. In addition to the focus on information systems, all grantees used the tools to support quality improvement efforts in a wide variety of other programs.

### **National Collaborative Workgroups**

In addition to implementing their home projects, the 16 Requirements Development grantee agencies participated in two national collaborative workgroups, one in chronic disease prevention and control and one in preparedness. The institute supported the workgroups with in-person, telephone, and web-based meetings, and expert review.

## **RESULTS OF NATIONAL COLLABORATIVE WORKGROUPS**

Public Health Informatics Institute staff reported the following results:

- **The workgroups identified and analyzed business processes common to public health agencies.** According to institute staff, the workgroups created “for the first time ever, a consensus-driven description of the work that is conducted by public health practitioners in the two domains.”

- **The Preparedness Workgroup used the Incident Command System and other emergency response frameworks to identify 10 common processes.**<sup>7</sup> Because of time constraints, only three were selected for redesign. (See [Appendix 3](#) for all 10 processes.)
  - Conducting notifiable disease surveillance. Notifiable conditions are those for which regular, frequent, and timely information is considered necessary to prevent or control disease, such as measles, West Nile virus, hepatitis, and other infectious diseases.
  - Conducting public health investigation. A collaborative, multidisciplinary team collects, analyzes, and interprets data in response to a potential public health threat.
  - Initiating alerts to ensure that communities have rapid and timely access to emergent health information.
- **The Chronic Disease Workgroup used the 10 Essential Public Health Services framework**<sup>8</sup> **to identify 11 common business processes.**<sup>9</sup> Because of time constraints, only two were selected for redesign. (See [Appendix 4](#) for all 11 processes.)
  - Linking individuals/populations to programs/services. These range from clinical care and case management to policy change and include services that are needed to access care, like transportation, or to maintain health, such as resources for physical activity.
  - Developing and implementing program evaluations.
- **For each business process, the workgroups developed a set of information system requirements.** The requirements, ranging in number from about 40 to well over 100, describe in detail what information systems should do to successfully support the process. The requirements provide a platform for vendors and information technology departments to use in developing the technical specifications for more efficient and effective information systems.
- **The workgroups created toolkits and other documents to share the products they developed with other public health organizations.** The workgroups produced four documents, available on the institute website, that provide insight into the

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<sup>7</sup> *Common Ground: Public Health Preparedness Toolkit*. Decatur, GA: Public Health Informatics Institute, 2011. Available [online](#).

<sup>8</sup> The 10 Essential Public Services, developed in 1994 by the U.S. Public Health Service and other major public health organizations, describes the public health services that should be undertaken in all communities.

<sup>9</sup> *Common Ground: Chronic Disease Management Toolkit*. Decatur, GA: Public Health Informatics Institute, 2011. Available [online](#).

CRDM methodology and are a starting place for organizations interested in thinking, rethinking, and describing their own internal processes.<sup>10,11,12,13</sup>

- The chronic disease and preparedness toolkits contain graphics (task flow and context diagrams, and business-process matrixes) for each of the business processes.
- The documents include a guide that chronic disease or preparedness programs can use to convert the requirements into a request for proposal for a new information system.
- The preparedness team published a comprehensive description of the *Common Ground Preparedness Framework* in a 2012 article in the *American Journal of Public Health*.<sup>14</sup>

The authors note that by using easily recognized terms, the framework helps public health workers recognize how their daily work fits within emergency preparedness and explains public health's role to emergency response and other external partners.

## THE EVALUATION AND ITS FINDINGS

In June 2007, RWJF funded a four-year evaluation of *Common Ground* by NORC at the University of Chicago, which conducts social science research to support informed decision making. The evaluation team included Prashila M. Dullabh, MD, NORC's program area director for Health Information Technology, Michael Meit, MA, MPH, program area director in NORC's Public Health Research Department, Alycia Infante Bayne, MPA, research scientist in NORC's Public Health Research Department, and Rachel Singer, PhD, research scientist in NORC's Health Care Research Department.

The goals were to explore the experiences of the grantees; identify the outcomes of the program; and assess the potential for *Common Ground* to be used as a vehicle to transform practices in the broader population of public health departments.

The evaluation asked the following questions:

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<sup>10</sup> *Common Ground: Chronic Disease Management Toolkit*. Decatur, GA: Public Health Informatics Institute, 2011. Available [online](#).

<sup>11</sup> *Common Ground: Public Health Preparedness Toolkit*. Decatur, GA: Public Health Informatics Institute, 2011. Available [online](#).

<sup>12</sup> *Requirements for Public Health Chronic Disease Information Systems*. Decatur, GA: Public Health Informatics Institute, 2011. Available [online](#).

<sup>13</sup> *Requirements for Public Health Preparedness Information Systems*. Decatur, GA: Public Health Informatics Institute, 2011. Available [online](#).

<sup>14</sup> Gibson PJ, Theodore F, and Jellison JB. "The Common Ground Preparedness Framework: A Comprehensive Description of Public Health Emergency Preparedness." *American Journal of Public Health*, 102(4): 633–42, 2012. Available [online](#).

- What are the characteristics and experiences of the grantee health departments, including the extent to which they met the goals of *Common Ground*?
- What outcomes resulted from grantee organizations' participation in the program?
- What are the implications for dissemination and uptake of *Common Ground* methods by other health departments?

To answer these questions, the evaluation team gathered data through:

- A descriptive background data analysis of grantees, including assessing how representative they are of the general population of state and local health departments. (NACCHO and the Association of State and Territorial Health Officials helped to conduct this part of the evaluation.)
- Telephone interviews with all grantees
- Pre- and post-initiative surveys of all grantees
- Site visits to eight grantee organizations
- Discussion groups and key informant interviews with non-grantee state and local health departments focused on how lessons from *Common Ground* may apply.

NORC also conducted a separate evaluation of the Informatics Capacity grants. One aspect of the evaluation focused on whether principles of business-process analysis and redesign can be effectively disseminated and implemented in a 15-month time frame for \$30,000 or less. Findings from that interim report were incorporated into the final evaluation report.

## **Nine Themes of the *Common Ground* Evaluation**

In their final report, the NORC evaluators consolidated their findings into nine central themes:

1. **The majority of the public health departments reported that *Common Ground* helped them to develop knowledge and skills in business-process analysis, business-process redesign, and requirements definition for information systems.** Among Informatics Capacity grantees responding to the survey, 73 percent agreed or strongly agreed that *Common Ground* had increased their understanding of business-process principles. Among Requirements Development respondents, between 85 percent and 93 percent agreed or strongly agreed that *Common Ground* had been helpful. *Common Ground* health departments went on to apply these concepts to their home projects, as the examples that follow illustrate.
  - James Daniel, MS, Chief Information Officer for the *Massachusetts Department of Public Health*, helped institutionalize CDRM in the state health department.

“The biggest benefit of *Common Ground* was giving staff in all the bureaus within the department the tools to understand what their information requirements were. That way, the expensive problem of technical solutions that don’t work—of having people say ‘this wasn’t what I meant’ after you spent two million dollars on an information system—can be avoided,” said Daniel.

Now, before technology teams design a new information system for a health department program, a business analyst is assigned to work with program staff and help them define their needs. “*Common Ground* is a great translation between business requirements and technical requirements.” See Grantee Story of the [Children’s Hospital Corporation project](#) in Massachusetts.

- Lloyd Lee Smith, administrator of the *Spokane Regional Health District* (Washington), initially saw *Common Ground* as an opportunity to improve the emergency alerting communications system in his district and surrounding counties.

By applying the collaborative *Common Ground* methodology, Smith and his state and local partners found that they could do even more. Realizing that the same business processes and problems occurred across agencies and counties, they were able to make recommendations for improving the emergency alerting system for the state as a whole. See Grantee Story of the [Spokane project](#).

- The *Maine Department of Health and Human Services* integrated *Common Ground* methodologies into its Bend the Curve initiative in the Office of Lean Management. Bend the Curve quality improvement procedures are used broadly throughout state government to map and redesign business processes.

2. **Almost all grantees reported process improvement in multiple areas within their health departments.** Health departments developed new or enhanced capacity to examine public health business processes, identify inefficiencies, streamline service delivery, help build organizational memory, and minimize duplicative efforts.

The following examples illustrate how grantee organizations applied the *Common Ground* tools to process improvements:

- *Louisiana Public Health Institute* used *Common Ground* tools to help achieve the goals of a \$100 million dollar federal grant to expand access to primary care services in the four-parish Greater New Orleans area.
- In the *Genesee County Health Department (Michigan)*, staff in the sexually transmitted diseases program identified areas where improvements in methods and processes could help reduce rates of disease and began program redesign.
- *Monroe County Health Department (Michigan)* trained 12 public health managers and key clerical staff in *Common Ground* methodology as tools for continuous quality improvement. In a later workshop, staff discussed how the tools had been integrated into the culture of the agency.

3. **Seven of 12 Requirements Development grantees reported that they will use the requirements developed through *Common Ground* to develop or purchase a new information system.** Three had actually purchased or initiated the process of purchasing that system. For example:

- The *Massachusetts Department of Public Health* and its partners—Boston Children’s Hospital and the Cambridge Health Alliance—redesigned the Massachusetts Homeland and Health Alert Network, established in 2003 to support online communication and collaborative response to emergency situations.

Before *Common Ground*, said Jim Daniel, there was a “technical solution in place but no understanding of the processes needed to make that solution work.

“The alerting function is more flexible now,” he added. “We used to guess who we would give alerts to during emergencies. Now, we have groups from public health and safety set up to receive different types of notification. Most important, the system is available for everyday use. Users keep it on during normal business and have a shortcut to the website on their desk tops.” See Grantee Story of the [Children’s Hospital Corporation project](#) in Massachusetts.

- When the *North Carolina Department of Public Health* released a new health information system, staff of the Cabarrus Health Alliance helped to prepare six local health departments and consultants to use it effectively. The Cabarrus Health Alliance is the Public Health Authority of Cabarrus County in south-central North Carolina.

The alliance trained more than 100 public health leaders in business-process analysis and the benefits of collaborative planning. The goal was to prepare them to electronically communicate with health information exchanges, community health care partners, and consumers. According to the national program office, the systematic process is expected to produce a more efficient health information system at a lower cost.

This work was rolled into another project defining requirements for electronic health record systems, so that public health departments could communicate with the state health information exchange.

In all, subject matter experts collaboratively analyzed and redesigned 46 business processes and developed 680 requirements and over 4,000 data fields for the following departments: Billing, Child Health, Child Services Coordination, Communicable Disease, Family Planning, Intensive Home Visiting, Lab, Maternal Care Coordination, Maternal Health, and Registration/Checkout.

4. **Grantees that participated in the national collaboratives were able to reach consensus on common processes.** Twelve of 14 agencies responding to the post-initiative survey agreed or strongly agreed that the national collaborative was

effective in developing common information system requirements. The 10 agencies focused on chronic disease struggled more than their preparedness counterparts to achieve consensus.

- The Preparedness **Workgroup**, consisting of two representatives from each project, met to identify commonalities in their health departments' response to emergencies. Participants considered their own public health experience along with several frameworks, including FEMA's Incident Command System.

"The first step was recognizing the need for a common framework to hang the business processes on," said workgroup member Joseph Gibson, MPH, PhD. Gibson is director of epidemiology for the Health and Hospital Corporation of Marian County, which operates the Marion County Health Department (Indiana).

"There was a lot of debate about whether these frameworks were appropriate for public health," he said. "Some people were concerned about having to adhere to what they regarded as a rigid structure, but I see it as flexible and adaptable. Besides, the Incident Command System is the law of the land. If public health is going to play a role in emergency response we have to play within that framework. The challenge is to adapt the framework and use it day to day."

After what Gibson called "many frustrating months of discussion, trying to agree on how granular to scope the business processes," the collaborative members ultimately agreed upon three phases of emergency response: pre-incident, incident, and post-incident. Within these, they identified and grouped business processes into six categories: prepare, monitor, investigate, intervene, manage, and recover. The final version of the *Common Ground Preparedness Framework* won approval at the collaborative's last in-person meeting.

Gibson and the other grantee-collaborators describe the framework and its development in the *American Journal of Public Health (AJPH)* article. Gibson noted for this report that very long and frustrating discussion "resulted in the very robust framework published in *AJPH*."

- Consensus was more elusive in the **Chronic Disease Workgroup**, according to the evaluation. Based on feedback from workgroup members, the evaluator attributed the difficulties to greater "variation in processes than for the preparedness grantees. Therefore, the grantees developed the chronic disease business processes and requirements at a higher level to account for variation across health departments."

'Gathering data,' one of the business processes identified by the chronic disease workgroup, exemplifies a "macro-level" business process. Its many component tasks each had to be graphically described in a task-flow diagram.

Establishing clear boundaries—understanding where a process started and where it ended—was critical in helping the group to maintain focus on the many components that lie within the boundaries.

**5. Some grantees reported that *Common Ground* was a catalyst for bringing people together.** *Common Ground* was a “cultural mandate” to work together, according to a grantee quoted by NORC, helping to break down silos within agencies. It also helped cultivate new relationships among local and state health departments, and external organizations, such as police, fire, and emergency management, and the public. The following examples illustrate how projects in Maine and California strengthened internal and external relationships:

- In 2007, in parallel with a statewide reorganization, the *California Department of Public Health* created a new website that served as a consumer-oriented chronic disease portal. This gave the *Common Ground* project team an opportunity to re-think how health information should be presented to the public.

The old website was organized by program areas often with no clear relation to each other, while the new one is organized around health topics and services. The site includes an expanding array of data resources that incorporate Geographic Information Systems (GIS), data query, and other interactive tools.

Consumer demand has increased dramatically with the website’s transformation into a centralized source of useful public health-related information. The new website averaged 220,000 monthly visits in 2008 and 720,000 in 2009, compared to 65,000 visits to the old website in 2007.

In addition to better serving the public, the project helped health department staff think about data in new ways, and, equally important, to think of themselves as part of a department, not simply a collection of unrelated public health programs.

- The *Maine Department of Health and Human Services* originally planned to develop a prototype dashboard for public health staff, a computerized module providing timely, accurate, and relevant data on public health preparedness. However, when the H1N1 influenza outbreak hit in 2009, the department decided instead to make the dashboard a single point of access for data on the outbreak.

The revamped project called for new partners with expertise in business-process analysis, epidemiology, surveillance, systems technology, and program management. These included the City of Portland Public Health Department; Maine Center for Public Health, a nonprofit public health institute that provided training; and AirDog Solutions, which provided expertise in public health preparedness.

**6. Many grantees disseminated the *Common Ground* methodology to other public health partners.** On the post-initiative survey, 11 Requirements Development grantees (of 14 survey respondents) reported that they trained external stakeholders,

such as other state and local health departments, as well as departmental staff, as part of their home projects.

The following are examples of how three grantee agencies disseminated the model:

- A big part of *New York’s preparedness project* involved transferring the expertise gained from national trainings to other state and local health department staff. Some 215 staff representing 54 local health departments across New York State participated in quality improvement trainings. Additional training sessions were held for 55 state and regional health department staff.

The growing enthusiasm for *Common Ground* didn’t surprise Geraldine Johnson, MS, director of the regional epidemiology and infection control programs for the state department of health. Before participating in *Common Ground*, she confessed, “I fell in love with what *Common Ground* was doing, demonstrating that public health can be defined as business. You need to do that to design a public health information system.” See Grantee Story of [Geraldine Johnson](#).

- In *Massachusetts*, *Common Ground* tools have become a standard starting point for all information technology projects, according to Jim Daniel, MPH.

The project team provided training and consultation that enabled health department staff to apply the *Common Ground* methodology elsewhere, including the Center for Birth Defects Research and Prevention, a registry system for Amyotrophic Lateral Sclerosis (ALS or Lou Gehrig’s disease), a cancer registry, and a Women’s Health Network.

“We got some of these groups to understand they didn’t have to have completely silo-ed information systems even though their work was different,” Daniel said. See Grantee Story of the [Children’s Hospital Corporation project](#) in Massachusetts.

- Matthew Stefanak, MPH, Commissioner of the *Mahoning County District Board of Health (Ohio)*, saw *Common Ground* as an opportunity to accomplish a specific task—updating the environmental health permitting process so county residents could more easily meet requirements for septic systems, wells, and plumbing.

Stefanak and his partners eventually found that the *Common Ground* tools enabled them to do a lot more. They used the methodology to respond faster to reports of communicable disease, better track public health violations, and eliminate lead paint exposure.

Business-process analysis was “our hammer—one of the most important tools in our toolbox,” said Stefanak. “It fit in nicely with our long tradition of quality improvement and had a tonic effect on quality improvement teams, who thought that the pace of quality improvement was too slow and costly for improvements gained. We were able to show that through business-process analysis we could

make measureable changes with a more modest investment of time.” See Grantee Story of [Matt Stefanak](#).

**7. Seven of the 16 Requirements Development grantees reported that they will use their skills and knowledge from *Common Ground* to prepare for voluntary public health department accreditation.**

- Since 2007, the *Kane County Health Department in Illinois* has institutionalized *Common Ground* tools and used them to make a significant culture change around quality improvement. “That has helped us in the last couple of years as we faced significant downsizing and reorganization. It has also enhanced our readiness to take on public health accreditation,” said Paul Kuehnert, RN, MS, executive director of the department.

Illinois was one of 16 states funded under RWJF’s Multi-State Learning Collaborative. Kane County was a member of the state’s accreditation task force and participated in statewide efforts organized by the Illinois Public Health Institute to prepare for accreditation and improve quality. See Grantee Story of [Paul Kuehnert](#).

- *Mahoning County in Ohio* was one of 30 health departments around the country selected to participate in the beta test of the public health accreditation program beginning in 2009. Mahoning County submitted its updated home building guide, which had been developed under *Common Ground*, to fulfill the requirements as a beta test site. The county went on to submit documentation to apply for full accreditation at the end of 2011.

“Now,” said Stefanak, “we’re at the head of the line and will be given expedited review by the Public Health Accreditation Board. We hope to be first in Ohio to receive accreditation.” See Grantee Story of [Matthew Stefanak](#).

**8. Many grantees leveraged other resources to continue their work or to implement new process-improvement activities.** Eighteen (58%) of the 31 *Common Ground* grantee agencies indicated they will seek government and foundation grants in the future. Thirteen (42%) reported that their agencies would continue to support their *Common Ground* work in the future.

- The *New York State Department of Health* has continued to use the business process-analysis methodology on selected informatics projects and will make quality improvement training available to local health departments.

*Common Ground* team member Geraldine Johnson became director of the Public Health Informatics and Project Management Office in 2010. “Now, when we look at informatics projects, we ensure that we have business analysts who focus on business rule-gathering and documentation, as well as testing methodologies,” she said.

“Building on *Common Ground*, we are looking at quality improvement more broadly, beyond emergency preparedness and public health, to other offices within the department of health.” See Grantee Story of [Geraldine Johnson](#).

- The *California Department of Public Health* is continuing to invest in the development of its public website, with the addition of public data sets, data reports, query systems, Global Information System displays, and other services to help the public make health care decisions.

The website also supports the department’s longer term goal of implementing Healthy California 2020, the state’s version of the national Healthy People 2020 agenda. Its capacity to display geocoded health data aligns well with Healthy People’s emphasis on analyzing the social determinants of health at a local level.

**9. Some grantee agencies reported that *Common Ground* may result in future process improvements.** Over the long-term, changes in organizational behavior, processes, and/or information systems flowing from the *Common Ground* experience could result in public health benefits. For example:

- *Wisconsin’s Common Ground* award, supplemented by funding from the federal Centers for Medicaid & Medicare Services, enabled the Division of Public Health to set up a two-way exchange of data on diabetes, asthma, and other chronic conditions with primary care clinics operated by the Department of Family Medicine at the University of Wisconsin.

A subsequent grant from the CDC will support its ongoing work. “We have a clear trajectory of where we want to go thanks to *Common Ground*,” said Lawrence Hanrahan, PhD, MS, director of Public Health Informatics and Chief Epidemiologist in the Wisconsin Division of Public Health. See Grantee Story of [Lawrence Hanrahan](#).

## Additional Evaluation Findings

Beyond the nine central themes, additional findings from the NORC final evaluation report include:

- **Local and state health departments funded by *Common Ground* differed from other health departments in several key areas.**

Local health departments participating in *Common Ground* were larger, better funded, and better staffed than the average health department. For example, nearly 90 percent of *Common Ground* recipients serve jurisdictions with medium to large populations (100,000 to 1,000,000+) while 60 percent of the nation’s health departments serve jurisdictions with populations under 50,000.

*Common Ground* grant recipients also had slightly greater information management capacity but the difference was small.

Among state health departments, *Common Ground* grantees were more likely than other grantees to report being part of a larger health and human services “super” or “umbrella” agency.

- ***Common Ground* state health departments were no more or less likely than all state health departments to report using quality improvement tools.**

Such capacity differences may make it challenging to replicate *Common Ground* in the broader population of health departments. Staff of Informatics Capacity grantee agencies noted that small and rural departments are likely to face the greatest challenges because they lack the expertise and resources of their larger counterparts.

- **Effective dissemination strategies can increase the likelihood of spreading *Common Ground* or other process-improvement methods and tools to other health departments.** Based on their interviews and other research, the evaluators highlighted these approaches:
  - ***In-person meetings or trainings.*** These were preferable to other less personal strategies, since they offer opportunity for strong support and guidance, which is particularly important at the beginning. However, they may not be realistic options because of the time and cost involved.
  - ***Webinars and conference calls.*** These are attractive alternatives to in-person meetings because they involve a personal component and opportunity to ask questions, but are not as resource intensive. They may be preferable for staff of small, rural health departments for whom traveling long distances is an impediment.
  - ***Online training.*** One recommendation was that *Common Ground* be turned into a simple online training with a user guide and train-the-trainer exercises. Such a course would help departments update new staff or serve as a refresher for others who had previously been trained.
  - ***Resource portal.*** Grantees reported that an online mechanism for sharing information and building or maintaining connections would be key to replicating the *Common Ground* methodology. One suggestion was to revive and expand ConnectionZone, an online extranet that grantee agencies used to share information during the project.
  - ***Case studies, toolkits, and other resources.*** Grantees and non-grantees recommended the development and dissemination of a number of resources about *Common Ground* and other process-improvement methods. Toolkits, case studies, and real-world examples of applications that worked well would be helpful to health departments learning CRDM for the first time.
  - ***Mentorship opportunities.*** Mentorships could be offered by high-performing health departments or regional or state public health institutes, especially for small or rural health departments.

- **Even a small amount of funding can stimulate process improvements in health departments.** Overall, Informatics Capacity grantee agencies reported that their modest grants (\$30,000 or significantly lower) were a catalyst for significant process-improvement activities in their departments. RWJF funds generally had to be supplemented with staff time and other department resources.
  - For example, *Kane County (Illinois)* received an award of \$29,649 that had a “huge impact,” according to Paul Kuehnert. “Starting out small with a very concrete project like Operation Heatwave [a systematic, coordinated plan for a county-wide response to heat emergencies] was a very good gateway to quality improvement for an organization that had not done process improvement before, let alone tried to implement management information systems. Getting leadership, staff, and stakeholders involved, we were able to move from Operation Heatwave to a shift in culture.” For more information see Grantee Story of [Paul Kuehnert](#).

## Conclusions

In their final evaluation report, the NORC team concluded that:

- **“The principles underlying the program are useful from a process-improvement perspective regardless of whether the methodology is implemented exactly as *Common Ground* was designed.”** Many grantees modified the *Common Ground* methodology, especially those that had prior experience with performance improvement, typically blending CRDM with other approaches.
- **“Future research is needed to explore the replicable characteristics of health departments that have participated in process-improvement activities to foster broader adoption of these strategies.”** Qualitative information suggests that *Common Ground* grantees are viewed as innovators, their health officers are leaders within the field of public health, and they have strong buy-in from community stakeholders and policy-makers.

Future researchers should explore whether these or other characteristics of *Common Ground* grantees can be “seeded” in other health departments. Funding initiatives could then be targeted toward leadership development and other strategies to nurture replicable characteristics and could help all health departments pursue process-improvement activities.

- **The common business processes and requirements developed through the national collaboratives may be useful to the broader population of health departments.** Grantee feedback suggested that processes and requirements related to preparedness may have greater potential to be replicated than those related to chronic disease.

“Public health preparedness may be more straightforward than chronic disease,” said Wisconsin’s Hanrahan. “Disaster management programs have existed for a long time

and have been actively bringing public health to the table. Their science is more mature and standardized by police, fire, protective services.”

National frameworks for emergency response, such as the Incident Command System, gave the preparedness grantee agencies the advantage of working with a consistent set of preparedness activities as they defined common business processes. Preparedness activity funding streams tend to be newer and less entrenched, and are funded by fewer sources/streams.

In contrast, chronic disease activities vary widely both within and across agencies and are funded by more sources. Further, the 10 Essential Public Health Services framework used by the chronic disease grantees was not developed specifically to address those issues.

## Implications for the Future

Given its focus on process improvement and organizational change, the *Common Ground* program may have broader implications for emerging issues and initiatives that affect public health practice. The final NORC evaluation report noted:

- ***Common Ground* may help health departments develop requirements for information systems and prepare to accept data from providers under the Meaningful Use Incentive Program.**

The Centers for Medicare & Medicaid Services established the Meaningful Use Incentive Program to pay medical providers who use electronic health record systems to generate data that can be used by multiple stakeholders.

Under meaningful use, providers must report information on immunizations, laboratory results, and syndromic surveillance to public health departments. *Common Ground* may provide tools to help health departments adopt or upgrade their health information systems to accept electronic reporting from providers.

- ***Common Ground* offers potentially useful tools for health departments that participate in public health and prevention activities.** Eleven *Common Ground* grantee agencies have been chosen to participate in the CDC’s National Public Health Improvement Initiative, a five-year, \$42.5 million program to increase the performance management capacity of public health departments.<sup>15</sup> *Common Ground* tools may help these agencies as they assess and enhance their performance management capabilities under this initiative.

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<sup>15</sup> The agencies are: Alaska Department of Public Health, California Department of Public Health, Maine Department of Health and Human Services, Children’s Hospital Corporation (on behalf of the Massachusetts Department of Public Health), Minnesota Department of Health, Missouri Department of Health and Senior Services, Montana Department of Public Health and Human Services, Health Research Incorporated (affiliated with the New York State Department of Health), Rhode Island Department of Health, South Carolina Department of Health and Environmental Control, and Wisconsin Department of Health Services.

## COMMUNICATIONS RESULTS

During the life of the program, the national program office maintained a website to disseminate information about *Common Ground*, including products produced by grantee agencies. The website featured an online extranet called ConnectionZone, which allowed grantees to network with one another as well as communicate with national program office staff.

After the program ended, the website was closed, but communication products from *Common Ground* are posted on the institute's [website](#).<sup>16</sup> These include requirements documents and toolkits developed by both national collaborative workgroups. A brochure and animated walk-throughs of the *Common Ground* framework also are available.

See the [Bibliography](#) for further details.

## SIGNIFICANCE OF COMMON GROUND

According to National Program Director Ross, *Common Ground* gave grantee agencies a “complete understanding of how to specify the need for a new information system and how to work collaboratively to develop a common architecture for that system. It wasn’t feasible to expect that grantees would develop or purchase a new information system in a three-year timeframe. In *Common Ground*, we were looking to the future.”

The *Common Ground* collaborative approach helped break down information “silos” that typically isolate bureaus and programs within state and local health departments, the result of categorical funding mechanisms, health department structures, and historical operational processes. As one grantee put it in an interview with NORC, “Before *Common Ground*, one hand didn’t know what the other hand was doing.”

Ross agreed. “The idea that agencies could work together to define common processes was a surprise to many. Creating a collective mindset was transformative because that was an element that had been missing in public health. FedEx doesn’t think the logistics of shipping are different from one state to another, but public health actually thought that.”

*Common Ground* further refined the CRDM, noted Deputy Director Wild. “We added to the tools—horizontal swim lanes to the workflows and notes at the bottom of the task flows—so others can understand the context. Most of all, *Common Ground* has taught us how CRDM can be used for performance improvement and how we can better teach it to public health practitioners.”

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<sup>16</sup> The Public Health Informatics Institute website is at [www.phii.org](http://www.phii.org).

Although the methodology had been designed for process improvement related to information systems, the number of grantees who used it for other purposes was a surprise. “Seeing our grantee agencies apply the methodology for performance improvement that wasn’t tied to information system development was an ‘aha’ moment for us,” recalled Wild.

Many grantees had similar moments. Tracy Lockard, business process director for Cabarrus Health Alliance in North Carolina, observed that “the importance of business-process-improvement projects goes far beyond preparing for new large-scale information systems. Collaborating on this type of analysis and documenting results allows health departments to gain a better understanding of their own business processes and of how other health departments approach these processes.”<sup>17</sup>

The broad application of CRDM for quality improvement was a “benefit we weren’t anticipating,” said RWJF Senior Program Officer Pamela G. Russo, MD, MPH. “The application of business-process mapping to process improvement was a huge step toward quality improvement in public health.”

Former RWJF Senior Program Officer Bazzarre agrees. “Over time, it became clear that the *Common Ground* approach was an alternative way of doing quality improvement in public health, focusing specifically on how the work gets done and the business processes that contribute to it.”

## LESSONS LEARNED

Grantee agencies, national program office staff, and the NORC evaluation team reported the following challenges and lessons learned from implementing *Common Ground*.

### Challenges

#### ***Methodology and Training***

Some grantee agencies found CRDM and its tools (e.g., context diagrams, business-process matrices, task flows) more complicated than other process-improvement methodologies. For example, several found the context diagrams time-consuming to develop and not useful enough to justify the commitment. Many grantees had used the Plan-Do-Check-Act, Six Sigma, and Lean methods previously and found them quicker to implement than CRDM.

Determining what level of detail was optimal for conducting business-process analysis was another challenge. Drilling down to a granular level often meant assessing sub-

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<sup>17</sup> Lockard T. “Business Process Improvement: Working Smarter, Not Harder.” In *Managing the Public Health Enterprise*, Baker EL et al. (eds). Sudbury, MA: Jones and Bartlett Publishers, 2010.

processes, making the analysis more complicated. On the other hand, selecting large overarching processes also becomes unmanageable.

The format and length of CRDM training—a three-step process conducted over three years—was a barrier for a number of Requirements Development grantee agencies, especially in implementing their home projects. Several grantees complained of insufficient time to pursue their redesign activities and would have preferred that the redesign phase of training had begun earlier.

Others noted that the long waiting period between training sessions dampened the enthusiasm of stakeholders, many of whom were eager to begin the redesign and requirements definition phases immediately after the analysis phase.

The long hiatus between phases of the training also caused problems in retaining the material. One grantee commented to the evaluation team, “The BPA methodology we learned is so detailed that we'd forget it between uses. We'd have to spend a frustrating amount of time refreshing ourselves on the terminology and steps before we could get down to what we were really interested in doing, i.e., fixing the problem.”

### ***Changing the Public Health Mindset***

The culture of public health was linked to some staff resistance to the model. Public health professionals typically do not like to think of their agency or department as a “business” and they tend to be uncomfortable viewing their work through a private industry lens. Communicating the “language” of *Common Ground* was challenging for the institute and for grantee agencies as they translated what they learned to other staff.

### ***External Factors***

Grantee agencies encountered multiple external factors, largely outside their control, that affected their ability to devote time and resources to *Common Ground*.

- **Economic downturn.** The global economic crisis in 2008 had a severe impact on *Common Ground* agencies, leaving them with fewer staff as a result of contract freezes, layoffs, and work furloughs. When they were struggling to maintain the day-to-day operation of their own programs, it was difficult to maintain the broader focus necessary to rethink business processes.
- **Public health crises.** The onset of the H1N1 pandemic in 2009<sup>18</sup> meant that resources and staff that had been devoted to *Common Ground* were redirected. The outbreak was especially problematic for preparedness grantee agencies, who found it harder to link with key external partners, such as offices of emergency management. Other

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<sup>18</sup> It was referred to as a pandemic even though “scientists keeping track of the numbers say that as pandemics go, 2009 H1N1 may turn out to be a mild one,” according to a December 9, 2009, article in *Time Health*. Read more [online](#).

public health crises, such as a large tuberculosis outbreak in Genesee County (Michigan), also caused delays for some grantees.

- **Federal initiatives.** The passage of the federal stimulus bill in 2009 also diverted resources and attention from *Common Ground*. As state and local health departments received federal funding for health information exchanges and other health information technology initiatives, they often shifted staffing resources away from *Common Ground*. On the positive side, *Common Ground* had prepared grantee agencies to participate successfully in these federal initiatives.
- **Partner engagement.** Key stakeholders in *Common Ground* were the CDC, the federal Health Resources and Services Administration, and other federal agencies that support the development of public health information systems, as well as member associations such as the National Association of County and City Health Officials (NACCHO), the Association of State and Territorial Health Officials (ASTHO), the Association of Chronic Disease Directors, and the Public Health Data Standards Consortium. In addition to participating in workgroup meetings and selected conferences during the project period, these organizations were expected, at the completion of the program, to widely endorse the business processes and information systems requirements for public health preparedness and chronic disease as a standard to be shared with all information systems vendors.

However, it was challenging to find a role that was productive and useful enough to the organizations to keep their interest over the entire three years, according to national program office staff.

## Lessons Learned

1. **Focus on real problems.** People have a greater incentive to learn process-improvement methodologies—even complex ones like CRDM—when they can be used to solve real-world problems. Informatics Capacity grantee agencies that honed in on urgent problems—like the need for a new permitting system in Mahoning County (Ohio)—made the greatest progress. (National Program Director/Ross)
2. **Tailor training methods to suit the situation.** Local health departments often cannot spare staff for lengthy training sessions so shorter trainings tend to work better. For example, after finding that full-day training workshops were not well-attended, a grantee agency developed a “business-process analysis in 10 minutes” video. (NORC Evaluation Team)
3. **Shorten CRDM training.** To maintain enthusiasm and improve retention, a number of grantees compressed the three-year training cycle when conducting trainings for their home projects. For example, New York conducted all three sessions within one year. Louisiana used the *Taking Care of Business* manual to train its local partners in all phases of the methodology in less than three years. (Grantees/ New York, Louisiana)

4. **Find the right facilitator.** Many grantees found it helpful to have an external consultant teach departmental staff. The most effective consultants had prior experience both in facilitation and in process analysis and redesign. (NORC Evaluation Team)
5. **Be clear on training needs and goals.** Some home projects were focused on training staff of other health departments while others focused on applying CRDM to programs within their own agencies. “If we understood from the beginning that there would be these two different needs, we might have approached training differently, using a train-the-trainer approach for example.” (National Program Director/Ross)
6. **Encourage independence but provide technical assistance when grantee organizations hit a roadblock.** Initially, the institute did not assist members of the collaborative workgroups in the work of defining common business processes. When staff saw that the groups were struggling to reach consensus and starting to fall behind, the institute staff took over and guided them through the process. (National Program Director/Ross)
7. **Bring everyone affected by business processes to the table.** Although stakeholders from all levels of a department should be included, frontline staff are most critical for accurately identifying business processes and associated tasks. (NORC Evaluation Team)
8. **When analyzing and redesigning business processes, choose a defined, concrete goal.** To avoid the confusion about where to focus, the evaluator recommended starting with a realistic understanding of project scope and necessary resources. The evaluator cited an agency that initially looked at billing but narrowed its focus to claims-related billing when staff realized, after the initial training, that the scope was too large. (NORC Evaluation Team)
9. **Make sure you have the support of top leadership, including those with veto power.** National Program Director Ross referred to “vetoes and see-mores” as key members of a quality improvement team. “Vetoes can make decisions yes or no. See-mores are mid-level staff that see more information but are not empowered to make decisions. Having the right mix—the boss who has to agree, and people who have to implement—that’s the ideal formula.” (National Program Director/Ross)
10. **Look for technical staff members who are also trusted by leadership.** Information technology staff are key team members, but many do not have close ties to leadership. The ideal participants were “people who were technical but also very trusted and able to influence high level decision makers.” (National Program Director/Ross)
11. **Partner with external stakeholders.** Leaders from other health departments, other local or state agencies, and community-based organizations played important roles in *Common Ground* projects. For example, elected officials or board of health members often were required to authorize the project, and agencies dealing with emergency

response processes involved county officials, the coroner, and emergency response coordinators in their meetings. (Program Officer/Bazzarre; NORC Evaluation Team)

- 12. Adapt to the needs of key partners, especially federal agencies, to maintain their involvement during the project period.** Federal agencies, like the CDC, have multiple commitments and time pressures. When the CDC’s participation flagged, the national program office took steps to strengthen the relationship through face-to-face meetings, sharing business-process redesigns and invitations to participate in training sessions hosted at CDC offices. (National Program Director/Ross)
- 13. Keep the door open for future connections with reluctant partners.** Although the CDC did not play as active a role in *Common Ground* as originally anticipated, Ross predicted that the program would have an impact on the agency over time. He recalled RWJF’s “change-making catalytic investment in *All Kids Count* which moved forward the idea of population-based immunization registries. The CDC eventually gave out millions in support for that area after RWJF launched the program.” (National Program Director/Ross)

## AFTERWARD

National Program Office Director Ross and Deputy Director Wild highlighted key areas where the work of *Common Ground* is continuing—and spreading.

### Preparation for Meaningful Use Data Exchange

The institute is using remaining RWJF funding<sup>19</sup> for a follow-up project (June 2011 through December 2012) to help public health agencies prepare for the “tsunami” of information that is likely to flow to them as providers begin to comply with the meaningful use requirements for disease reporting. By some expert estimates, disease reports to public health entities may triple.<sup>20</sup>

In preparation, the institute has convened a national collaborative workgroup, consisting of representatives of the CDC, NACCHO, and other key partners. The workgroup will define requirements and specifications to link laboratory and electronic records between the public health and private health care systems, focusing specifically on reportable diseases, such as HIV/AIDS and tuberculosis. Using CRDM, the new workgroup will build on the efforts of the *Common Ground* Preparedness Workgroup.

In the second phase of the project, the institute will convene an expert panel to make recommendations about which chronic diseases and related clinical quality measures must be included in certified electronic health records systems in later phases of the data exchange.

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<sup>19</sup> Grant ID# 68885

<sup>20</sup> *Common Ground II: Harnessing the e-Health Data Tsunami*. Proposal to RWJF, 2010.

## Applied Public Health Informatics Curriculum

In July 2009 the Public Health Informatics Institute in Decatur, Ga., convened a workgroup of academic informatics experts, most of whom had been faculty in universities participating in RWJF's *Informatics Fellows Training Program*,<sup>21</sup> along with nationally recognized public health informatics practitioners from state and local public health agencies, to develop a competency-based curriculum aimed at the needs of public health agencies.

The group produced the Applied Public Health Informatics Curriculum or APHIC. Using the CDC's Informatics Competencies as its foundation, the expert workgroup created a curriculum framework that aligned nationally recognized public health informatics competencies needed in local and state health departments with course titles, descriptions, learning objectives, and recommended portfolio projects.<sup>22-23</sup>

APHIC's 10 modules detail the specific kinds of competencies and degree of competence that graduate or post-graduate training would need to instill in trainees to make them effective contributors to and leaders of informatics within public health agencies. The curriculum is intended for schools of public health, universities, community colleges, and other educational bodies to use as part of a degree or certificate program.

APHIC was published in summer 2010 and has since been presented at the American Medical Informatics Association annual meeting as well as at the annual meetings of the Association of State and Territorial Health Officials (ASTHO), the National Association of County and City Health Officials (NACCHO) and the Council of State and Territorial Epidemiologists (CSTE).

## Public Health Informatics Academy

The *Common Ground* training program was key to the institute's establishment of the Public Health Informatics Academy, whose mission is to improve informatics capacity among the public health workforce. "*Common Ground* helped us understand how to teach CRDM. It also helped us understand public health practitioners' informatics needs—as well as what they need to know to make important informatics decisions. Based on feedback from *Common Ground* grantees, we have developed public health case studies and examples for the Academy," said Deputy Director Wild.

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<sup>21</sup> See the [Program Results](#) for more information on this program.

<sup>22</sup> *Preface to Applied Public Health Informatics Curriculum*. Decatur, GA: Public Health Informatics Institute, February 2011. Available [online](#).

<sup>23</sup> *Applied Public Health Informatics Curriculum: All Modules*. Decatur, GA: Public Health Informatics Institute, February 2011. Available [online](#).

## Requirements Lab Project

*Common Ground* was the “launch pad” for the requirements lab project, a five-year effort, funded by the Bethesda, Md.-based de Beaumont Foundation, according to Program Director Ross. The project will focus on the priority areas of surveillance and epidemiology, community health improvement planning, and public communications.

Applying and expanding CRDM, the project will first define the major domains in public health in order to produce an information framework from which business-process definitions can be developed. The next step is to collaborate with key public health associations and agencies to identify and prioritize business-process information gaps in the target domains.

As in *Common Ground*, the third step will be to develop requirements specifications for the highest priority domains. The final step will be the transition of the work of the requirements lab to a format and “home” where it can be disseminated to public health agencies around the country.

## CRDM’s Global Impact

CRDM is being internationally endorsed, according to Ross, with the methodology used to build global public health information systems,

To advance that effort, the Institute has partnered with PATH, a nongovernmental organization established in 1977, to make appropriate technologies available to developing countries in an economically and socially sustainable manner. The Bill and Melinda Gates Foundation gave PATH a five-year grant to, in Ross’s words, “invent a better way to manage and deliver vaccinations in the developing world.”

Ross said, “As they got moving, they realized they didn’t have a useful way to figure out what the information system of the future needs to look like so they asked us to apply CRDM in a collaborative project funded by the Rockefeller Foundation and the World Health Organization.

Working with PATH in Kenya, Rwanda, Senegal, and Vietnam, the institute developed a common set of requirements for distributing, warehousing, and moving vaccinations.<sup>24</sup> “We told RWJF this was a completely unexpected outcome, that people in the developing world, people who know they have to make strides in rapid order, sought us out for help applying the methodology. The roots of this work are in *Common Ground*. RWJF should be pleased that we are using the CRDM methodology refined under *Common Ground* to improve the information system capabilities of entire countries.”

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<sup>24</sup> *Requirements for Logistics Management Information Systems*. Seattle: Program for Appropriate Technology in Health, September 2010. Available [online](#).

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**Prepared by: Jayme Hannay**

Reviewed by: Karyn Feiden and Molly McKaughan

Program Officers: Stephen Downs, Terry Bazzarre and Pamela Russo

Program Area: Public Health

Program ID: PSD

Program Director: David A Ross, ScD (404) 687-5634; dross@phii.org

Evaluator: Prashila Dullabh (202) 887-2360; dullabh-prashila@norc.org

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## APPENDIX 1

### *Common Ground National Advisory Committee*

**Henry Foster, MD (Chair)**

Retired Professor  
Meharry Medical College  
Nashville, Tenn.

**Members**

**Stephanie Bailey, MD, MSHSA**

Director  
Department of Health  
Nashville Health Department  
Nashville, Tenn.

**Virginia Caine, MD**

Director  
Marion County Health Department  
Indianapolis, Ind.

**Harold Cox, MSSW**

Associate Dean for Public Health Practice  
Associate Professor of Social and Behavioral  
Sciences  
Boston University School of Public Health  
Boston, Mass.

**Jac Davies, MS, MPH**

Director  
Northwest TeleHealth, Regional Outreach and  
health@work  
Inland Northwest Health Services  
Spokane, Wash.

**Daniel Friedman, PhD**

Population and Health Information Services  
Brookline, Mass.

**Joseph Henderson, MPA**

Acting Chief of Staff  
Centers for Disease Control and Prevention  
U.S. Department of Health and Human  
Services  
Atlanta, Ga.

**Garland Land, MPH**

Director  
Center for Health Information and  
Epidemiology  
Missouri Department of Health  
St. Louis, Mo.

**Donald Lindberg, MD**

Director  
National Library of Medicine  
National Institutes of Health  
Bethesda, Md.

**Bruce Miyahara, MHA**

Miyahara and Associates  
Seattle, Wash.

**Patricia Nolan, MD, MPH**

Director  
Rhode Island Department of Health  
Providence, R.I.

**Patrick O'Carroll, MD, MPH**

Regional Health Administrator  
Region X, Seattle  
U.S. Department of Health and Human  
Services  
Washington D.C.

**Kathleen Toomey, MD, MPH**

Director  
Division of Public Health  
Georgia Department of Human Resources  
Atlanta, Ga.

**Gregory Wilson, MD**

Richard M. Fairbanks Chair in Community  
Health  
Associate Chair for Community and Global  
Health  
Department of Public Health  
Indiana University, School of Medicine  
Indianapolis, Ind.

## APPENDIX 2

### Informatics Capacity Grantees

#### *Alaska*

##### **State of Alaska Department of Health and Social Services (Juneau, Alaska)**

DPH Business Process Assessment Project

ID# 059781 (December 2006–July 2008) \$10,407

##### **Project Director**

Patricia Nault, MPH

(907) 465-8617

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#### *Arizona*

##### **Maricopa County Department of Public Health (Phoenix, Ariz.)**

Maricopa County Public Health Process Redesign (Informatics Capacity)

ID# 059790 (December 2006–February 2008) \$6,482

##### **Project Director**

Carol J. McFadden

(602) 506-6858

[mcfaddenc@mail.maricopa.gov](mailto:mcfaddenc@mail.maricopa.gov)

#### *California*

##### **County of Santa Cruz (Santa Cruz, Calif.)**

Reassessing, Rethinking, and Redesigning Public Health in Santa Cruz County

ID# 059801 (December 2006–March 2008) \$29,996

##### **Project Director**

Poki S. Namkung, MD, MPH

(831) 454-4476

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##### **Sonoma County Department of Health Services (Santa Rosa, Calif.)**

Redesign of Billing and Accounts Receivable for Sonoma County Health Services

ID# 059786 (December 2006–August 2008) \$17,349

##### **Project Director**

Ruth M. Lincoln, PHN, MA

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## **Illinois**

### **Kane County Health Department (Aurora, Ill.)**

Building Capacity for Public Health Business Process Assessment and Redesign

ID# 059788 (December 2006–February 2008) \$29,649

#### **Project Director:**

Paul L. Kuehnert RN, MS<sup>25</sup>

(609) 627-6319

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## **Kentucky**

### **Louisville/Jefferson County Metro Government (Louisville, Ky.)**

Louisville Metro Health Department

ID# 059793 (December 2006–February 2008) \$29,533

#### **Project Director**

Sheila A. Anderson, JD, MA, BSN

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## **Michigan**

### **Genesee County Health Department (Flint, Mich.)**

S.T.D. with I.T.! (Stop Transmitting Disease with Information Technology!)

ID# 059787 (December 2006–February 2008) \$30,000

#### **Project Director**

Laura Susan Hudson, RN, MSN, MS

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### **Monroe County Health Department (Monroe, Mich.)**

Seamless Service: Integrating Maternal and Child Health Programs in Monroe County

ID# 059792 (December 2006–May 2008) \$29,993

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<sup>25</sup> Kuehnert became director of the Public Health Program Management Team at RWJF in 2012.

**Project Director**

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**Montana**

**State of Montana Department of Public Health and Human Services (Helena, Mont.)**

Information Systems Governance and Planning Process

ID# 059796 (December 2006–February 2008) \$9,644

**Project Director**

Camie Zufelt

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**New York**

**Madison County Health Department (Wampsville, N.Y.)**

Madison County Health Department

ID# 059782 (December 2006–February 2008) \$11,239

**Project Director**

Eric Faisst, MPH

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**North Carolina**

**University of North Carolina at Chapel Hill**

Developing Business Process Development Skills for Public Health in North Carolina

ID# 059799 (December 2006–February 2009) \$26,148

**Project Director**

John W. Graham, PhD

(919) 966-4032

[jwgraham@email.unc.edu](mailto:jwgraham@email.unc.edu)

## Ohio

### **Mahoning County District Board of Health (Youngstown, Ohio)**

Environmental Health Permitting: Can We Improve the Process?

ID# 059783 (December 2006–May 2008) \$19,872

#### **Project Director**

Matthew A. Stefanak, MPH

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## Oregon

### **Multnomah County Health Department (Portland, Ore.)**

Common Threads: Transforming Decentralized Public Health Data into an Integrated System for Communicable Disease Investigation and Control

ID# 059797 (December 2006–February 2008) \$26,727

#### **Project Director**

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## Texas

### **City of Austin Health and Human Services Department (Austin, Texas)**

*Common Ground* Preparedness Initiative

ID# 059784 (December 2006–March 2008) \$30,000

#### **Project Director**

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## Utah

### **Summit County Board of Health (Coalville, Utah)**

Business Process Analysis of the Work Interactions Between Food-Borne Illness, Disease Surveillance, Restaurant Inspections, and Case Management

ID# 059804 (December 2006–February 2008) \$30,000

#### **Project Director**

Carolyn Anne Rose, BSN

(435) 615-3910  
[carose@utah.gov](mailto:carose@utah.gov)

## **Requirements Development: Chronic Disease Management**

### **Arizona**

#### **Coconino County Health Department (Flagstaff, Ariz.)**

CCHD Moves Ahead

ID# 059780 (December 2006–April 2010) \$484,980

##### **Project Director**

Barbara Lynn Worgess, MPH  
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[bworgess@coconino.az.gov](mailto:bworgess@coconino.az.gov)

### **California**

#### **State of California, Health and Human Services Agency (Sacramento, Calif.)**

Building Bridges: Reducing Chronic Disease in California

ID# 059759 (December 2006–January 2010) \$416,953

##### **Project Director**

Kurt P. Snipes, PhD  
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### **Louisiana**

#### **Louisiana Public Health Institute (New Orleans, La.)**

Louisiana Health Information Exchange (LaHIE)—Public Health Information Systems Improvement Project

ID# 059776 (December 2006–November 2009) \$588,915

##### **Project Director**

Maria Ludwick, MPH  
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### **Minnesota**

#### **State of Minnesota Department of Health (Saint Paul, Minn.)**

Minnesota *Common Ground*

ID# 059777 (December 2006–February 2010) \$588,267

**Project Director**

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**Missouri**

**State of Missouri Department of Health and Senior Services (Jefferson City, Mo.)**

Mainstreaming Chronic Disease Surveillance

ID# 059779 (December 2006–March 2010) \$517,904

**Project Director**

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**North Carolina**

**Public Health Authority of Cabarrus County (Kannapolis, N.C.)**

Developing Electronic Community Connections for Public Health

ID# 059756 (December 2006–November 2009) \$598,756

**Project Director**

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**Rhode Island**

**State of Rhode Island Health Department (Providence, R.I.)**

Integrate Community Resource Information for Chronic Care Support

ID# 059767 (December 2006–November 2009) \$361,038

**Project Director**

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## **South Carolina**

### **State of South Carolina Department of Health and Environmental Control (Columbia, S.C.)**

South Carolina Chronic Disease Requirements Development Project

ID# 059764 (December 2006–November 2009) \$563,674

#### **Project Director**

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## **Washington**

### **Kitsap County Health District (Bremerton, Wash.)**

Kitsap County Health District: Our Business Is Your Business

ID# 059773 (December 2006–November 2009) \$590,599

#### **Project Director**

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## **Wisconsin**

### **State of Wisconsin Department of Health Services (Madison, Wis.)**

Wisconsin's *Common Ground*: Integrating Chronic Disease Information Systems

ID# 059761 (December 2006–November 2009) \$528,211

#### **Project Director**

Lawrence P. Hanrahan, PhD

(608) 267-7173

[hanralp@dhfs.state.wi.us](mailto:hanralp@dhfs.state.wi.us)

## **Requirements Development: Public Health Preparedness**

## **Indiana**

### **Health and Hospital Corporation of Marion County (Indianapolis, Ind.)**

MCHD: Local Public Health Business Process Analysis, Redesign, and Requirements Development

ID# 059734 (December 2006–November 2009) \$561,755

**Project Director**

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**Maine**

**State of Maine Department of Health and Human Services**

Grounded in Excellence

ID# 059729 (December 2006–November 2009) \$525,820

**Project Director**

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**Massachusetts**

**Children’s Hospital Corporation (Boston, Mass.)**

State and Local Health Collaboration: Managing Inventory, Tracking Patients, and Building Capacity Within Local and State Health Authorities

ID# 059736 (December 2006–December 2009) \$564,087

**Project Director**

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**New York**

**Health Research Incorporated (Menands, N.Y.)**

Adopting a Nationally Accepted Project Management Methodology to Improve Public Health Preparedness Informatics in New York State

ID# 059735 (December 2006–November 2009) \$570,668

**Project Director**

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[Dlm04@health.state.ny.us](mailto:Dlm04@health.state.ny.us)

## **Tennessee**

### **Metropolitan Government of Nashville and Davidson County (Nashville, Tenn.)**

Incident Command Informatics

ID# 059731 (December 2006–November 2009) \$578,200

#### **Project Director**

Sanmi Areola, PhD

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## **Washington**

### **Spokane Regional Health District (Spokane, Wash.)**

Alerting and Communicating Requirements for Public Health in Washington State

ID# 059732 (December 2006–May 2010) \$563,612

#### **Project Director**

Lloyd Lee (Torney) Smith, MS

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## **APPENDIX 3: TEN PREPAREDNESS BUSINESS PROCESSES**

These are the business processes identified by the Preparedness Workgroup as common to all public health agencies:

1. Conducting exercises to evaluate organizational capacity and readiness to respond to a public health emergency.
2. Conducting syndromic surveillance (the collection and analysis of population-based data to detect abnormal patterns and to assess the probability of an outbreak warranting a public health response).
3. Conducting notifiable disease surveillance. Notifiable diseases are those for which regular, frequent, and timely information is considered necessary to prevent or control disease.
4. Conducting active surveillance to identify public health threats.
5. Conducting public health investigation. A collaborative, multi-disciplinary team collects, analyzes, and interprets data in response to a potential public health threat.

6. Initiating alerts to ensure that communities have rapid and timely access to emergent health information.
7. Developing and reporting situational information, the objective of which is to generate sufficient, timely contextual information in order to effectively manage an incident.
8. Managing resources, such as staff, volunteers, supplies, and equipment, during an incident.
9. Developing and initiating risk communication to rapidly provide the public, healthcare providers, policy-makers, and the media with access to accurate, consistent, and comprehensive information about the outbreak or event, and the management of the situation.
10. Administering medical countermeasures, including deploying and tracking vaccines, drugs, therapies, and diagnostic tools for public health and medical emergencies.

#### **APPENDIX 4: ELEVEN CHRONIC DISEASE BUSINESS PROCESSES**

These are the business processes identified by the Chronic Disease Workgroup as common to all public health agencies:

1. Collecting clinical, demographic, socioeconomic, and other public health data and information
2. Managing data by creating an infrastructure to support incoming data and ensuring that the data are usable after they have been collected
3. Processing, analyzing, and interpreting data. Epidemiologists and biostatisticians usually coordinate and manage public health data, interacting with subject matter experts, other public health organizations, academic institutions, software vendors, information technology experts, and many others.
4. Conducting epidemiological research to study the distribution and determinants of health-related conditions or events in specified populations, and to apply the findings to the control of health problems
5. Performing community health assessments to identify community assets, strengths, needs, and health status (e.g., behaviors, risk factors and conditions, disease prevalence, and disease outcomes) as well as social and environmental determinants of health
6. Developing strategic plans, usually in collaboration with programs and organizations outside the chronic disease program

7. Identifying and deploying health guidelines and evidence-based protocols or standards for care and practice for chronic disease control and prevention
8. Delivering programs and services in coordination with community partners, such as private health service providers, hospitals, social and professional organizations, and local and county governments
9. Developing public health interventions to prevent and control disease
10. Linking individuals/populations to programs/services. These range from clinical care and case management to policy change and include services that are needed to access care, such as transportation, or to maintain health, such as resources for physical activity.
11. Developing and implementing program evaluations

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#### Reports

*Collaborative Requirements Development Methodology (CRDM) Animated Walk-Through*, a nine-minute introductory video of the Collaborative Requirements Development Methodology. Decatur, GA: Public Health Informatics Institute, March 2011. Available [online](#).

*Common Ground Preparedness Framework Animated Walk-Through*, a four-minute introductory video of the public health preparedness framework developed by the Preparedness Workgroup. The video illustrates how a typical health department could use the framework by simulating a response to an H1N1 outbreak. Decatur, GA: Public Health Informatics Institute, March 2011. Available [online](#).

*Finding Common Ground: Collaborative Requirements Development for Public Health Information Systems*. Decatur, GA: Public Health Informatics Institute, June 2010. Available [online](#). Click on PDF on bottom of the page.

*Requirements for Public Health Chronic Disease Information Systems*. Decatur, GA: Public Health Informatics Institute, 2011. Available [online](#).

*Requirements for Public Health Preparedness Information Systems*. Decatur, GA: Public Health Informatics Institute, 2011. Available [online](#).

#### Toolkits

*Common Ground: Public Health Preparedness Toolkit*. Decatur, Georgia: Public Health Informatics Institute, February 2011. Available [online](#).

*Common Ground: Chronic Disease Management Toolkit*. Decatur, Georgia: Public Health Informatics Institute, January 2011. Available [online](#).

#### Communication or Promotion

[www.phii.org/resources/funder/Robert-Wood-Johnson-Foundation](http://www.phii.org/resources/funder/Robert-Wood-Johnson-Foundation). This webpage on the PHII website provides access to all the communications products developed under the *Common Ground* program.

## Project Sites

### California

#### Reports

Smith B. *Building Bridges: Reducing Chronic Disease in California*. California Department of Public Health, September 2009. Available [online](#).

#### Communication or Promotion

[www.cdph.ca.gov](http://www.cdph.ca.gov). Website created and upgraded using *Common Ground* tools by the California Department of Public Health, which includes a portal for collecting chronic disease data. Sacramento, CA: California Department of Public Health.

[www.cdph.ca.gov/data/informatics/policy/Pages/CommonGround.aspx](http://www.cdph.ca.gov/data/informatics/policy/Pages/CommonGround.aspx). Webpage on the Department of Public Health website describing the *Common Ground* project. The webpage includes links to sample templates demonstrating how *Common Ground* tools are used to analyze essential chronic disease prevention and control business processes.

### New York

#### Toolkits

Quality Improvement Training for Local *Health Departments* (12-module course based on *Common Ground* trainings). New York State Department of Health Learning Management System ([www.nylearnsph.com](http://www.nylearnsph.com)). Available [online](#). (No charge but requires user name and password.)

### North Carolina

#### Books

Lockard T. “Business Process Improvement: Working Smarter, Not Harder.” In *Managing the Public Health Enterprise*, Baker EL et al. (eds). Sudbury, MA: Jones and Bartlett Publishers, 2010.

#### Communication or Promotion

[www.cabarrushealth.org/commonground](http://www.cabarrushealth.org/commonground). This website provides an overview of the North Carolina *Common Ground* project highlighting phases of work from the EMR/Practice Management Evaluation project and its results. Kannapolis, NC: Cabarrus Health Alliance.

### Ohio

#### Articles

Kovach S, Wesley V and Stefanak M. “Business Process Analysis and Redesign Methods: Improving Response to Telephone-Based Reports in a Local Health Department.” *Public Health Reports*, 125: 903–908, 2010. Available [online](#).

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*Building a Home in Mahoning County Townships, Villages, and Cities of Campbell and Canfield: A Guide to the Regulatory Permitting Process.* Youngstown, OH: Mahoning County District Board of Health, 2008. (No authors given.) Available [online](#).

## Tennessee

### Reports

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Areola S, Jellison J and Homer N. *The Nashville Common Ground Project: Defining Business Processes for Efficient Public Health Response to a Biological Emergency: Phase I Report.* Nashville, TN: Metro Public Health Department, Nashville/Davidson County, December 2008.

## Washington

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*Alerting Communications Requirements for Public Health and its Partners in Washington State: Project Charter, Business Processes and Functional Requirements, Work Plan Approach, System Design Specification, and Systems Evaluation Gap Analysis (Documentation of Process).* Spokane, WA: Spokane Regional Health District, 2010.

*Alerting Communications Requirements for Public Health and its Partners: Context Diagrams, Task Flow Charts, and Business Matrix (Accompaniment Document).* Spokane, WA: Spokane Regional Health District, 2010.

*Statewide Alerting Communications for Public Health in Washington State: System Design Specification. Revision 1.0.* Spokane, WA: Spokane Regional Health District, October, 2009.

## Wisconsin

### Reports

*Wisconsin Public Health Information Network (WI-PHIN) AVR: Analysis, Visualization, and Reporting Draft Strategic Plan.* Madison, WI: Wisconsin Division of Public Health, August 2009. Available [online](#).

## GRANTEE STORY LIST

### Project Directors

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Health and Hospital Corporation of Marion County (Indianapolis, Ind.)
- **Lawrence Hanrahan, PhD, MS**  
State of Wisconsin Department of Health Services (Madison, Wis.)
- **Geraldine S. Johnson, MS**  
Health Research Inc. (Menands, N.Y.)
- **Paul Kuehnert, RN, MS**  
Kane County Health Department (Aurora, Ill.)
- **Matthew Stefanak, MPH**  
Mahoning County Health Commissioner (Ohio)

### Site Stories

- **Children's Hospital Corporation** (Boston, Mass.)
- **Spokane Regional Health District** (Spokane, Wash.)