Quality Improvement Organizations and Health Information Exchange

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Quality Improvement Organizations and Health Information Exchange

Introduction

Capping a year of unprecedented policy activity in health information technology and health information exchange, the American Health Quality Foundation (AHQF) contracted with the eHealth Initiative Foundation to convene an advisory panel to explore and advise on the roles of Quality Improvement Organizations (QIOs) in health information exchange initiatives.

Given the symbiotic nature of health information exchange (HIE) and activities in health information technology (HIT) adoption currently being undertaken by QIOs, AHQF sought to identify how QIOs were already at work on HIE initiatives in their respective communities, and how these roles and relationships could develop to supplement, support and potentially help accelerate these initiatives across the country.

The goals of the project were to:

- Explore the role of HIE in furthering quality improvement in health care;
- Identify how the QIO agenda and tasks align with functions of HIE initiatives;
- Survey and interview QIOs about current and planned activities related to HIT and HIE in order to identify and describe the nature of those activities, both current and planned; and
- Examine how QIOs contribute to emerging state, regional and local initiatives focused on HIE, given QIOs' existing community-based relationships with hospitals, physician practices, nursing homes, home health agencies and other organizations.

Executive Summary

Improving health, quality and safety within America's health care system has long been a goal of many organizations and initiatives in the public and private sector. As the only federally coordinated infrastructure for improving care in every state and territory, Quality Improvement Organizations (QIOs) are key players in the national agenda to improve health care in America.

Good progress has been made in stimulating improvement and accountability within many sectors of health care. However, reports from RAND, the Institute of Medicine and other researchers indicate that serious gaps in health care quality and safety persist. Approximately 100 Americans die in hospitals across the country every day as a result of a medical error[1], while Americans seeking treatment from a physician have about a 50-50 chance of getting the right care recommended for their condition.[2]

One manifestation of our fragmented system of health care occurs in emergency rooms. Patients being treated during an emergency typically do not arrive with complete medical information such as allergies, chronic conditions or medication lists. Treating physicians always strive to provide the best care possible under these conditions, but room for error – in the form of unknown allergies or worse – is a constant. Providing the treating physician with immediate access to the patient's complete medical history makes errors less likely, and decreases the need for costly duplicative tests. These are only two of the many potential benefits of health information exchange (HIE).

Health information exchange (HIE) is defined as the mobilization of health information electronically across organizations within a region or community. HIE provides the capability to electronically move clinical information between disparate health care information systems while maintaining the meaning of the information being exchanged. The goal of HIE is to facilitate access to and retrieval of clinical data to provide safer, more timely, efficient, effective, equitable and patient-centered care.

Formal organizations are now emerging to provide both form and function for HIE efforts. These organizations (often called "Regional Health Information Organizations," or "RHIOs") are ordinarily geographically-defined entities that develop and manage a set of contractual conventions and terms, arrange for the means for electronic exchange of information, and develop and maintain HIE standards.

Although HIE initiatives differ in many ways, survey results and eHI's experiences with states, regions and communities across the U.S. indicate that those who are experiencing the most success with HIE share the following characteristics. They:

- Are governed by a diverse and broad set of stakeholders within the region or community;
- Develop and assure adherence to a common set of principles and standards for the technical and policy aspects of information sharing, addressing the needs of every stakeholder;
- Develop and implement a technical infrastructure based on national standards to facilitate interoperability;
- Develop and maintain a model for sustainability that aligns the costs with the benefits related to HIE; and
- Use metrics to measure performance from the perspective of: patient care, public health, provider value, and economic value.

Source: eHealth Initiative, August, 2005

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1 Berwick, Donald M. Errors Today and Errors Tomorrow. *N Engl J Med*, Vol. 348, No. 25; June 19, 2003, pp. 2570-2572.

2 McGlynn EA, Asch SM, Adams J, Keesey J, Hicks J, DeCristofaro A, Kerr EA. The Quality of Health Care Delivered to Adults in the United States, *New England Journal of Medicine*, Vol. 348, No. 26, June 26, 2003, pp. 2635-2645.

While QIOs are partnering daily with providers in all settings to improve care "on the ground," providers need better tools for improving -- and indeed transforming -- their care. Research and reports from a wide range of organizations have begun to recognize the value of HIT (such as electronic medical records) and the mobilization of data across care providers as valuable tools in addressing these pernicious quality and safety challenges.

This report briefly reviews the current state of HIE activity in the U.S., the role of the QIOs in helping physician practices transition to electronic systems, and the intersection between these two critical efforts. The report then explores what roles QIOs can and do play in HIE, the resources they offer, and how communities and QIOs can and should work together to achieve their common goals.

Through surveys and in-depth interviews, we explored the state of current HIE activity among QIOs around the country. We found that because of the interdependent relationship between HIT adoption and HIE, as well as the ability of both HIT and HIE to improve quality and safety, 42 of the 53 QIOs covering every state, territory and the District of Columbia report being substantively engaged in local HIE efforts, many in leadership roles.

> QIOs are independent, community-based organizations working to improve health care quality in every state and territory in the U.S. QIOs have three year, performance-based contracts with the Medicare program and work in every setting of care, including with pharmacies and health plans. The current Scope of Work includes assisting physician practices, hospitals and home health agencies with the adoption and effective use of HIT systems and tele-health.

We also found that, because of their structure, function, history and expertise, QIOs can help accelerate the formation of HIE networks. Communities embarking on the journey toward HIE should reach out to their QIO in partnership to share resources along their common path. QIOs and communities both stand to benefit from the realization of health information exchange because of its potential to improve quality and safety, and its likely future role in pay-for-performance.

We examined QIO roles in the context of the seven activities eHI identified in 2004 as common to the development and operation of a HIE infrastructure:

1. Engaging multiple and diverse stakeholders within the region or community for HIT and HIE.
2. Building consensus on regional or community health needs and developing the vision, goals and objectives, principles, policies and functions/services for HIE to address those needs.
3. Developing an organizational and governance structure to give form and function to the emerging HIE initiative.
4. Developing and implementing a sustainable business plan to support functions and services on behalf of the region or community.
5. Identifying and agreeing upon policies for information sharing that take into account HIPAA, state laws and regulations, and the needs of the region or the community and the stakeholders who operate within it--most importantly, patients.
6. Developing and implementing a technical infrastructure, based upon emerging national standards, to enable the mobilization of information across organizations and institutions.
7. Supporting clinical process change and clinician adoption of HIT.

QIOs are contributing to or leading many of the seven common activities. Of the 42 QIOs working with HIE initiatives, the most prevalent QIO activities include engaging stakeholders (42), building consensus on the goals and functions of local HIE (37), developing organization and governance structures for the HIE (22) and supporting clinical process and workflow change in physician practices (42).

Given the similar interests, goals and objectives of QIO and HIE initiatives, we expect QIOs to work even more closely with these initiatives in the future, expanding their roles over time.

The following are broad findings of the report:

QIOs are playing a significant and valuable role in HIE initiatives, and the number of QIOs involved and the level of their involvement continues to grow as HIE efforts rapidly emerge and develop.

Many functions required for successful HIE are currently being conducted by QIOs today in relation to quality improvement, patient safety and health information technology. As a result, QIOs in 41 states and the Virgin Islands have broadened their work in order to make important contributions to the development of HIE capability in their communities.

Through the surveys and interviews conducted, we identified significant contributions in every one of the seven activities common to community-based HIE formation and operation. The most common and most intensive QIO activities fall under the following categories:

- Engaging multiple and diverse stakeholders within the region or community for HIT and HIE.
- Building consensus on regional or community health needs and developing the vision, goals and objectives, principles, policies and functions/services for HIE to address those needs.
- Developing an organizational and governance structure to give form and function to the emerging HIE initiative.
- Supporting clinical process change and clinician adoption of HIT.

While QIO activity overall is most focused in these four areas, we identified several QIOs that are also playing a significant role in the remaining three areas:

- Developing and implementing a sustainable business plan to support functions and services on behalf of the region or community.
- Identifying and agreeing upon policies for information sharing that take into account HIPAA, state laws and regulations, and the needs of the region or the community and the stakeholders who operate within it--most importantly, patients.
- Developing and implementing a technical infrastructure, based upon emerging national standards, to enable the mobilization of information across organizations and institutions.

The goals and objectives of both QIOs and HIE initiatives—to improve the quality, safety and efficiency of health care—are highly aligned.

HIE is built upon provider adoption of HIT, such as an electronic medical record, that has the ability to communicate with providers across settings and institutions. Among other things, HIT adoption requires significant workflow and care process redesign to avoid simply automating current practices, which does not in itself guarantee the quality or efficiency

gains that lie at the heart of the national agenda to transform our system of care. QIOs are focused most intensively on providing assistance to physicians with HIT adoption so that these electronic systems help providers meet and exceed quality and safety goals. This assistance will be particularly important in helping providers succeed in future pay-for-performance initiatives.

The data mobilization capabilities of HIE can also be a key driver for quality, safety and efficiency, in part by utilizing more comprehensive and higher quality electronic data in support of incentive programs and pay-for-performance initiatives. Initiatives that seek to properly align reimbursement with quality goals hold great promise for not only increasing value for clinicians but improving patient care as well.

Those QIOs that are not currently playing a role in local HIE initiatives should become involved, and communities working toward fully operational HIE can benefit from including their local QIO early in the developmental process.

QIOs are natural partners in HIE evolution because of their long history of involvement in community-based quality improvement and patient safety--the chief goals of HIE. QIOs can contribute to HIE initiatives in several ways, including:

- Serving as a neutral partner to engage and/or convene stakeholders for HIE;
- Contribute resources and knowledge to identification of local health care challenges and community needs;
- Participate in or lead the effort to achieve consensus on goals, objectives and mission of the HIE effort based on community needs;
- Participate in governance of existing or emerging health information organizations;
- Serve on committees/working groups of existing or newly forming HIE or HIT efforts;
- Provide direct assistance to physicians on HIT adoption and care process redesign;
- Provide continuity in participation for multiple state and regional HIE initiatives;
- Ensure local and national quality projects/agendas support and leverage each other;
- Coordinate quality improvement efforts with the HIE entity, once it is operational.

Overall, QIOs and HIE initiatives and organizations can benefit from each other's capabilities and current work efforts to achieve their respective goals and objectives, especially in today's environment where HIE initiatives often struggle for resources. In this way, QIO involvement is helping accelerate the formation and operation of HIE. Specifically:

- HIE initiatives can leverage QIOs' existing partnerships and relationships, state-specific environmental scans and physician assistance activities to support development and use of HIE.

- QIOs can help HIE initiatives facilitate quality reporting and improvement activities required by the QIOs' contracts, as well as future federal quality or performance initiatives.

- Both QIOs and HIE initiatives can work collaboratively to support each other's specific education and awareness-building activities -- developing a common message and comprehensive strategy for quality improvement in the region.

- By working together, both QIOs and HIE initiatives can accelerate progress toward their respective goals and objectives, and also enhance activities that will improve the quality, safety and efficiency of efforts within their regions.

Background: Health Information Exchange and Health Care Quality

Currently, the U.S. health care system is highly fragmented and paper-based, with critical information about the patient stored in a variety of formats across facilities and settings, including hospitals, laboratories, pharmacies, physician offices, long term care facilities and administrative data systems within health plans. As a result, clinicians often do not have access to comprehensive information about the patient at the point of care.

For example, a family physician treating a patient with diabetes and heart failure may not have critical information about the tests, prescriptions and lab results from the patient's endocrinologist and cardiologist. This fragmented system where relevant patient medical information is isolated with individual providers and facilities puts patients at risk of medical errors and poor quality care every day.

Quality measurement and reporting, combined with improvement assistance, are well-known strategies for improving care. Yet many of the performance measures that are designed to promote both quality improvement and quality reporting rely upon clinical data that are stored in disparate organizations across the health care system.

> Health information exchange (HIE) is defined as the mobilization of health information electronically across organizations within a region or community. HIE provides the capability to electronically move clinical information between disparate health care information systems, while maintaining the meaning of the information being exchanged. The goal of HIE is to facilitate access to and retrieval of clinical data to provide safer, more timely, efficient, effective, equitable and patient-centered care.

To address this challenge, several national initiatives have emerged to support the implementation and use of both HIT and HIE, including initiatives at federal agencies such as the Agency for Healthcare Research and Quality, the Office of the National Coordinator for Health Information Technology, and the Centers for Medicare & Medicaid Services; as well as philanthropic initiatives such as the Markle Foundation's Connecting for Health initiative and public-private sector partnerships such as the Connecting Communities for Better Health Program conducted by the eHI Foundation in cooperation with the Health Resources and Services Administration. In addition, the Framework for Strategic Action issued by Department of Health and Human Services Secretary Tommy Thompson and National HIT Coordinator David J. Brailer, MD, PhD, in July 2004, called for the creation of "Regional Health Information Organizations" or "RHIOs" to support the electronic exchange of clinical data.

Today, more than 100 HIE efforts are at work across the nation, operating at the community, state and regional levels.[3] While most of these initiatives are in the formation and early planning stages, there are at least 20 efforts that have begun to exchange health care data for a range of activities—mostly clinical messaging to support care delivery.

These HIE initiatives can help to "fast-forward" efforts to improve quality, safety and efficiency by delivering more comprehensive information about the patient at the point of care. Availability of this critical information can support better care decisions in our highly fragmented system by addressing some of the root causes of quality problems, such as

3 eHealth Initiative, Connecting Communities for Better Health Survey, 2004.

transitions between hospitals and nursing homes, or the dispensing of contra-indicated prescriptions by two separate physicians treating the same patient for different conditions.

When it comes to quality measurement and reporting, HIE initiatives that follow key principles related to data stewardship, privacy and security can effectively and efficiently support these and other needs within the health care system, including patient portals or personal health records, public health surveillance activities, and clinical research.

Quality Improvement Organizations (QIOs) have long played a key role in quality improvement activities and continually strive to be on the cutting edge of new initiatives that hold promise for transforming the system and improving quality in all health care settings. Mobilizing electronic clinical data across providers and settings is certainly one such initiative.

Project Methodology:

The American Health Quality Foundation, in partnership with the eHI Foundation, convened a multi-stakeholder group of principal experts and QIO leadership to discuss and advise on the current and envisioned roles of QIOs within emerging HIE activities. AHQF and the eHI Foundation selected the members for the advisory panel to represent diverse stakeholders, constituencies and technical expertise from both the public and private sectors.

The advisory panel met via facilitated teleconferences in which participants shared ideas and discussed common opportunities and challenges from multiple perspectives. Advisory panel participants are noted in Appendix 2.

For the first teleconference, background briefing materials were prepared to provide panel participants with an overview of the QIO program and the definition of a Regional Health Information Organization (RHIO) put forth by the Office of the National Coordinator for Health Information Technology (ONCHIT). The panel used this information as a starting point to discuss the overall evolution of the QIO program, the nature of current QIO functions and activities related to HIT, and to arrive at an agreed upon definition of HIE in the context of this report.

Given our evolving understanding and field experience with HIE, as well as the variance in both approach and functionality found in existing initiatives, the advisory panel agreed to define HIE broadly as "the mobilization of health information electronically across organizations within a region or community."

Over subsequent teleconferences, AHQF and the eHI Foundation discussed with the advisory panel the range and extent of possible roles and collaborations between QIOs and HIE within their communities. From that dialogue, AHQF developed a survey for QIOs to identify and describe current and pending QIO activities regarding HIE.

The following chart identifies those QIOs who responded to the survey and/or those who participated in interviews or information collection activities as of the date of this report.

QIOs Active in HIE As of March 2006		
STATE	**QIO**	**CONTACT**
Arizona	Health Services Advisory Group www.hsag.com	Scott Endsley, MD, MSc
Arkansas	Arkansas Foundation for Medical Care www.afmc.org	Nancy Archer
California	Lumetra www.lumetra.com	Linda Sawyer
Colorado	Colorado Foundation for Medical Care www.cfmc.org	Jane Brock, MD, MSPH
Connecticut	Qualidigm www.qualidigm.org	Marcia K. Petrillo
Delaware	Quality Insights of Delaware www.qualityinsights.org	Les DelPizzo
Florida	Florida Medical Quality Assurance, Inc. www.fmqai.org	Ferdinand Richards, MD
Georgia	Georgia Medical Care Foundation www.gmcf.org	Will Battles

Idaho	Qualis Health www.qualishealth.org	Helen Stroebel
Illinois	Illinois Foundation for Quality Health Care www.ifqhc.org	Don Lovasz
Indiana	Health Care Excel www.hce.org	Karin Kennedy
Iowa	Iowa Foundation for Medical Care www.ifmc.org	Don Lovasz
Kansas	Kansas Foundation for Medical Care www.kfmc.org	Larry Pitman
Kentucky	Health Care Excel of Kentucky www.hce.org	Cindy Evinger
Louisiana	Louisiana Health Care Review www.lhcr.org	Tony Sun, MD, MBA
Maine	Northeast Health Care Quality Foundation www.medicarequality.org	Lawrence Ramunno, MD, MPH
Maryland	Delmarva Foundation for Medical Care www.dfmc.org	Michael Tooke, MD
Massachusetts	MassPRO www.masspro.org	Charles Parker
Michigan	Michigan Peer Review Organization www.mpro.org	Marie Beisel
Minnesota	Stratis Health www.stratishealth.org	Patsy Riley
Mississippi	Information & Quality Healthcare www.iqh.org	James McIlwain, MD
Montana	Mountain-Pacific Quality Health Foundation www.mpqhf.org	Janice C. Mackensen
Nebraska	CIMRO of Nebraska www.cimronebraska.org	Julie Smith
Nevada	HealthInsight www.healthinsight.org	Thomas Jackson
New Hampshire	Northeast Health Care Quality Foundation www.medicarequality.org	Lawrence Ramunno, MD, MPH
New Jersey	HealthCare Quality Strategies, Inc. www.hqsi.org	Martin Margolies
New Mexico	New Mexico Medical Review Association www.nmmra.org	Stuart Hidalgo
New York	IPRO www.ipro.org	Alan Silver, MD, MPH
Ohio	Ohio KePRO www.ohiokepro.com	Sandy Gallagher
Oregon	OMPRO www.ompro.org	David Shute, MD
Pennsylvania	Quality Insights of Pennsylvania www.qipa.org	Dan Jones
Rhode Island	Quality Partners of Rhode Island www.riqualitypartners.org	Marcia K. Petrillo
South Carolina	The Carolinas Center for Medical Excellence www.ccme.org	Anne Lockwood
Tennessee	QSource www.qsource.org	Dawn FitzGerald
Utah	HealthInsight www.healthinsight.org	Thomas Jackson
Vermont	Northeast Health Care Quality Foundation www.medicarequality.org	Lawrence Ramunno, MD, MPH

Virgin Islands	Virgin Islands Medical Institute www.vimipro.org	Jon Orr
Virginia	Virginia Health Quality Center www.vhqc.org	Patrick Toomey
Washington	Qualis Health www.qualishealth.org	Kathryn Bunt
West Virginia	West Virginia Medical Institute www.wvmi.org	John Wiesendanger
Wisconsin	MetaStar www.metastar.com	Bill French
Wyoming	Mountain-Pacific Quality Health Foundation www.mpqhf.org	Jan Bloom

A draft report was developed by AHQF and eHI based on the outcome of the surveys and interviews, with advisory panel input. The resulting draft was released for public comment from May – July 2005. The draft was updated to reflect the most recent QIO activities in HIE as of March 2006.

Medicare Quality Improvement Organizations: Overview and History

Overview of QIOs

QIOs are community-based organizations in every state and U.S. territory that have performance-based contracts with the Medicare program (CMS) to measurably improve health care quality. QIOs are the successors to the Peer Review Organizations (PROs) created in 1982 by Congress to monitor beneficiaries' quality of care and safeguard the financial integrity of Medicare.

Today, the primary goal of QIOs is to accelerate the diffusion of evidence-based medicine from the bookshelf to the bedside. As community resources, QIOs serve as a national infrastructure that helps doctors, hospitals, home health agencies and nursing homes utilize best practices to improve care.

QIOs employ skilled physicians and health professionals from a wide range of specialties who are knowledgeable about quality improvement techniques and best practices in medicine. QIOs also employ expert statisticians and epidemiologists, communications professionals, physician office redesign experts, pharmacists and other health care specialists who serve as a resource for local providers, practitioners, consumers and stakeholders.

QIOs rely on their valuable relationships with physicians, nurses, hospitals, health plans, home health agencies, nursing homes, medical societies and consumers to help make meaningful changes in how care is delivered. Partnership and proven strategies exchanged between people who know each other and share a community form the basis for QIOs to help improve performance in American health care.

Another factor making QIOs an attractive entity for partnerships on quality improvement projects is the strict confidentiality requirements conveyed upon QIOs under the Social Security Act (Sec. 1160. [42 U.S.C. 1320c-9]). These requirements give providers the ability to work with QIOs without fear that sensitive quality information could be used in legal proceedings because such information is not subject to discovery. In addition, QIOs have access to patient-identifiable Medicare Part A and Part B claims data, as well as Part D (prescription drug) claims data once it becomes available. QIOs can utilize this data to help providers become aware of their aggregate rates for specific clinical measures, as well as for helping beneficiaries who may benefit from disease management assistance.

History of the QIO Program

During much of their history, the QIOs' predecessors (PROs) primarily conducted utilization review work to make sure Medicare was only paying for medically necessary care. Early quality efforts were limited largely to retrospectively reviewing individual patients' care, a process known as case review, and addressing beneficiary appeals of early hospital discharges.

In 1992, in response to an Institute of Medicine (IOM) report that reinforced the notion that individual instances of poor quality are most often indicators of quality problems in the larger system of care, CMS (then known as the Health Care Financing Administration, or HCFA) announced its intention to redirect the Medicare work of the PROs to systems-based quality improvement initiatives, directly working with providers on a voluntary basis.

CMS launched the Health Care Quality Improvement Program (HCQIP) in the mid-1990s to promote the quality, effectiveness and efficiency of health care services provided to

Medicare beneficiaries and other populations. In 2002, CMS officially changed the "PRO" moniker to "QIO" to better reflect the quality improvement mission.

QIOs compete for three-year contracts from the Centers for Medicare & Medicaid Services (CMS). These contracts are known as scopes of work (SOW). Most recently, these three-year cycles have involved the following:

- **5th SOW (1996-1999)** -- QIOs in all 50 states, the District of Columbia, Puerto Rico and the Virgin Islands proposed and implemented small, local projects to help physicians and hospitals improve the quality of care for Medicare beneficiaries in a measurable way.

- **6th SOW (1999-2002)** -- CMS focused the collective power of the QIOs and the nation's hospitals and physicians on a national campaign using standardized quality indicators and local interventions to improve care for beneficiaries in six critical disease areas—heart attack, breast cancer, diabetes, heart failure, pneumonia and stroke. Taken together, these diseases pose the greatest risk to the lives and health of Medicare beneficiaries.

- **7th SOW (2002-2005)** -- CMS added home health agencies and nursing homes to the HCQIP program by asking QIOs to expand their work to the settings. Under a two-year special study for CMS, four QIOs began helping physicians adopt and use HIT to improve care. Led by the California QIO, Lumetra, the other participating QIOs were HealthInsight in Utah, the Arkansas Foundation for Medical Care and MassPRO in Massachusetts. The results from this study have helped inform the QIOs nationally as they assist physicians with HIT adoption and use across the country.

Medicare QIOs: Current Initiatives

The 8th Scope of Work

QIOs began the 8th SOW in August 2005 and will continue this work until 2008. There are several areas new to the scope of work, including improvement in prescription drug therapy, culture change, and health information technology.

In terms of HIT, QIOs will work intensively with at least five percent of primary care physician practices in each state--mostly small and medium sized practices. QIOs will be accountable for helping these physicians:

- Adopt HIT systems, including full electronic health records (EHRs), e-prescribing, e-labs, and registries;
- Implement care management and patient self-management processes; and
- Report the Doctor's Office Quality (DOQ) clinical measures from the practice's HIT system to measure and subsequently help improve quality with assistance from the QIO (DOQ measures include those for coronary artery disease, hypertension, congestive heart failure, diabetes, preventive care).

In addition, QIOs will work with a subset of hospitals to develop plans for implementation of bar coding or Computerized Physician Order Entry (CPOE) systems, and with home health agencies and hospitals to implement tele-health technologies.

The 8th SOW calls for partnerships and collaboration with a wide range of stakeholders to support both HIT adoption and HIE. In addition to the adoption activities outlined above, the 8th SOW recognizes the important role HIE can play both in increasing the value of HIT adoption for physicians, and in improved quality through the use of shared clinical quality data. The SOW encourages QIOs to be actively involved in and/or convene local multi-stakeholder organizations who seek to implement HIE.

Finally, recognizing the important role financial incentives can play in driving and supporting HIT adoption and quality improvement, the 8th SOW directs QIOs to work with Medicare Advantage health plans to support the creation of incentive or pay-for-performance programs in each state. HIE can play an important role in data capture and reporting for incentive programs, as electronic data offers several advantages over claims data.

QIOs and HIT in Physician Practices

QIOs will work intensively with at least five percent of adult primary care physician practices in every state to help them adopt HIT and use it effectively for care management and improved care quality. Approximately three quarters of this intensive group of physician practices will be those without HIT already, while the remaining practices can have existing HIT.

Practices with HIT already in place can work with the QIO to use all functions of the software fully and more effectively – a common challenge for physicians with EHRs today. QIOs will also help these practices with care process redesign and population management techniques, both of which help improve care. A significant number of these practices will also voluntarily report data to a QIO data warehouse. This data will be used by the QIO to provide the practice with a customized report on their quality care. As a result, some of these practices may also voluntarily engage in efforts to use data from their systems on specific disease areas, such as diabetes, in a quality improvement project.

Practices without existing HIT will focus on workflow redesign, deployment of the system and care management. It is anticipated that some of these practices will also measure and report on their quality of care. The focus of this assistance centers on the adoption and use of either full EHR systems or registry systems combined with e-prescribing.

QIOs will provide their expertise free of charge mainly to small and medium sized physician practices. Eighty percent of the practice sites they work with under the 8th SOW will have eight or fewer physicians.

Physician Assistance

Readiness assessments form the foundation of QIO assistance on HIT. These assessments will help the QIO and the practice examine a wide range of characteristics about practice operations, care and HIT preparations which ultimately impact the HIT implementation.

Readiness assessments explore topics such as culture and leadership in the practice, financial planning, systems hardware and infrastructure needs, functionality requirements, workflow issues, and more. From the readiness assessments, QIOs can develop specific recommendations regarding any necessary changes that, if made, will better prepare the practice for the best possible HIT implementation.

QIOs will help the practice identify core members of its implementation team, and once in place, will offer the team assistance throughout the adoption continuum in areas such as:

- Developing a project plan and timeline

- Hardware and infrastructure needs
- System comparisons and selection, including site visits and selector tools
- Functionality requirements and preferences
- Contracting principles and guidelines
- Workflow mapping
- Change management and preparation
- Strategies for handling existing data
- Planning for appropriate staff training
- Guidelines for system maintenance and availability
- Go-live planning
- Optimal use of the software
- Reporting quality data
- Quality improvement processes and tools

QIO assistance does not supplant vendor assistance; QIOs will not provide technical support for installation, programming, interface development, application training or troubleshooting software or hardware glitches. QIOs will remain vendor neutral, although they will inform practices about those vendors that either currently have or are planning for the ability to extract a specific performance measure set from the EHR or registry.

The performance measures that form the core of the quality focus are those that have the greatest impact on the Medicare beneficiary population, including heart disease, diabetes, hypertension, heart failure and preventive measures. These measures – known as the Doctor's Office Quality (DOQ) measures – were developed in concert with the American Medical Association, the National Quality Forum and others.

Ultimately, QIOs seek to help practices transform the quality of the care they provide, using HIT as a critical pathway toward better care. The primary strategy for measuring and improving quality of care will be using the practice's HIT to report data. For this reason, EHR adoption is the ultimate goal of this effort, although QIOs will also help practices evaluate other HIT solutions, including registries with e-prescribing capability.

Practices who report data will be able to receive from their QIO customized reports on the quality of their patient care. QIOs can then work collaboratively with practices to identify and implement strategies for making any necessary changes to workflow or care processes to improve on the performance measures.

Using HIT beyond patient care to report data, measure quality and undertake improvement efforts will give participating physicians a major leg up on what is likely to be the future of health care reimbursement – pay-for-performance.

CMS and several health plans and purchasers are currently investigating and testing several models for pay for performance, and every model includes reporting and measuring quality data. While HIT systems may not be necessary for early efforts that utilize claims data for quality measurement, experts agree that the future of pay for performance measures lies in data generated from in-office HIT systems. QIOs are now available to help – not only with adoption and effective use of HIT systems, but in truly transforming the quality of care clinicians provide.

FUNDING FOR THE QIO PROGRAM

The QIO program is funded through a unique mechanism that is designed to promote stability in quality improvement efforts over time. Unlike the annual appropriations process,

Congress has mandated that QIOs' three-year contracts be funded through "apportionment," a direct draw from the Medicare Trust Fund.

The QIO program represents the largest coordinated federal investment in health care quality for America's seniors and the disabled, yet is only a small fraction--one tenth of one percent--of total Medicare spending. For example, in the 7th Statement of Work, total annual direct payments to QIOs are about $260.8 million, or about $6.42 per beneficiary per year. In other words, Medicare paid the QIOs 54 cents per month for each beneficiary.

Total annual direct payments to QIOs in the 8th SOW are approximately $287 million, or a nine percent increase over the 7th SOW. However, this additional funding is intended primarily to support the new Beneficiary Improvement and Protection Act (BIPA) reviews required by law. The quality improvement-related work is funded at approximately ten percent less than in the 7th SOW, or a total of $178 million per year. Accordingly, Medicare now spends approximately $4.17 per beneficiary per year for quality improvement, or 35 cents per beneficiary per month. In total, the 8th SOW quality improvement funding represents 0.04% of all Medicare spending.

BEYOND MEDICARE

As private non-profit organizations, most QIOs have diversified their customer base beyond CMS. QIOs contract with state and local governments, universities, private purchasers, managed care organizations and other non-governmental institutions for a wide variety of activities.

The range of activities performed by QIOs reflects the unique marriage of skills embodied within these organizations. By combining in-depth clinical knowledge with statistical, communications and analytical expertise, many QIOs are able to offer a broad array of services outside of their Medicare contracts, such as:

- Quality improvement studies and consultation;
- Disease management services;
- Abstraction of medical records;
- Claims validation;
- Coding/DRG validation;
- Data management and analysis;
- Ensuring data validity and reliability;
- External case review or other independent reviews;
- Fraud and abuse investigations;
- Utilization management.

Some QIOs have also leveraged these unique skills even further by expanding their scope of activities into some or all of the following:

- Consulting, or other support, related to the accreditation process;
- Continuing education for providers;
- State health insurance counseling;
- Credentialing of providers;
- Independent audits of the accuracy of HEDIS (Health Plan Employer Data and Information Set) data sent to the National Committee for Quality Assurance.

Finally, because of their confidentiality protections, at least a dozen QIOs are engaged in state-level patient safety commissions—many in leadership roles—and are beginning to collect medical error data, analyze that data for trends and work with providers to address the underlying causes of those errors. All of these attributes and activities make QIOs natural partners and even leaders for community-based HIE initiatives.

Health Information Exchange Initiatives and Organizations

There are more than 100 emerging state, regional and community-based initiatives focused on the mobilization of health care information across organizations within their respective locales, and such initiatives are in a wide range of readiness states.[4] However, survey data indicate that common activities to support the development and operation of a HIE infrastructure include the following:

1. Engaging multiple and diverse stakeholders within the region or community for HIT and HIE.
2. Building consensus on regional or community health needs and developing the vision, goals and objectives, principles, policies and functions/services for HIE to address those needs.
3. Developing an organizational and governance structure to give form and function to the emerging HIE initiative.
4. Developing and implementing a sustainable business plan to support functions and services on behalf of the region or community.
5. Identifying and agreeing upon policies for information sharing that take into account HIPAA, state laws and regulations, and the needs of the region or the community and the stakeholders who operate within it--most importantly, patients.
6. Developing and implementing a technical infrastructure, based upon emerging national standards, to enable the mobilization of information across organizations and institutions.
7. Supporting clinical process change and clinician adoption of HIT.

Most of the HIE initiatives are led or convened by a "neutral third party," ordinarily representing the multiple and diverse stakeholder groups within the region, including but not limited to clinicians, community health centers, health plans, health care purchasers, hospitals, nursing homes, QIOs, laboratories, patient and consumer groups, home health agencies, public health and state and local governmental agencies. For those initiatives that have incorporated, most have chosen to do so utilizing a not-for-profit tax status.

HIE initiatives are engaged in or developing the capacity for delivering a wide variety of functions and services, including:

- Serving as a "data exchange facilitator" for:
  - Provision of data from a multitude of organizations to clinicians, hospitals and other providers to support care delivery and chronic care management;
  - Provision of information to consumers and patients to support the use of personal health records;
  - Provision of public health surveillance reports to public health agencies;
  - Provision of data, with consent, to support research activities.
- Supporting quality improvement by developing and delivering quality data reports to practitioners and payers with the consent of participating providers, payers and health care purchasers.
- Coordinating incentives programs among purchasers, payers and providers.
- Supporting clinical process change and provider adoption of HIT.

The eHI Foundation recently conducted its second annual survey of HIE initiatives through the Connecting Communities for Better Health Program. The results of this survey were released in August 2005 and are available at www.ehealthinitiative.org.

[4] eHealth Initiative, Connecting Communities for Better Health Survey, 2004.

QIOs and Health Information Exchange

Quality Improvement Organizations are engaged in each of the seven common activities for supporting the development of HIE. QIO involvement in each of the activities differs by state, largely mirroring the level and stage of HIE activity found within a given state or region. In areas where HIE activities are prevalent and well underway, QIOs tend to be heavily and broadly involved. In areas with no or only nascent HIE activities, QIOs tend to be in the early stages of involvement.

QIOs are participating in HIE activities as part of their overall organizational mission and objective of improving health care. For many QIOs, activities are undertaken as part of the QIO contract with Medicare, while for others, different resources are used to support HIE activities that may be beyond the scope of the Medicare contract, although related, or that exceed the resources provided under the contract.

The following table provides an overview of the main HIE activities in which specific QIOs are involved, organized according to the seven activities common to the development and operation of HIE initiatives. In-depth analysis of these activities and state-specific summaries follow.

QIO INVOLVEMENT IN THE 7 COMMON HIE ACTIVITIES (DEFINITIONS ON P. 19)							
QIO	1. Engaging Stakeholders	2. Building Consensus on HIE	3. Developing Organization and Governance	4. Creating a Sustainable Business Plan	5. Creating Policies for Information Sharing	6. Developing Technical Architecture	7. Supporting HIT Adoption / Clinical Process Change
AZ	•	•	•		•	•	•
AR	•	•					•
CA	•	•	•			•	•
CO	•	•	•	•			•
CT	•	•	•	•	•	•	•
DE	•	•					•
FL	•	•					•
GA	•	•					•
ID	•	•					•
IL	•	•	•				•
IN	•						•
IA	•	•	•	•	•	•	•
KS	•	•					•
KY	•	•			•		•
LA	•	•	•				•
ME	•						•
MD	•						•
MA	•	•	•	•	•	•	•
MI	•	•	•				•
MS	•	•					•
MN	•	•					•
MT	•	•	•				•
NE	•	•					•
NV	•	•					•
NH	•						•
NJ	•	•	•	•			•
NM	•	•	•			•	•
NY	•	•	•				•
OH	•	•					•
OR	•	•	•	•	•		•
PA	•	•	•			•	•
RI	•	•	•	•	•	•	•
SC	•	•					•
TN	•	•	•				•
UT	•	•	•	•	•	•	•
VA	•	•					•
VI	•	•	•				•
VT	•	•					•
WA	•	•	•	•	•		•
WV	•	•	•	•	•	•	•
WI	•	•	•				•
WY	•						•

Analysis of QIO Activities in Health Information Exchange

Forty-two of the 53 QIOs covering every state, territory and the District of Columbia report being substantively engaged in local HIE efforts, many in leadership roles.

While the preceding table provides a list of specific QIOs engaged in the seven common activities, the following aggregate analysis provides more detail about the nature of those activities.

1. *Engaging Stakeholders and Increasing Awareness of the Importance of Health Information Technology and Exchange*

QIOs are accustomed to engaging multiple, diverse stakeholders in their quality improvement efforts and conducting education and outreach activities to support their goals and objectives. This is the case in part because provider participation in quality improvement efforts is entirely voluntary, and securing the endorsement and/or involvement of key stakeholders plays an important role in recruiting participants.

The following are high-level activities being conducted by 42 QIOs today that are relevant to the important engagement and education function necessary to lay the groundwork for HIE.

- Engaging multiple diverse stakeholders within the state or region for the purpose of conducting community-wide quality improvement activities;
- Conducting educational campaigns targeted to providers and consumers regarding the importance of health care quality and HIT;
- Serving as a neutral, independent entity for convening or leading HIE initiatives.
- Convening stakeholders and sponsoring meetings and events to engage stakeholder participation in emerging HIE activities, including HIT adoption;

In terms of stakeholder engagement, QIOs can be an especially valuable resource to local HIE initiatives for two primary reasons. First, as independent entities whose primary agenda is community-based quality improvement, QIOs are often seen as neutral entities. This neutrality serves as an asset for many states by providing a basic comfort level to diverse stakeholders in coming together for HIE.

Second, because of their experience and relationships in all settings of care, including health plans and pharmacies, QIOs have collaborative relationships with professionals in every setting of care. This helps QIOs be effective in reaching out to and engaging the many stakeholders who can help make HIE a reality. For example, to date, nursing homes and home health agencies often have not played a substantial role in many local HIE initiatives, and yet these entities would benefit significantly from HIE. Long term care entities also have rich data sources that can increase the completeness of patient data. More HIE initiatives should seek to engage long term care organizations as key stakeholders in the formation and operation of HIE, and QIOs are in a strong position to help facilitate this interaction.

2. *Building Community Consensus on Needs, Goals, Strategies and Functions of the Health Information Exchange Initiative*

Once stakeholders and participants are engaged, QIOs work to build consensus among these diverse parties in relation to various quality efforts, helping to leverage the reach and influence of these groups and resulting in higher impact QI projects. Because of this role,

as well as QIOs' extensive involvement in all settings of health care, 37 QIOs have become key players in identifying and building consensus around community health needs and the objectives and functions of HIE, including:

- Conducting needs assessments and environmental scans regarding various components of work related to quality improvement, including physician HIT adoption;
- Utilizing data, knowledge and experience to contribute to a common understanding of community health status and issues, including local quality of care data, existence of initiatives and partnerships that can be leveraged, and scope and future of the federal quality agenda;
- Working with, convening or helping convene stakeholders specifically to achieve consensus on priorities related to HIE in general, including HIT.
- Building coalitions to support HIE strategies with hospitals, physicians, health plans, home health agencies, nursing homes and other providers.

3. *DEVELOPING ORGANIZATION AND GOVERNANCE STRUCTURES*

More than half (22) of QIOs working on HIE initiatives have been actively involved in the creation of organization and governance structures for state and region-wide multi-stakeholder HIT collaborations and HIE activities (see table above). QIO leaders in at least three of these markets are co-chairing working groups to design an organization and governance structure. Other QIOs hold advisory or board positions. Examples include:

- Chairing committees or work groups charged with developing organization and governance models
- Serving on planning committees for developing HIE organizations
- Serving on advisory committees for existing HIE initiatives

4. *DEVELOPING AND IMPLEMENTING A SUSTAINABLE BUSINESS PLAN*

To date, ten QIOs have played a significant role in identifying the sustainable business plan for HIE-related activities, one of the most challenging tasks in HIE formation. Other QIOs are engaged in the following activities which help contribute to sustainable business models:

- Working with Medicare Advantage and other health plans to support the development or implementation of pay-for-performance or other incentive programs.
- Supporting and/or jointly developing grant proposals to create HIE initiatives.

5. *DEVELOPING POLICIES FOR INFORMATION SHARING*

Ten QIOs are involved in this area currently, a number which is expected to grow. At the time of the initial survey and interviews in mid-2005, no QIOs reported activity in this area. However, as of March 2006, ten QIOs now report significant contributions to developing policies for information sharing.

QIO activities in this area typically derive either from their participation in the governance of HIE initiatives and from their experience with quality improvement data as agreements are reached on how data will be used to achieve community health goals, quality improvement objectives and/or pay-for-performance requirements.

Information sharing policies can greatly impact QIOs which, under the 8th Scope of Work, are focused in part on enabling physicians to electronically report an established set of quality measures, known as the Doctor's Office Quality (DOQ) measures. These measures span not only preventive medicine like immunizations, but also heart disease, hypertension,

diabetes and congestive heart failure. QIOs should communicate regularly with HIE initiatives working to develop information sharing policies, as federal initiatives like DOQ-IT and the recently announced Physician Voluntary Reporting Program (PVRP), combined with over 100 local pay-for-performance initiatives, are increasingly requiring reporting of varying measure sets. The importance of measure alignment to decrease reporting burden on physicians is critical to their continued participation in these initiatives, and ultimately to the local community's own quality initiatives.

6. Developing and Implementing Technical Architecture

Of the 42 QIOs working on HIE in their state or territory, ten are currently serving on working groups or committees charged with examining and recommending technical infrastructure for HIE. As initiatives continue to evolve, we would also expect QIOs to help physicians understand interoperability requirements for local HIE, similar to the 8th SOW where QIOs educate physicians, hospitals, home health agencies and nursing homes about the technical requirements established by CMS for its public reporting initiatives.

In addition, the Iowa Foundation for Medical Care (IFMC), the Iowa QIO, possesses a unique capability worthy of mention in this area. IFMC developed and currently maintains the technical architecture for the CMS data warehouse which receives beneficiary-level clinical data from hospitals, home health agencies and nursing homes used by CMS for its public reporting initiatives. The hospital data is now required by law in order for hospitals to receive their annual market basket payment update from CMS. IFMC receives over 1,000,000 clinical records within a three day time period each quarterly reporting cycle from approximately 4,500 hospitals and/or vendors.

Importantly, this data warehouse is also intended to be used for the reporting of clinical data from physician practices in the 8th SOW. Database tools will use HL7 standards to pull data directly from EHR systems and registries with reporting QIO data warehouse maintained by IFMC, which will provide feedback reports to QIOs for use with physician practices in quality improvement efforts.

7. Supporting Clinical Process Change and Clinician Adoption of HIT

Supporting clinical transformation and process change is the core focus of QIOs nationwide, and all 42 QIOs leading or contributing to HIE initiatives report a relationship between their HIT adoption efforts under the CMS contract and the local HIE initiative.

QIOs have demonstrated this capability with a number of providers, including hospitals, nursing homes and clinician offices in previous scopes of work, but the 8th SOW includes specific expectations related to assistance for ambulatory physician practice transformation and the use of HIT to support quality improvement goals. The following summarizes specific activities being undertaken by QIOs that can be applied to HIE efforts:

- Promote and accelerate physician adoption of EHRs, e-prescribing, e-labs and registries, helping to build an electronic data collection infrastructure;
- Provide information on best practices and additional resources to help accelerate clinician adoption;
- Serve as a knowledge resource for physicians in the selection of HIT products;
- Consult with physicians on HIT functionality and interoperability considerations;
- Support care process redesign and workflow change;
- Work with practices to understand their quality data and implement further changes (HIT or care process-related) to improve care.

Findings and Conclusions

Based on surveys, interviews and advisory panel input, our findings are as follows:

FINDING 1

QIOs are playing a significant and valuable role in HIE initiatives; the number of QIOs involved and the level of their involvement continues to grow as HIE efforts rapidly emerge and develop.

Many functions required for successful HIE are currently being conducted by QIOs today in relation to quality improvement, patient safety and health information technology. As a result, QIOs in 41 states and the Virgin Islands have broadened their work in order to make important contributions to the development of HIE capability in their communities.

Through the surveys and interviews conducted, we identified significant contributions in every one of the seven activities common to community-based HIE formation and operation. The most common and most intensive QIO activities fall under the following categories:

- Engaging multiple and diverse stakeholders within the region or community for HIT and HIE.
- Building consensus on regional or community health needs and developing the vision, goals and objectives, principles, policies and functions/services for HIE to address those needs.
- Developing an organizational and governance structure to give form and function to the emerging HIE initiative.
- Supporting clinical process change and clinician adoption of HIT.

While QIO activity overall is most focused in these four areas, we identified several QIOs that are also playing a significant role in the remaining three areas:

- Developing and implementing a sustainable business plan to support functions and services on behalf of the region or community.
- Identifying and agreeing upon policies for information sharing that take into account HIPAA, state laws and regulations, and the needs of the region or the community and the stakeholders who operate within it--most importantly, patients.
- Developing and implementing a technical infrastructure, based upon emerging national standards, to enable the mobilization of information across organizations and institutions.

At the time of the initial survey and interviews in mid-2005, little QIO activity was identified in the areas of developing a sustainable business plan and establishing policies for information sharing. While this was in part a function of the early stages of many of the HIE initiatives in the country, significant growth has occurred in the number of QIOs contributing to these key areas – such that at least ten QIOs are now providing input to and assistance with these activities.

We anticipate these numbers to grow further, particularly as HIE initiatives mature and QIOs and other stakeholders involved in organizational and governance structures naturally begin to turn attention to these areas.

FINDING 2
The goals and objectives of both QIOs and HIE initiatives—to improve the quality, safety and efficiency of health care—are highly aligned.

Both QIOs and HIE initiatives are working to improve the quality, safety and efficiency of health care. Not only are these goals highly aligned, but QIOs under the 8th SOW are engaging in some of the steps required for HIE to become operational.

Specifically, HIE is built upon provider adoption of health information technology that has the ability to communicate with providers across settings and institutions. Among other things, HIT adoption requires significant workflow and care process redesign to avoid simply automating current practices, which does not in itself guarantee the quality or efficiency gains that lie at the heart of the national agenda to transform our system of care.

In addition, the data mobilization capabilities of HIE can also be a key driver for quality, safety and efficiency by supporting pay-for-performance, public reporting or other incentive programs. Data from HIE initiatives promises to be more comprehensive and higher quality because electronic data from pharmacies, labs, hospitals, physician practices, nursing homes, health plans and home health agencies reflects more than simple process measures (e.g., the value or result of a lab test performed). QIOs offer particular expertise in engaging stakeholders that often have not been central players in HIE, such as nursing homes, but who can both benefit and contribute substantially in electronic data exchange.

Finally, supporting these activities efficiently and quickly will require innovative partnerships among multi-stakeholder groups. Under the 8th SOW, QIOs are explicitly focused on provider adoption of technology, workflow and care process redesign, supporting the creation of incentive and pay-for-performance programs, as well as participation in multi-stakeholder collaborations.

FINDING 3
Those QIOs that are not currently playing a role in local HIE initiatives should become involved, and communities working toward fully operational HIE can benefit from including their local QIO early in the developmental process.

QIOs have a long history of partnership and working relationships with diverse providers in all settings of health care including hospitals, nursing homes, home health agencies, physicians, health plans, employers and consumers. Under their contracts, QIOs are engaged in a variety of activities and projects within and across these care settings and providers to improve quality and patient safety. These relationships and activities will enable QIOs to play a strong role in emerging HIE activities.

QIOs are natural partners in HIE evolution because of their long history of community-based quality improvement and patient safety activities -- the chief goals of HIE. Nevertheless, specific responsibilities will vary from community to community, from state to state, and within regions of given states in accordance with the mission, organization and governance structure of the HIE entity. Potential roles and responsibilities of QIOs are also likely to differ depending on whether or not QIOs are operating as part of their QIO contract or as a separate business entity in the community.

There is general agreement that QIOs can help HIE initiatives in several ways, including:

- Serving as a neutral partner to engage and/or convene stakeholders for HIE;

- Contribute resources and knowledge to identification of local health care challenges and community needs;
- Participate in or lead the effort to achieve consensus on goals, objectives and mission of the HIE effort based on community needs;
- Participate in governance of existing or emerging health information organizations;
- Serve on committees/working groups of existing or newly forming HIE or HIT efforts;
- Provide direct assistance to physicians on HIT adoption and care process redesign;
- Provide continuity in participation for multiple state and regional HIE initiatives;
- Ensure local and national quality projects/agendas support and leverage each other;
- Coordinate quality improvement efforts with the HIE entity, once it is operational.

Several of the functions being conducted by regional and community-based HIE initiatives are similar to those conducted by QIOs, including engaging diverse stakeholders to come together to develop a common vision, goals, and strategies; developing technical architectures to handle data; and supporting health care providers with improvement processes. As a result, in those areas where HIE is taking hold, QIOs are playing not only a strong role in those initiatives, but can help accelerate them as well.

FINDING 4

QIOs and HIE initiatives and organizations can benefit from each other's capabilities and current work efforts to achieve their respective goals and objectives, especially in today's environment where HIE initiatives are often under-funded. In this way, QIO involvement is helping accelerate the formation and operation of HIE.

- HIE initiatives can leverage QIOs' existing partnerships and relationships, state-specific environmental scans and physician assistance activities to support development and use of HIE.

QIOs, as part of the work conducted under the 8th SOW, are conducting needs assessments and environmental scans within the regions they serve related to health information technology adoption and use among all types of care providers, existence of pay-for-performance or incentive programs and multi-stakeholder collaborations. These needs assessments and scans are very similar to those that are being or will be conducted by HIE initiatives. QIOs and HIE initiatives can leverage each other's knowledge, network and resources.

- QIOs can leverage HIE capabilities and functions to facilitate quality reporting and improvement activities required by the 8th Scope of Work as well as future federal quality initiatives.

The primary purpose of the HIE initiative is to develop and implement processes to mobilize in support of care delivery. These same data (e.g. lab, prescription, diagnosis, etc.) are those that are used to populate performance measures used by QIOs to promote quality improvement. QIOs can leverage the health information networks developed by HIE initiatives to support its quality improvement work.

- Both QIOs and HIE initiatives can work collaboratively to support each other's specific education and awareness-building activities -- developing a common message and comprehensive strategy for quality improvement in the region.

The transition to both HIT and HIE requires significant change and transformation for providers, stakeholders and consumers. As with any significant change process, an

enormous amount of communication and education is needed to support the changes in practices and workflow required for the transition. QIOs and HIE initiatives are both trying to facilitate "transformational" change in the regions they serve. Coordinating and aligning communications and awareness-building activities can help to build common messages, reduce confusion, and support transition for stakeholders, providers and consumers.

- By working together, both QIOs and HIE initiatives can accelerate progress toward their respective goals and objectives, and also enhance activities that will improve the quality, safety and efficiency of efforts within their regions.

Currently, both QIOs and HIE initiatives and organizations represent entities that serve multiple stakeholders within regional markets. With the launch of the 8th SOW, QIOs have additional responsibilities related to HIT. Great gains will be achieved through synergistic and cross-supporting relationships between these two entities within the markets that they serve.

Appendix 1: Summaries of State-Specific QIO Activities in Health Information Exchange

ARIZONA – HEALTH SERVICES ADVISORY GROUP

Health Services Advisory Group (HSAG), Arizona's QIO, is engaged at both local and state levels in a variety of HIE activities. HSAG is an integral member of the Governor's Health-e Connection state initiative (www.azgita.gov/tech_news/2005/ehealth/E_Health.htm). In August 2005, Governor Janet Napolitano issued a "call to action" to develop a state HIT Roadmap by March 2006. HSAG serves on the Health-e Connection Steering Committee as well as on all of the Health-e Connection Task Groups (clinical, technical, legal, finance, governance). The goal of the governor's initiative is to develop a plan for interoperable HIE in Arizona.

HSAG is the facilitating organization in the development of a Continuity of Care Record health information exchange in Yuma County. HSAG has brought Dr. David Kibbe, Director of the AAFP Center for Health Information Technology, into the planning discussion. This initiative brings together the Yuma Regional Medical Center; the Community Access Program (CAPAZ), which is the state-funded discount health care program; the community health center network; the regional behavioral health authority; and local office-based providers. The goal is a CCR-based health information exchange that allows connectivity of providers on both sides of the U.S.-Mexico border, with initial focus on medication reconciliation.

In response to the HHS RFP (ONCHIT 3) for health information exchange demonstration projects, HSAG partnered with Lockheed Martin and two health care alliances- Southern Arizona Alliance (Pima County) and the Cochise Network Association- to propose a Continuity of Care Record-based health information exchange to facilitate care of the mobile populations in southern Arizona, particularly during transfer of patients between rural providers and urban specialists. Though not funded, these two groups continue to work with HSAG to identify appropriate funding mechanisms to build this model of HIE.

HSAG is actively engaged with the Arizona Healthcare Value Measurement Initiative that has brought together major health plans, employers and health care organizations to design and implement a consensus-based performance measurement initiative for all of Arizona. Central to this initiative is the creation of a statewide health care data repository currently housed at Arizona State University.

ARKANSAS – ARKANSAS FOUNDATION FOR MEDICAL CARE

Arkansas Foundation for Medical Care, the Arkansas QIO, is actively involved in facilitating the adoption of health information technology, as well as promoting the creation of a health information exchange (HIE) framework for the state. In Arkansas, propelling HIT/HIE has proven to be a challenge based on demographics, limited distribution of basic technologies and financial constraints. According to US Census Bureau data, Arkansas is one of the least "wired" states in the country. As a recognized leader in quality improvement, and through experience as a DOQ-IT pilot state, AFMC has become a convener for HIE planning and formation, which is currently focused on identifying methods to overcome these obstacles.

AFMC has convened local stakeholders including the Arkansas Medical Society, Arkansas Hospital Association, Arkansas Health Care Association, HomeCare Association of Arkansas,

Arkansas Department of Health and Human Services, Arkansas Pharmacists Association, Office of Long Term Care, BlueCross BlueShield, United Health, and QualChoice. Each of these entities came together to share their individual HIT and/or HIE experiences and vision with the group—leading to creation of broad collaborative goals. These goals have also been shared statewide via regional meeting presentations, annual quality conferences, and the creation of a speaker's bureau to provide statewide resource information to those wishing to learn more or join the growing list of interested stakeholders. While we remain in the preliminary stages of HIE planning, Arkansas' stakeholder group is committed to moving its agenda forward and gaining support in the local political arena.

A step toward diffusion of health information technologies is also being pursued by a partnership between AFMC and Arkansas' Department of Health and Human Services—Division of Medical Services (Arkansas' sole Medicaid program provider). This partnership offers HIT technical support and guidance to interested pediatricians and specialists not eligible to participate in existing QIO (Medicare) initiatives. To date, this offering has been pursued by a variety of provider types. Both partners look forward to the expansion of this program and anticipate its positive contributions to future HIE opportunities.

CALIFORNIA - LUMETRA

California's QIO, Lumetra, is at the hub of a considerable amount of HIT and HIE activity. First, Lumetra served as the lead QIO in the DOQ-IT pilot project, the four-state pilot funded by CMS to develop a successful model for supporting HIT adoption, workflow and care process change for QIOs nationally. Lumetra was involved both in implementing this work with physician practices in California, as well as in training all QIOs nationally in the model developed based on the pilot experience of Lumetra and the QIOs in Arkansas, Massachusetts and Utah.

Lumetra is also actively engaged as a key leader and stakeholder in HIE formation, planning, leadership and organizational efforts in California. Lumetra's Chief Executive Officer, Jo Ellen Ross, was elected Chair of the California Regional Health Information Organization (CalRHIO)--an effort formed for the purpose of convening stakeholders to develop one or more HIE networks in California. Led by the Health Technology Center (HealthTech), the project received initial funding from the California HealthCare Foundation.

The goal of CalRHIO is to incrementally build a statewide data exchange for California. The project is in the formation stage, and Lumetra staff lead or are members of each workgroup formed for the project. In addition to chairing CalRHIO's board of directors, Ms. Ross co-chairs the Governance Workgroup and David Schneider, director of marketing and communications, chairs the Communications Workgroup. Lumetra leaders are also members of the following workgroups: Technical (John Weir, director), Finance (Linda Sawyer, chief operating officer), Clinical (Dr. Justin Graham, associate medical director), and Coordination of Local Efforts.

Lumetra is providing staff resources to CalRHIO, and was one of the first members to provide funding to the CalRHIO effort. Lumetra plans to continue work on the formation and development of HIE in California because they see CalRHIO as a leading effort to accelerate quality improvement in the state of California.

COLORADO – COLORADO FOUNDATION FOR MEDICAL CARE (CFMC)

CFMC, Colorado's QIO, is actively involved as a key participant in the Colorado Regional Health Information Exchange effort. It started as a joint effort by four partner institutions

(Denver Health, Kaiser Permanente of Colorado, The Children's Hospital and University of Colorado Hospital, all affiliated with the University of Colorado Health Sciences Center) responding to federal funding opportunities. This group was awarded contracts from the eHealth Initiative Foundation and the Agency for Healthcare Research and Quality (AHRQ) in October 2004 to develop a network prototype for the exchange of demographic, laboratory, visit and diagnosis, and radiology information. Talks convened by the Colorado Health Institute brought together representatives from around the state who were interested in the development of HIT, including CFMC, and led to the formation of a Colorado Regional Health Information Organization (CORHIO).

CFMC HIT leaders participate in the steering and business committees of CoRHIO, providing input to the development of statewide interoperability standards and to the development of a sustainable business case for interoperability in Colorado.

There are numerous local HIT network projects underway in various locations throughout Colorado as well. CFMC is a participant in several of those efforts, which include the El Paso County Medical Society (EPMSC), and the Poudre Valley Hospital projects, with representatives participating in planning and development boards.

The QIO is a valuable member of the above groups because it is already involved with practices and will continue to be present during EHR implementation. Although these groups have not yet specified activities related to implementation, every group is working to use the QIO's expertise in developing their activities, and all are enthusiastic about incorporating the QIO's techniques for assessing and adapting physician workflow. All groups are naturally interested in directing physicians to EHRs with acknowledged interoperability standards, and the QIO is viewed as the information conduit with local providers and stakeholders, national organizations and stakeholders, and CMS on this issue.

Additionally, CFMC was a sponsoring member of the first Colorado Medical Society State Technology Fair last spring, a co-sponsor of the Medical Records Institute's EMR Road Show in November, and is co-hosting an HIMSS Physicians Adopting Computer Technology conference this year. CFMC's HIT specialist is a board member of the Colorado HIMSS chapter and is a partner in developing the first statewide conference focusing on health information exchange in April 2006.

CONNECTICUT – QUALIDIGM

Qualidigm, Connecticut's QIO, has worked extensively to promote a health information exchange agenda in Connecticut. Given the QIO's work in health care quality and evaluation within each care setting, Qualidigm has a keen understanding of how technology can make meaningful improvements in the access, delivery and quality of health care in Connecticut. Under the stewardship of Congresswoman Nancy Johnson, Qualidigm, along with other health care leaders, has met over the past year to discuss ways Connecticut can overcome obstacles to establish an effective and secure technology-based statewide health information exchange.

Congresswoman Johnson challenged Connecticut leaders to envision a modern health care system -- with priority given to patient record security -- that meets the overall goals of improving the safety, efficiency and quality of patient care. Additionally, she asked them to consider other statewide public uses for the system, such as real-time monitoring for bioterrorism cases.

Out of these meetings, eHealth Connecticut, a 501© 3 organization, was created and officially announced in January 2006. The organization's vision is to create, champion and sustain a secure statewide health information exchange that will dramatically improve the quality of health care in Connecticut. Its efforts will focus on the use and coordination of computer technologies that allow physicians and others involved in providing medical care to electronically access more complete patient problem lists, medication lists, and lab results, all while maintaining a patient's privacy.

Currently the group is compiling an inventory of all individual health information technology projects in hospitals and physician practices throughout the state. This will inform program leaders so they are able to coordinate what already exists with the planned and comprehensive system to avoid costly redundancies. Follow-on initiatives will include designing a health information exchange and electronic prescribing systems that all health care providers in Connecticut can use. A statewide conference in March 2006, featuring David Brailer, MD, PhD, head of ONCHIT and Congresswoman Johnson, will promote the agenda and priorities of eHealth Connecticut.

Qualidigm was the early convener and an active participant in early conversations to promote health information exchange within the state. Qualidigm is continuing this leadership role in eHealth Connecticut by serving on the Governance Committee (including Co-Chairperson of the Bylaws Committee), serving as co-chair of the organization's Clinical Committee, and by serving on the Technology Committee.

Qualidigm, along with insurers and providers, has committed seed monies to provide early operating resources for the organization. Qualidigm will play a significant role in identifying and securing both sustaining and project-specific funds for the organization.

DELAWARE – QUALITY INSIGHTS OF DELAWARE

Quality Insights of Delaware is an active community stakeholder and key participant in the Delaware Health Information Network (DHIN). The DHIN was established through state legislation and is administered by the Delaware Health Care Commission. The QIO has been appointed to the advisory board.

The primary objective of the DHIN is development of a clinical information sharing utility to connect patients (and their personal health information) electronically with their health care providers. According to the DHIN's Web page, "the utility, when developed, will be a computerized network by which a patient can consent to have hospitals, labs, diagnostic facilities (e.g., x-ray facilities) and insurers make their clinical information available, to the patient's health care providers at the time and place they are getting care, any time of the day or week."

HIE-related activities funded as part of the QIO's contract include assisting with, or providing consumer, provider and community education regarding HIT, HIE and other matters; identifying and/or helping coordinate resources for supporting formation or operation of the DHIN; supporting and/or accelerating physician/provider adoption of HIT, and serving as a resource for physician workflow and process change and/or improvement.

FLORIDA – FMQAI

HIT interest, implementations and initiatives have surfaced from various quarters throughout Florida: state and federal government, health plans, hospitals, physicians, vendors, and stakeholder organizations.

On May 4, 2004, Florida Governor Jeb Bush issued an Executive Order (Number 04-93) creating the Governor's Health Information Infrastructure Advisory Board. The Board was established to advise Florida's Agency for Healthcare Administration (AHCA) as it develops and implements a strategy for the adoption and use of EHR. The board provides an opportunity for physicians, nurses, pharmacists, dentists, hospital administrators, health insurers, community groups, and many others to contribute their expertise.

The board's first interim report describes its vision as follows: "The Florida Health Information Network (FHIN) will connect the state's health care stakeholders through an integrated information system. It will be a secure network that will make available to authorized parties the medical information they need to make sound decisions about health care, regardless of where that information is stored, and where or when it is needed. Computerized "decision support" programs will automatically analyze all available health information and complement the data available through FHIN with clinical logic and practice guidelines. Decision support will assist both consumers and providers in making personal and clinical decisions based on sound medical science."

FMQAI attends the meetings, which provide a forum to learn of activities and direction throughout the state and to network with state HIT leaders. At the February 2005 meeting, FMQAI presented updates on the QIO's HIT pilot activities and discussed the statewide rollout of the DOQ-IT program.

In addition, other emerging initiatives include the creation of several HIE networks. In Florida, these initiatives are still in the developmental stage, and there are currently at least eight ongoing efforts that may be loosely defined as HIE networks.

FMQAI worked intimately with one of these initiatives to assist in development of a sustainable pay for performance business model based on collection, analysis, and reporting of diabetes data to support quality improvement. FMQAI provided project management, communication, tools, and education to support the effort.

FMQAI, as an expert in medication safety, is also a subcontractor in "Health Information Technology for Medication Safety in Critical Access Hospitals," a grant funded by AHRQ to develop an implementation plan for pharmacy health information systems in critical access hospitals (CAHs). Long-term goals of the AHRQ grant are to establish a platform of pharmacy health information technology that allows CAHs to comply with national safety standards and implement CPOE, bar coding technology, offsite concurrent medication order review by a pharmacist, and point of care patient information.

Finally, FMQAI is a partner with the Florida Chronic Care Improvement Organization: Green Ribbon Health. It is one of nine pilot programs funded by CMS to improve health care for chronically ill Medicare beneficiaries. This joint effort by Humana and Pfizer targets up to 20,000 eligible patients with diabetes and heart failure in nine counties in southwest Florida, from Tampa to Naples. Partners also include hospitals, AHCA, and CVS pharmacy. Green Ribbon Health may explore various information systems in the management of patients with chronic disease.

GEORGIA – GEORGIA MEDICAL CARE FOUNDATION

gmcf (Georgia Medical Care Foundation) is dynamically involved in several activities regarding HIE planning and formation. The QIO is leveraging its reputation as a trusted organization with a long history of working with providers to convene stakeholders, facilitate

discussions, seek additional external sources of funding, and act as adviser on technical, clinical and quality issues. For the activities corresponding to the 8th SOW, *gmcf* is incorporating them into the QIO team's work as appropriate, and activities considered separate from the CMS QIO contract are assigned to other corporate staff.

In addition to facilitating discussions with diverse stakeholders across the state, the QIO has been in discussions with a community interested in initiating a pilot involving all settings (hospital, physician office, nursing home, assisted living, pharmacy and lab) for a system serving four Georgia counties. To heighten the project's impact, the pilot would attempt to involve as many payers as possible. *gmcf* also plans to offer support to the involved physicians as part of DOQ-IT. The QIO will also look for other communities interested in similar HIE projects where *gmcf* will serve in a similar capacity.

The QIO is also actively monitoring the considerable telemedicine work already underway in the state, especially as such activities are beginning to overlap with HIE.

IDAHO – QUALIS HEALTH

Rural Connection is a network of Idaho hospitals. In September 2004, the Agency for Healthcare Research and Quality (AHRQ) awarded the network a health information technology planning grant to explore HIT as a method of sharing patient information and to develop an electronic health record for patients who use rural, urban, acute care and rehabilitation facilities. Qualis Health staff member and DOQ-IT project leader Helen Stroebel, RN, MPH, served on the HIT Task Force for the Rural Connection hospitals.

In addition, Qualis Health is a founding member of the Idaho Consortium for Performance Improvement, which includes representatives from the Idaho Medical Association as well as from state chapters of the American Academy of Family Physicians and the American College of Physicians. The consortium is now actively promoting the formation of a regional health information organization (RHIO) within the state.

ILLINOIS – ILLINOIS FOUNDATION FOR QUALITY HEALTH CARE

Illinois Foundation for Quality Health Care (IFQHC) is actively facilitating the adoption of health information technology (HIT) in Illinois. Our primary focus involves educating key stakeholders and their constituents on all aspects of implementation and effective utilization of HIT. Along with promoting and facilitating the use of electronic health records in physician offices through the DOQ-IT program, IFQHC is involved in several projects and coalitions related to HIT. The QIO has been in discussions with the state medical societies and large health systems to collaborate on efforts to educate and assist with HIT. IFQHC's objectives for HIT is to provide an educational forum within state; support and participate in statewide and selected local HIT activities; and to network with state HIT leaders to encourage dialog and build consensus around health information exchange (HIE).

IFQHC has had initial discussions with two HIE initiatives in the state. The Northern Illinois Physicians for Connectivity is seeking to develop a HIE in the northern suburban area of Illinois. In addition, Teamwork Englewood is a leading Chicago inner city community-based organization whose mission is to improve the overall well being of Englewood's residents. With board members representing several of the major health care providers for the community, Teamwork Englewood has shown significant interest in working with IFQHC to plan for HIE, including establishing a team and creating a viable business and governance model for HIE. IFQHC is also collaborating with other organizations to seek grant opportunities to build HIT capacity in health despaired communities.

INDIANA - HEALTH CARE EXCEL

There is considerable HIE activity occurring within Indiana. At the core of Health Care Excel's (HCE) extensive involvement in all aspects of HIE planning, development, and operations is its longstanding association with Regenstrief Institute, which hosts the nation's oldest HIE network, Indiana Health Information Exchange (IHIE). It is this association, combined with the QIO's reputation as "a neutral party," that has led to HCE's visibility at the national level, as well as the local, regional, and state levels.

At the state level, the two organizations are leveraging infrastructure resources in place through IHIE to develop a regional network, with the ultimate goal of developing the capacity for information sharing across HIE borders and among the HIEs. IHIE is an extension of previous work done with ICareConnect, a network connecting hospital emergency rooms (ERs) in counties surrounding the City of Indianapolis. ICareConnect links ER encounter data (e.g., lab results, x-ray, procedure notes, etc.) from ER visits and makes it readily available for review by physicians at the time of subsequent patient encounters at any of the participating hospitals.

Further capitalizing upon its perception as a neutral party, HCE is working with three other HIE efforts: Bloomington, South Bend (where a laboratory initiated an information network), and Fort Wayne (where HCE anticipates working with two hospital networks). HCE of Kentucky is also beginning discussions across the river in Louisville, where an HIE network has been mandated by state legislation.

Nationally, HCE and Regenstrief have partnered through the Hospital Leadership and Systems Improvement (HLSI) project to develop a toolkit for all QIOs to use for HIT deployment through utilization of bar coding, CPOE, and telemedicine within the hospital setting. Another aspect of the project is development of staff retention capabilities for health care organizations. Toolkits have been distributed to QIOs and training meetings are scheduled. The project is funded by a special contract with CMS.

IOWA – IOWA FOUNDATION FOR MEDICAL CARE

The Iowa Foundation for Medical Care (IFMC) reports working with community stakeholders on formation activities related to HIT and HIE. The QIO has a broad vision and action plan for the next three years that includes reaching out to and working with the medical societies, the hospital association, the American Health Information Management Association (AHIMA), the local Health Information Management and Systems Society (HIMSS) chapter, the Governor's Office, Iowa Department of Health & Human Services, Iowa Department of Public Health, and health systems. Other groups and organizations are meeting with IFMC on a regular basis to move the HIT agenda forward so multiple and diverse stakeholders are at the table.

IFMC is facilitating efforts to establish a committee focused specifically on statewide HIE and is developing contract and grant proposals to establish funding for these initiatives. IFMC is in the early stages of directing this statewide committee through the process of reviewing Iowa's state laws and business policies impacting information exchange.

IFMC is uniquely positioned to offer its existing health information systems services as HIE activities continue to evolve and could position itself to be a key stakeholder in these activities. While it is early in the process, IFMC hopes to serve as managing partner with

overall operation of the business and financial aspects of any RHIO that develops in the state, including ensuring that technology is supported.

KANSAS – KANSAS FOUNDATION FOR MEDICAL CARE, INC. (KFMC)

In recent years, the Kansas health care system has made remarkable progress in the area of health information technology and exchange. KFMC has been an integral component of and contributor to a group established by the Governor called the Kansas Health Care Cost Containment Commission (H4C). The group was commissioned to improve patient care, cut unnecessary administrative costs and help providers expand the use of health information technology. The H4C provides a venue for a multi-stakeholder collaboration specific to health information technology and recognizes the need to help providers on a statewide level expand the use of HIT to improve the quality of health care provided to Kansas. The H4C has secured additional funding to hire the eHealth Initiative in a consulting role to coordinate the development of the HIT and HIE system for Kansas.

KFMC contributes to the statewide HIT effort in a variety of ways. First, KFMC provided information to the H4C from environmental scans related to HIT done by KFMC staff. The environmental scans provided a preliminary assessment of the stage of development in Kansas' pay-for-performance efforts and the production and use of electronic clinical information in physician offices, hospitals and pharmacies. Next, KFMC is a member of the Electronic Health Record Work Group. The workgroup was established in response to a provider need for guidance related to health information technology. Finally, as the federally designated Quality Improvement Organization for Kansas, KFMC provides free assistance to physician providers that desire to move to an electronic health records environment; and generally provides technical assistance to all providers in the collection and reporting of electronic clinical data.

KENTUCKY- HEALTH CARE EXCEL OF KENTUCKY

Through partnerships with stakeholders, Health Care Excel of Kentucky (HCEK) plays a significant role in planning, promotion, and implementation of HIE initiatives in Kentucky. HCEK is a founder and active participant in several stakeholder groups, including Partners Promoting Quality, the Kentucky Health Quality Agenda, and the Kentuckiana Health Alliance. Participating stakeholders include the University of Kentucky, the University of Louisville, The Kentucky Medical Association, the Kentucky Hospital Association, state and local departments of health, and all major health plans, employers, and unions.

In 2005, the Kentucky Legislature passed Senate Bill 2, establishing the Kentucky Health Care Infrastructure Authority, the Kentucky e-Health Network, and an eleven member e-Health Board. This act was preceded by work at the University of Louisville and University of Kentucky Medical Schools and Schools of Public Health, establishing the Kentucky Health Information Exchange.

Through partnerships and contractual activities, HCEK is associated with most of the participants in this statewide initiative, and serves on committees advising the Secretary of Health and Commissioner of Health on health data, transparency, quality of care, and public reporting issues.

LOUISIANA – LOUISIANA HEALTH CARE REVIEW

Louisiana Health Care Review (LHCR) is actively involved in formation and implementation of HIE in the state. Like other QIOs, one of the primary reasons behind the QIO's success is its role as "convener" and its mission to improve quality of healthcare. The QIO, perceived as an objective and neutral party, has successfully begun collaboration on statewide and regional HIE, by providing a level of comfort for the various participating organizations. In addition, because of the severe damage from Hurricane Katrina, LHCR is playing a leadership role in several efforts to help rebuild the region's health care infrastructure.

LHCR, working with Department of Health and Hospitals (DHH), is facilitating public-private collaboration on HIT, making it an integral part of health care reform in Louisiana. In March 2005, the Louisiana eHealth Initiative, a volunteer, non-profit, unincorporated group of health and IT professionals from across the state (including LHCR, DHH, and the Louisiana Public Health Institute) brought together state stakeholders and national leaders for the 1st Annual Louisiana eHealth Conference. LHCR will help facilitate the 2nd Annual Louisiana eHealth Conference in 2006, and the event will be jointly sponsored by LHCR, LA eHI and the LA Chapter of HIMSS in order to broaden the audience and impact of the conference.

Following the 2005 conference, LHCR and DHH, with the assistance of the eHealth Initiative, jointly launched the Louisiana HIT Policy Summit. The goal of the Summit is to propel and facilitate the HIT policy in LA. The Summit initially met in July 2005 with a draft framework and report of current initiatives in the state. Two subgroups were formed to address the technical and governance issues of regional HIE.

With the hurricane disaster that severely affected southern Louisiana in August 2005, much of the regional health care infrastructure was destroyed. A web-based collaboration, www.KatrinaHealth.org, was rapidly put in place post-Katrina to give electronic prescription history to physicians treating evacuees of the affected regions. This public-private collaboration was led by the Office of National Coordinator, along with the payor community and other groups such as SureScripts, Markle Foundation, and American Medical Association. LHCR participated in this work.

The Office of National Coordinator has also awarded a special contract to Louisiana DHH to create a model of health information exchange for the state, under the auspices of the Gulf Coast HIT Task Force to be convened by Southern Governors Association. In December 2005, the LA HIT Policy Summit agreed that this contract needs to be aligned and coordinated by DHH, LHCR, and the eHealth Initiative. To that end, these organizations are creating an incremental roadmap for interoperable data exchange at the state and regional levels. The eHealth Initiative has provided facilitation and funding for the roadmap, with expertise of the Vanderbilt Center for Better Health.

Several entities in Louisiana have also been awarded three planning grants and two large implementation grants under AHRQ's Transforming Healthcare Quality through Information Technology (THQIT) funding. LHCR is actively involved with the AHRQ implementation grant, the Louisiana Rural Health Information Technology Partnership, for implementation of EMR in 15 critical access hospitals in rural communities. LHCR Medical Director Dr. Tony Sun serves as the Chief Medical Information Officer on this grant. LHCR also contributes to the HIT Service Integration implementation grant in the St. Mary's region by serving on its Advisory Board.

LHCR is also currently working with the greater Baton Rouge community on its regional HIE initiative called Capital Area Access Partnership, administered by Access Health Inc. Through

the HRSA's Health Communities Access Program (HCAP) grant, LHCR will serve as quality evaluator of the grant and will work with various collaborators on connecting the health care community. In this HCAP program, the hospitals will use IT to facilitate care for the uninsured and under-insured population of greater Baton Rouge. The collaboration is planning a community-wide system to integrate diverse health care information systems within the capital area region of the state. The project's objective is to bring about standards-based data sharing across multiple care sites. The HCAP is a coalition of diverse medical providers consisting of public hospitals, private not-for-profit hospitals and outpatient community health centers. Following the planning process stage, a pilot project consisting of an integrated electronic medical record in emergency rooms, electronic practice management systems and a social service referral system will be implemented and evaluated.

MARYLAND – DELMARVA FOUNDATION FOR MEDICAL CARE

Like other QIOs, the Delmarva Foundation is heavily focused on implementing HIT at the physician office level. Delmarva is involved in all aspects of HIT adoption and effective use, from planning for implementation and assisting in care process and workflow redesign, to effective utilization for quality. To this end, Delmarva is involved in several projects and coalitions related to HIT, and this involvement serves as their foundation as coalitions begin to come together around HIE.

In Maryland, Delmarva has been involved with the MD STEP (Safety through Electronic Prescribing) Alliance, facilitated by SureScripts. The effort also includes independent pharmacies, chain pharmacies, CareFirst, MedStar, Med Chi, the Maryland Medical Society and Johns Hopkins University. While the initial goal of STEP was to promote awareness, the effort has proceeded so well that the group is now working to accelerate adoption of electronic prescribing.

In Montgomery County, MD, encompassing suburban areas outside of the District of Columbia, Delmarva is a member of the Advisory Board of an AHRQ-funded HIE implementation project of the Montgomery County Primary Care Coalition. The project involves creating secure data-sharing between the Coalition's electronic health record and hospitals in the area that see large numbers of their uninsured patients.

In June 2005, Delmarva convened a diverse group of health stakeholders that had expressed interest in supporting a regional health coalition for achieving the six aims of healthcare as presented in the Institute of Medicine report, *Crossing the Quality Chasm*, 2001. One component of the coalition's goals includes HIE.

MASSACHUSETTS - MassPRO

The state's QIO, MassPRO, is significantly involved in several local initiatives and serves as a board member on two -- the Massachusetts E-Health Collaborative (MaeHC) and the Massachusetts Health Data Consortium.

The Massachusetts Health Data Consortium is an organization serving as a neutral agency to collect, analyze and disseminate health care information. The Consortium's information products, services and special projects support health policy development, technology planning and implementation, and improved decision making in the allocation and financing of health care.

Massachusetts SHARE (Simplifying Healthcare Among Regional Entities) is a regional collaborative initiative operated by the Massachusetts Health Data Consortium. MA-SHARE seeks to promote the inter-organizational exchange of health care data using IT, standards and administrative simplification in order to make accurate clinical health information available wherever needed in an efficient, cost-effective and safe manner. The QIO is involved as a stakeholder in this effort.

Massachusetts was also one of four states involved in the two-year DOQ-IT pilot, and the QIO expects that the EHR technology adopted and implemented in physicians' offices will eventually connect to HIE initiatives. For the pilot, MassPRO was to recruit 150 adult primary care (family practice, general practice and internal medicine) practice sites and gave priority to those sites with eight or fewer physicians. As of May 2005, MassPRO had recruited 470 practices representing 1,500 physicians into the program. MassPRO has used seminars, conference calls, group e-mail, Webex and one-on-one consultation to help practices prepare for and successfully implement EMRs as part of a national pilot project. The QIO will also be developing data collection standards for acute, ambulatory, home health, and skilled nursing facilities to populate a data repository.

MassPRO is actively engaged in designing HIE architectures and connectivity for local physician groups. As a part of its success in the DOQ-IT pilot MassPRO is able to leverage its participant group of practice sites to develop standard processes for interoperability and has taken a lead role in working with communities to establish working models of HIE.

MassPRO is actively engaged in multiple state-based activities, including collaborating with the MaeHC in driving policy and funding for the adoption of Healthcare Information Systems.

MICHIGAN – MICHIGAN PEER REVIEW ORGANIZATION (MPRO)

MPRO, Michigan's QIO, is actively involved in both local and statewide initiatives addressing HIE including the Michigan Health Information Network (MHIN), the Oakland County Health Information Organization, Primary Care Initiative for a Healthier Michigan, and Saving Lives Saving Dollars Initiative.

The Michigan Health Information Network (MHIN) is a statewide initiative to develop a system that will facilitate the use of technology to improve health care quality, increase patient safety, reduce health care costs, and enable individuals and communities to make the best possible health decisions. Jan Whitehouse, an MPRO board member, in conjunction with the Michigan departments of community health and IT, is leading this comprehensive project. MPRO staff attended the inaugural meeting and will participate in three of the five work groups; governance, technical and clinical.

MPRO participates in the Oakland County Health Information Organization. This organization recently made a decision to investigate developing a Regional Health Information Organization in Oakland County Michigan. The participants include representatives from hospitals, physician practices, health plans, Michigan State Medical Society, Physician Hospital Organizations, Michigan Pharmacists Association, automotive corporation, and the Greater Detroit Health Area Council.

The Primary Care Initiative (PCI) for a Healthier Michigan is a statewide, broad-based group of key stakeholders and other interested parties convened to collaborate to improve the system of delivering prevention services and management of chronic disease and /or other conditions in the primary care setting throughout Michigan. As part of the initiative,

workgroups were formed to develop strategic plans around five key system barriers identified through a prioritization process by the PCI stakeholders. MPRO participates in the workgroup addressing "Access to Comprehensive Health Information." The work group's strategic plan goal is to "increase the use of health information technology among primary care practices in Michigan to ensure quality care through the standards-based capture, coordination and communication of this information at the individual and population level."

Save Lives Save Dollars (SLSD) is a multi-year, region-wide initiative to close the quality gap for residents of southeast Michigan and at the same time achieve cost savings for the community. The SLSD vision is to align all payers, providers, employers, government entities and other stakeholders in a system to provide differential reimbursement for compliance with targeted evidence-based guidelines, and implement public reporting of performance measures to drive improvements in quality resulting in lower costs, enhanced consumer choice and healthier residents. MPRO has participated in the SLSD Measurement and Reporting Expert Panel and is currently a participant on a sub cross functional outpatient team. The sub cross functional outpatient team is in early stages, and will focus on heart disease and the Doctor's Office Quality-Information Technology program. The adoption of EHRs in the physician office setting will lead to eventual HIE connectivity initiatives.

MPRO is continuing to investigate HIE network development activity in Michigan and work with stakeholders such as the Michigan State Medical Society IT committee and the Michigan Osteopathic Association IT committee. Both committees are interested in assisting their members with HIT adoption and issues related to interoperability.

MINNESOTA – STRATIS HEALTH

Stratis Health, Minnesota's QIO, is a key stakeholder in the Minnesota e-Health Initiative, with the QIO president and CEO serving as a Minnesota e-Health Advisory Committee member. The Minnesota e-Health Initiative is a private/public partnership that includes a comprehensive set of stakeholders intended to catalyze development of HIE networks throughout the state. Several work groups worked to plan how the vision can be achieved over the next 10 years. Stratis Health actively participated in the work groups to develop Minnesota's vision.

The Minnesota e-Health Initiative also recently submitted a report to the state legislature outlining a vision for an integrated health IT system in the state and a roadmap for getting there. The initiative's Steering Committee also recently responded to the Request for Information Relating to the Development and Adoption of a National Health Information Network as requested by the Office of the National Coordinator for Health Information Technology. Additionally, the Minnesota e-Health Summit conference (coordinated by Stratis Health), described as "a call to action to accelerate the use of health information technology to improve health care quality, increase patient safety, reduce health care costs, and enable individuals and communities to make the best possible health decisions," was held June 23 in Brooklyn Park, MN.

Both through the Minnesota e-Health Initiative and independently, Stratis Health is working to understand the existing information networks around the state that might serve as a basis for future HIE networks. Because of its relationships with all hospitals, most primary care clinics, and most nursing homes and home health agencies in the state, the QIO reports that it is seen by other stakeholders as having unique knowledge and communications channels. The QIO has already contributed its insight during the Minnesota e-Health Initiative's early planning stages.

Stratis Health has been given a grant by the Minnesota Department to work closely in collaboration with the MDH and the Minnesota e-Health Steering Committee to help establish the Minnesota Health Information Exchange (MN-HIE). Stratis Health is performing the following tasks:

- Facilitate a neutral decision making process, obtaining stakeholder input and endorsement, research of legal issues and other related issues as they relate to the establishment of a Health Information Exchange in Minnesota
- Develop and implement a business plan for establishing the MN-HIE as independent non-profit entity
- Assess and evaluate Health Information Technology (HIT) needs, readiness, opportunities considered, organization and financial barriers to adoption, resources available and required of both private and public health care providers, institutions and systems within Minnesota
- Develop financing and start-up plans for four identified health information technology business opportunities areas which currently include:
    - Laboratory Electronic Information Exchange
    - E-Pharmacy (History, Formulary, e-Prescribing)
    - Disease Surveillance including Reporting and Feedback
    - Immunization Record Exchange

Stratis Health anticipates close involvement as a stakeholder during continuing planning phases and, likely, during implementation, operation, and perhaps during evaluation phases.

MISSISSIPPI – INFORMATION & QUALITY HEALTHCARE

Mississippi's QIO, Information & Quality Healthcare (IQH), is pivotal in advancing health information technology in the state and is in a strategic position for supporting a viable health information exchange.

IQH has worked with national organizations, state government, and local providers in the coastal area of Mississippi affected by Hurricane Katrina to adopt HIT and promote the formation of HIE initiatives as the area rebuilds its infrastructure. As a result, the Governor has designated IQH as the entity to subcontract with RTI, an international research institute, for a national project on barriers to HIE.

In addition, serving on the Governor's Commission on Recovery, Rebuilding, and Renewal has helped IQH president Dr. James McIlwain to deliver the message about the importance of electronic health systems to state leaders and to enlist enthusiastic support. Specifically, IQH was a member of a health care subcommittee of the Governor's commission which developed a report entitled, "Building Back Better Than Ever." The report emphasizes the fact that, "As the infrastructure of the medical community is rebuilt, an opportunity exists to extend health information technology such as electronic medical records to all providers."

Work that had begun on the 8th SOW DOQ-IT project prior to the Hurricane Katrina disaster continues to serve as an avenue for emphasizing the importance of technology in the recovery and rebuilding of the state's health care community. In addition to performing the DOQ-IT project to assist providers, has partnered with the McKesson Medicare Health Support Project in Mississippi to offer and support the use of a patient registry program, "COMMAND," which is free to physician offices and allows them to collect and report data in order for them to participate in a "pay for participation" over the next three years. "Pay for

Participation" offers an initial incentive to participate in this project and to make changes to practice management to move towards a chronic care model of care delivery. Quality indicators are also reported in the last year of the project for additional payment.

The COMMAND registry system has the capability to be interoperable with some practice management systems already in place, which allows patient demographic data can be preloaded prior to first use. The program can also link to other COMMAND systems for reporting purposes.

MONTANA - MOUNTAIN-PACIFIC QUALITY HEALTH FOUNDATION

Mountain-Pacific Quality Health Foundation has been able to capitalize upon limited resources for a number of inter-related HIE activities and tremendous strides have been taken in the past year toward establishment of a statewide RHIO.

In developing plans for their Doctors' Office Quality – Information Technology (DOQ-IT) project, Mountain-Pacific contacted the National Center for Health Care Informatics (NCHCI) in Butte, MT. The purpose of this contact was to offer support for the development of a local health information infrastructure (LHII) in southwest Montana. Mountain-Pacific participated in the first stakeholder meeting of this LHII group in 2004.

The NCHCI is integral to HIE in Montana. The NCHCI's helped the university develop the nation's first undergraduate degree in Health Care Informatics at Montana Tech. The NCHCI has been designated by the governor as the state representative for seeking grants and building a knowledge resource for health care informatics. It has also been certified by the governor as the state coordinator of efforts involved with the establishment of an HIE initiative. The alignment of mutual goals led Mountain-Pacific and the NCHCI to establish a strategic partnership. Mountain-Pacific works with the NCHCI's chief development officer, Raymond Rogers, on two fronts: offering support in the NCHCI's efforts to develop HIE in the Montana and working with the NCHCI and the Department of Health Care Informatics in an academic partnership. This partnership has already resulted in the development of an EMR/EHR conference in August 2005 and the Connecting Rural Health Communities Through Information Technology conference in October 2005. Invitations for these events engaged providers and payers in the Mountain states and the Pacific Northwest.

During the October conference the NCHCI and Mountain-Pacific worked in concert to convene an informal meeting of stakeholders interested in the development of a statewide regional health information organization, MontRHIO. Raymond Rogers invited conference keynote speaker Janet Marchibroda as well as representatives from AHRQ to help facilitate. Also in attendance were staffers from all three of Montana's congressional delegation. A wellspring of interest and individual community effort has flourished since this meeting.

A part of the DOQ-IT pilot, Mountain-Pacific partnered with Community Hospital of Anaconda. The hospital received an AHRQ planning grant in 2004 for the development of a three-county HIE effort. The QIO is assisting with their efforts to receive full implementation grant funds and works with them as they develop the HIE entity. Mountain-Pacific provided the services of a grant writer to assist with an additional grant application for Anaconda, through the eHealth Initiative.

In addition to Mountain-Pacific's involvement in HIE formation, they provide other forms of support. At the request of the largest healthcare provider organization in the state, the QIO is aligning goals in the areas of data sharing and measure reporting. The QIO hired a grant writer with a goal of supporting HIT efforts within the state. With regard to

implementation, Mountain-Pacific provided assistance coordinating the development of a lab interface for an electronic registry vendor connecting one hospital lab with practices currently using a registry tool. Mountain-Pacific also worked with the vendor to test export capabilities. As for evaluation efforts, the QIO plans to assist in evaluating quality improvement efforts to demonstrate HIE effectiveness and identify areas for improvement.

Because Mountain-Pacific is committed to advocating and supporting statewide interconnectivity among all health care facilities, providers and payers, the QIO will continue to pursue and engage as many stakeholders in the state as possible during the 8th SOW.

MAINE, NEW HAMPSHIRE, AND VERMONT – NORTHEAST HEALTH CARE QUALITY FOUNDATION

Northeast Health Care Quality Foundation (NHCQF), which serves as the QIO for three states, reports varying levels of HIE activity across these three states. Activity is minimal in New Hampshire; initial discussions are occurring in Maine; while community health leaders are significantly engaged in the development of HIE in Vermont. The QIO is a key stakeholder in all HIE-associated activities, and serves also as a convener of exchange-related activities.

In Maine, the hospitals have formed a technology group that is currently discussing interconnectivity. There is an electronic web-based registry to collect pay for-performance information from approximately 275 doctors. Performance data is based on that registry, and work is underway to integrate it with Anthem's outpatient work and with "Bridges to Excellence." NHCQF is involved in the registry aspect and has a close involvement with the Maine Hospital Association.

In Vermont, there is significant movement toward the development of an HIE network. The Vermont Health Information Technology Leaders (VITL) has been incorporated with seed money and a matching grant from the state of Vermont. All the major statewide players in information technology are on the board of VITL. Currently, the group has subcommittees working on standards and architecture, communications, funding and privacy. NHCQF is supporting these efforts and has a representative on the Board, the Executive Committee and on the Standards and Architecture Committee.

Within this multi-state environment, the Northeast Health Care Quality Foundation has assumed the role of convener/facilitator; providing ideas, describing the state of HIE today and capitalizing on the QIO 8th SOW as an opportunity to get further engaged in HIT and data exchange activities. For the QIO 8th SOW, NHCQF has recruited almost 100 practices for DOQ-IT across the three states.

NEBRASKA – CIMRO OF NEBRASKA

CIMRO of Nebraska is one of several key participants in emerging HIE activities. Preliminary discussions are underway in the state to develop a HIE network, tentatively called The Nebraska Electronic Health Information System. At the time of this report, discussions had been held regarding the vision, purpose, operability and funding of such an organization, and prospective partners and stakeholders are being identified. A short list of stakeholders includes: the Nebraska Biomedical Information Project, the Nebraska Medical Association, the State of Nebraska Department of Health and Human Services, the Nebraska Hospital Association, the Nebraska Health Information Management Association, and various provider and educational groups. CIMRO of Nebraska has discussed its role in health

information technology and HIE with several of these stakeholders. All activities to date have occurred under the current CMS QIO contract as part of 8th SOW activities.

NEVADA - HealthInsight

HealthInsight, Nevada's QIO, is a member of a stakeholder group established in 2005 with the intent to create a mechanism for health information exchange in Southern Nevada. The stakeholder group is a working group of the Southern Nevada Medical Industry Coalition (SNMIC), which includes representatives from business, labor, academia, clinics, hospitals, health plans and government. This group has established over 30 collaboratives and projects during the last few years that have addressed issues such as antibiotic resistance, lead poisoning, the provision of adult daycare, and healthcare workforce development.

The stakeholder group has been meeting monthly since Summer 2006. They began by determining the need and desire for health information exchange (HIE) in Southern Nevada. The health care system in Southern Nevada is under a tremendous amount of stress. It has had the highest rate of population growth in the country for several years running, has the lowest rate of physicians and nurses per population and has a fragmented provider system without any dominant health plans or hospital systems. The stakeholder group has found there is a demonstrated need, as well as a will in the community to move forward with the creation of an HIE.

The group is now investigating options for organizational governance and technical architecture. HealthInsight is playing a key role. HealthInsight is on the Board of the Utah Health Information Network (UHIN) and Scott Williams, MD, the VP, Medical Affairs for HealthInsight-Utah is also the Principle Investigator for the AHRQ grant to Utah for the formation of a regional HIE. Dr. Williams has been attending the stakeholder meetings in Nevada to provide insight into the different options available and to help the group avoid pitfalls. One possible option that is being explored is for the Southern Nevada organization to lease capacity from the UHIN as that system begins to come on line over the next year.

NEW JERSEY – HEALTHCARE QUALITY STRATEGIES, INC.

HIT is in the beginning stages in New Jersey. Healthcare Quality Strategies, Inc., (HQSI), formerly PRONJ, sees HIT and HIE as key components of achieving its organizational mission to accelerate health care quality improvement throughout New Jersey.

HQSI has been meeting with and developing strategic plans with New Jersey's key health care stakeholders including local, state and federal government and agencies, health plans, hospitals, hospital trade associations, physicians, physician membership organizations, vendors, and many others. In terms of HIT, HQSI implemented a successful DOQ-IT pilot project - a national project funded by CMS to assist small primary care physician practices implement an electronic health record (EHR) system within their practice. HQSI worked with 11 practices throughout the state during this pilot phase from November 2004 through July 2005. In August 2005, HQSI rolled out the next phase of this project - a statewide DOQ-IT project which will include more than 200 primary care physician practices throughout New Jersey.

To implement a project this size, HQSI recognized the need to develop an HIT initiative that encompasses the state, all health care players and consumers. HQSI's Chief Executive Officer, Martin P. Margolies, is leading the statewide HIT initiative. Margolies is actively leading the development of a statewide HIE.

The goal of this effort is to develop the structure, governance, and successful implementation of HIE throughout the state. HQSI is working with the eHealth Initiative to establish a governing body and key workgroups. There will be four workgroups, focused on: clinical, technical, governance and legislative topics. These workgroups will build the statewide structure for a data exchange network in New Jersey. HQSI will be hosting an e-Health Day in early Spring of 2006. This will serve as the launch for the state's HIE.

NEW MEXICO MEDICAL REVIEW ASSOCIATION

The New Mexico Medical Review Association (NMMRA) is very actively engaged in a wide range of HIE activities within the state. Their role includes that of convener/facilitator and key stakeholder.

The history of NMMRA and HIE development can be seen in the context of three fortuitous events: (1) meeting, and hiring as consultant, a national HIT expert now resident in the state; (2) discovering a wide range of projects, and therefore prospective HIE stakeholders, during research for the 8th SOW; and (3) joining forces with a group that will literally provide the conduit for HIE. As a result, work towards a New Mexico HIE is now underway, with 25 stakeholders already brought together by the QIO.

One of the first steps the QIO took toward HIE formation was learning as much as possible through national conferences and experts. One of the major successes of those efforts, reports the QIO, was establishing a consulting relationship with Jeff Blair, vice president of the Medical Records Group, and member of the National Committee on Vital and Health Statistics (NCVHS). Blair consults on the 8th SOW, but his major role is advising on HIE. All HIE activities are supported by non-QIO corporate funds. In addition to his expertise, Blair's association with the QIO has provided a level of neutrality that was needed.

In recruiting prospective practices for the 8th SOW, the QIO learned of a wealth of ongoing initiatives within the state, and started to collect stakeholder names. At the same time, the QIO kept these stakeholders apprised of HIE policy developments taking place at the national level. Among the projects encountered during recruitment activities were a statewide immunization system led by the Department of Health, a National Electronic Disease Surveillance System, a Hepatitis C registry that is part of an AHRQ-funded grant project, and an Indian Health Service version VISTA, among others.

The third key circumstance was aligning with the Telehealth Alliance of New Mexico, a group which included many of the same stakeholders the QIO was encountering. NMMRA is now part of the Alliance's steering committee and anticipated being elected to its board in May 2005.

As the HIE comes together, some unique stakeholders will be invited, such as representatives from the National Laboratories located in New Mexico, Intel Corporation, the Public Service Company of New Mexico and the state's Board of Education. NMMRA also believes it will need to reach out to the public school system generally since so many projects in the state deal with pediatric care.

Other activities in the state include the 4 Corners Telehealth Coalition, where the QIO is helping to plan a telehealth network consisting of New Mexico, Colorado, Arizona and Utah; and the Florida Health Choice Network IT. The latter project connects Florida, New Mexico and Utah with Medical Manager. Although the QIO is not involved with this project directly, it will provide information as it moves into the next phase of the 8th SOW.

NEW YORK - IPRO

IPRO is currently in contact with and receives updates from at least five emerging HIE networks in New York: the Taconic Health Information Network Community (THINC) initiative with the Taconic IPA; the Primary Care Information Project (PCIP) of the New York City Department of Health and Mental Hygiene; the Coordinating Council for E-Health in Western New York with 39 initiatives in upstate New York; the Health Information Exchange of New York (HIXNY); and the New York Clinical Information Exchange (NYCLIX) coordinated by the Greater New York Hospital Association (GNYHA).

IPRO is involved as an active stakeholder in at least two of the mentioned HIEs. For the THINC, IPRO acts as an advising member on the Clinical Metrics Workgroup and is working with the Taconic IPA in coordinating physician outreach for EHR implementation, as part of the larger THINC agenda. Similarly, IPRO has partnered to collaborate with the PCIP on their EHR implementation efforts. The ultimate goal of the project is to create a public health-focused network to ensure efficient and secure exchange of information. IPRO has written letters for both the THINC and the PCIP to support their proposal submissions to the Health Care Efficiency and Affordability Law for New Yorkers (HEAL NY) funding.

IPRO's exact role in each of the HIE initiatives will be better defined once the first round of HEAL NY grants are identified and the activities around them become clear. For some, the QIO will continue to be involved in physician outreach for EHR implementation; for others, IPRO will likely be involved, primarily, with coordinating the QIO/CMS agenda (e.g., ensuring that CMS quality metrics are captured) and promoting quality improvement processes post-implementation.

Additionally, IPRO is currently involved in related activities such as coordinating the QIO quality agenda with key stakeholders forming or operating the HIE network (all of these activities are performed as part of its current CMS QIO contract). In the future, it anticipates supporting/accelerating physician/provider adoption of IT and serving as a resource for physician workflow and process change, among other activities.

IPRO also notes that planned activities are dependent on the evolution of the above four mentioned emerging initiatives. In addition, IPRO intends to reach out to the other initiatives in New York to assess potential roles for the QIO.

OHIO – OHIO KePRO

Ohio's QIO, KePRO, is actively involved as a participant in several planning and convening activities related to statewide HIE initiative formation. Related activities include organization/convening of stakeholders regarding creation of an HIE, coordination of the QIO quality agenda with key stakeholders; assisting stakeholders with education on issues; supporting physician/provider adoption of IT; and serving as a resource for physician workflow and process change/improvement.

Ohio KePRO is currently a participant in the Ohio IT Summit Group, an organization of statewide agencies working together to strategize about connectivity for Ohio. This group held a summit meeting in 2004 to showcase the various health-related projects in the state focused on IT. Activities for 2005 include plans for a follow up summit and continued deliberations for next steps.

Most recently, Ohio KePRO was asked to participate in a newly developed group in Northeast Ohio whose goal is to establish a RHIO. NorTech, an economic development

organization in Cleveland, is taking the lead and pulling together leadership from area hospitals, the Center for Reducing Disparities, and end-users, who will work toward this goal.

Promotion of EHRs in the ambulatory setting is being fostered by stakeholder groups representing the physician professional organizations, state agencies, managed care plans and providers for the underserved, among others. These individuals compose the Action Council for the QIO's physician office team with a vision of accelerating use of IT in physician offices, educating about cultural competency, improving clinical performance measures in the African-American population and improving safety in the delivery of prescription drugs.

OREGON – OMPRO

OMPRO, Oregon's QIO, participates actively in a wide range of HIE-related initiatives, involving support for policy development and other stakeholder activities. OMPRO was an early member of the Oregon Health Information Infrastructure (OHII), a coalition of stakeholders convened in 2003 to lay the groundwork for connectivity among Oregon's health care providers. OHII has engaged the Oregon business community in exploring the potential of HIE, and in 2006 it named a task team of high-level Oregon healthcare leaders to develop focused proposals for sustainable HIE.

In 2004, OMPRO was appointed to the Electronic Health Records & Data Connectivity Subcommittee of the Oregon Health Policy Commission. The Subcommittee was charged with generating state policy recommendations for fostering EHR adoption and developing an infrastructure for sustainable, secure exchange of electronic health data in Oregon; it submitted recommendations to the Oregon legislature in March 2005.

OMPRO's DOQ–IT interventions include assistance to multiple independent practice associations (IPAs), fostering HIE through a focus on IPA-wide EHR solutions. These single-vendor systems support connectivity among participating clinicians and will facilitate connections among IPA communities in the future. OMPRO is assisting the IPAs in evaluating the business case, planning the transition, and implementing the new systems.

OMPRO is also involved in several initiatives related to policies for information sharing, development of common measurement goals, and aggregation of electronic health data. From 2003 to 2005, OMPRO partnered with Oregon DHS, HS and the Oregon Health Care Quality Corporation ("Quality Corporation," a subsidiary of the Oregon Coalition of Health Care Purchasers) in a pilot Chronic Disease Data Clearinghouse. The pilot tested the feasibility and value in merging patient-level claims data (including pharmacy data) from 11 health plans into physician reports for patients with asthma and diabetes, replacing separate reports from each health plan. The project successfully engaged health plans to submit data in a HIPAA-compliant process, and physician feedback was positive. OMPRO and the other partners are currently exploring potential additional uses for the merged data. The lessons learned will pave the way for future information exchange activities.

In 2005, OMPRO was appointed to the Oregon Health Policy Commission's Quality and Transparency Workgroup, convened to select measures for public reporting of hospital quality data. Based on the business case and the relative maturity of the measure sets, the Workgroup recommended that all hospitals report Surgical Care Improvement Project measures from the Medicare 8th SOW, and that larger institutions begin reporting the measures from the National Surgical Quality Improvement Program by 2010.

OMPRO sits on the Technical Expert Committee for Measuring Healthcare Value in Oregon: Ambulatory Care, a project initiated by Quality Corporation in 2005 to build statewide consensus around clinical quality measures for primary care practices. The vision is to align health plans, including Medicare Advantage plans, around a set of common measures for evaluating quality, for public reporting, and ultimately, for pay-for-performance. A draft of measures will be vetted in February 2006; the proposed measures include a starter set that uses only administrative data and an expanded set that includes medical record data. One of OMPRO's roles is to ensure that the measure set is consistent with Medicare's current and developing public reporting activities, Physician Voluntary Reporting Program, and pay-for-performance initiatives.

PENNSYLVANIA – QUALITY INSIGHTS OF PENNSYLVANIA

There are extensive HIE activities underway in Pennsylvania, and Quality Insights of Pennsylvania (QIP) is helping lead the efforts as a convener and as a key stakeholder.

QIP is advocating for, planning, and co-leading the effort to establish HIE in the state, along with the Pennsylvania Medical Society and the Pennsylvania hospital association. The effort is informally known as the Pennsylvania e-Health Technology Consortium. Two subcommittees have been formed (governance/finance and also mission/strategy), and a highly successful statewide meeting was held in July 2005. Stakeholders are hoping to build on the momentum of the statewide meeting by linking the smaller HIE initiatives, such as the University of Pittsburgh Medical Center, Geisinger, and Philadelphia.

Much of this work is occurring outside the QIO contract, but as part of its QIO contract, QIP has participated in the Pittsburgh Regional Healthcare Initiative's Pittsburgh Health Information Network (PHIN). The QIO has provided technical support in the form of IT design and implementation as well as both hardware and software.

In terms of HIT, QIP ran a successful pilot project in preparation for the 8th SOW involving EHR implementation in nine physician practices (family and general practice) throughout the state. The QIO purposely chose practices at different points in the implementation continuum of EHR (e.g., including practices that have already installed one, those letting it sit on the shelf and those that don't have any HIT). The pilot was so popular that the QIO had to turn practices away for lack of resources to support the work.

In running this pilot, the QIO formulated a unique approach through a "train the trainer" program. Specifically, the QIO hired an external consulting firm to train staff in physician offices, and included its own staff members as part of that team. Consequently, the QIO staff were learning about implementation at the same time as the nine practices. Further, each practice benefits through free consultation, examination of its workflow, evaluation of its HIT, and assistance with implementation. As with other QIOs, this work dovetails nicely with the overall emerging HIE activities in that the practices which have implemented EHRs through the pilot may be more willing to connect to the data exchange network because of the "trust factor" developed via relationships such as this.

Over time the Pennsylvania e Health Consortium has taken on the role of Pennsylvania's Regional Health Information Organization (RHIO) and has incorporated as PAeHI or The Pennsylvania eHealth Initiative. Bylaws were developed and have been adopted by the full membership. A 10 member Board of Directors has also been elected from the original members in November of last year, which includes the QIO.

Since the election, the Board has met three times in person and once via teleconference. In addition to the election of the board, PAeHI created four standing committees - Business Analysis and Technology, Communication and Education, Membership, and Finance - which are currently recruiting member representatives from interested stakeholder organizations. The committees have developed charters and are scheduled to meet in the coming weeks to begin their work.

RHODE ISLAND – QUALITY PARTNERS OF RHODE ISLAND

Since 1999, Quality Partners of Rhode Island, the Rhode Island QIO, has been a member of a key stakeholder leadership group to both recognize the importance of and meet the challenges of implementing information technology within the health care delivery system. In addition to Quality Partners, this group includes the senior executives from the major insurers, government, providers, academe and consumers. It was assembled under the leadership of then State Attorney General Sheldon Whitehouse. The group formally incorporated as the Rhode Island Quality Institute in 2000. Quality Partners has served on the Board of the Institute since its inception.

Over the course of the past five years, technology infrastructure improvement has become the primary focus of the Institute. It serves as the convening body in the state to promote discussion and solution development of the issues surrounding HIE. Quality Partners serves on several of the committees that have been chartered to address this topic, particularly related to physician implementation of IT, and co-chairs the Culture Change committee.

The HIE effort in Rhode Island was bolstered last year with the award of an AHRQ contract to the State Department of Health (HEALTH) to design and implement a Master Patient Index System. Staff from HEALTH supports the contract with subcontracts to external parties for selected services. Quality Partners is one of those subcontractors. Its charge is to interact with the physician community to ascertain their needs related to the design and development of the index; and to recruit and train the practice sites where the index will be tested.

In addition to the activities discussed above, Quality Partners pioneered the concept of collaborative learning related to health information technology across physician offices in Rhode Island and how it can support quality improvement in patient management. This learning initiative was conceived and implemented in partnership with HEALTH and was funded by the Robert Wood Johnson Foundation. This was followed by a learning collaborative featuring open access scheduling. It was so popular that it is being conducted for a second set of office practices this year.

SOUTH CAROLINA – CAROLINA CENTERS FOR MEDICAL EXCELLENCE

South Carolina is still in the very early stages of adoption and use of HIT and until the initiation of the QIO driven DOQ-IT initiative, there had been relatively little public discussion regarding HIT and HIE. Due to this initiative, The Carolinas Center for Medical Excellence (CCME) has been heavily involved in multiple efforts with stakeholders to support the successful selection and implementation of HIT in physician offices.

In early 2005, the SC Medical Association and CCME sponsored a Health Information Technology seminar focusing on selection and implementation of electronic health records in physician offices. Because of the level of interest and demand, a follow-up EHR seminar is being held in March 2006. An additional undertaking has been made in concert with the SC Academy of Family Physicians. This partnership has resulted in the DOQ-IT initiative being

formally adopted to support family physicians in converting from paper to electronic health systems. These partnerships and the proactive stance they adopted has resulted in wide-spread conversation about electronic systems and health information exchange. This is evident through the many requests for assistance that the QIO has received.

Though up to the present there is not a statewide effort from any sector to drive HIE, CCME is actively involved with two rural communities as they plan and move toward health IT and HIE. In the early stage, these communities invited the QIO to provide assistance as they plan and move to an interoperable health information organization within the county. Each community collaboration is planning a community wide system to integrate diverse health care information systems. Both communities have been successful in positively engaging all outpatient providers, and the hospitals in each area, which have the greatest resources, have agreed to provide support to all providers as such a transition is made.

During preparation for the 8th SOW, CCME's DOQ-IT staff has already had requests for assistance from 80+ physician practices. As these and other practices transition to electronic health records, CCME anticipates convening, facilitating, educating, and becoming more intensely involved in HIT and HIE in the state.

TENNESSEE - QSource

In Tennessee, QSource is very actively engaged as a key stakeholder in HIE planning and formation activities, reflecting a high degree of HIE activity occurring in the state.

The Vanderbilt Center for Better Health was awarded an AHRQ grant, with additional state monies guaranteed. to develop a regional HIE network in the greater Memphis area. QSource, both as a local health care quality improvement advocate and as the QIO, was asked to participate in two, three-day workshops intended to formulate the organizational structure, timeline and IT resources necessary to complete this effort. The session also addressed a vision for what the system would look like and who would be considered the "owners" of the system. QSource is a "stakeholder" of the system rather than "owner" under the final recommended organizational structure. However, QSource maintains regular communication with the Vanderbilt program administrator regarding resources and needs of the program as they pertain to the QIO initiative. QSource also provides consultative support to investigate the role of HIEs in quality improvement.

In East Tennessee, QSource has played a secondary role in supporting local provider organization efforts to seek grant funding for regional HIE entities through consultation and provision of written support documentation. Statewide, QSource plays a supporting role in educating physicians about the State's Medicaid (TennCare) funded health information exchange, which allows providers to access clinical and laboratory information about their TennCare patients statewide and across managed care plans.

The QIO is involved in nearly all aspects of HIE, including participating in planning/strategy sessions and serving on the advisory board of a locally defined health organization. QSource has also assisted several local initiatives by supporting grant proposals to create and/or expand existing health information networks in east Tennessee, where QSource is now discussing the expansion of its current advisory role to possibly include support staff services to the local HIE organization. It also intends to play a role in both provider and patient recruitment efforts by creating local media campaigns, on-site EHR systems adoption assistance to physician offices, and identification and assistance to hospitals in defining core information.

To date, the QIO's advisory role has been outside of its current QIO contract activity. According to the QIO, its representation on the eHealth advisory panel is primarily as a local health care quality promotion organization, but it is also recognized as the "formal QIO" representative. The QIO's provision of staffing resources and advisory panel representation will likely continue to be outside of its core CMS contract. The QIO anticipates that as the RHIO progresses, physician recruitment and marketing assistance will most likely be considered part of its core QIO contract.

As a part of its 8th SOW, QSource will continue to support several local agencies in developing grant proposals to create and/or expand existing health information networks across Tennessee and will offer its media expertise and physician education/IT adoption program to them. The QIO is also investigating and making contact with all other "home-grown" information exchange networks as a way to offer physician recruitment and IT adoption education programs.

UTAH - HEALTHINSIGHT

There are a number of long-standing and diverse HIE activities underway in Utah, and the state's QIO, HealthInsight, is a leader, convener and key stakeholder. In the spring of 2004, a former Utah governor convened a group of stakeholders to endorse a plan for the Utah Health Information Network (UHIN) to serve as a HIE network. UHIN is a private, nonprofit organization established a decade ago to facilitate the electronic exchange of administrative health data and currently handles 50 million data transactions per year. HealthInsight was one of the founders of UHIN and holds a permanent seat on the organization's board.

A steering committee called the Clinical Exchange Committee (CEC) was created to lead the effort to build a functioning HIE. HealthInsight is a voting member of this committee. The committee began outlining a plan and timeline for the creation of the exchange in early 2004. Currently three major work groups are actively pursuing use cases with sustainable business models for the exchange of HL-7 and NCPDP messages and the development of a master patient index and record locator capacity. Two subcommittees are developing strategies to communicate the UHIN's activities to the community and policies to address consumer needs, including privacy and security.

Activity increased significantly in the middle of 2004 when UHIN received a five-year AHRQ contract for this purpose. HealthInsight was actively involved in writing that proposal and is part of the three-member steering committee which oversees the implementation of the grant. The two other members are the executive director of the Utah Department of Health and the assistant executive director of UHIN. HealthInsight is also a subcontractor on the grant for the purpose of grant evaluation.

Most of the aforementioned work of HealthInsight is being conducted under either the CMS base contract or the DOQ-IT special project. The primary exception is the evaluation of the AHRQ grant, which will not be part of the QIO contract.

The Utah QIO is also one of the four pilot states for the DOQ-IT pilot. Experiences of HealthInsight in their effort to support physician practice adoption of HIT and care process redesign have been used to shape the work of QIOs nationally in the 8th SOW.

VIRGIN ISLANDS MEDICAL INSTITUTE

The Virgin Islands Medical Institute, Inc. (VIMI), the QIO for the Virgin Islands, is currently the primary organization responsible for information dissemination and stakeholder organization. VIMI is in the process of assessing the electronic capabilities and current systems in use by health care providers such as physician offices, the Department of Health clinics, laboratories, radiology centers, and pharmacies. In addition to health care providers, the QIO recognizes the importance of consumer access and is also working with possible Internet access sites such as universities and libraries so that Internet-based interactive health records can be incorporated into the eHealth effort as well.

VIMI has obtained written commitments from all hospitals, health clinics, nursing home, home health agencies, libraries, universities, and medical societies in the Virgin Islands to participate in the formation of a comprehensive health network built upon the ability to exchange information electronically within and between all of the entities. Further, the QIO has the written support of a high percentage of commercial entities, such as laboratories and pharmacies. This will offer a unique opportunity for an entire population to collaborate in establishing coordinated plans to accomplish improved health through connectivity and quality improvement.

Further, VIMI has been in discussion with a personal health record provider to provide interactive health records for the entire population of the Virgin Islands. The health centers, libraries, and universities are currently planning, under the facilitation of the QIO, to discuss providing public access to these secure personal health records, as well as to other health information, as "health education kiosks" strategically placed at or near these sites.

Dissemination of relevant health information is the focus of the QIO's eHealth solution. A secondary goal is to build a system centered on an interactive personal health record for every resident of the Virgins Islands that allows consumers/patients/clients to become more connected in real time with providers of service and to take greater responsibility for their own health care.

As part of the 8th SOW, the QIO is currently involved in providing assistance to physician offices in researching EMRs and evaluating office workflow. As the program progresses, it will also assist in the operation and evaluation of these systems to improve quality. The QIO has already started to network with current EMR users, asking them to serve as physician champions in promoting EMR use for all physicians. The medical director of the Governor Juan F. Luis Hospital and Medical Center, Dr. Kendall Griffith, is a staunch supporter of all efforts to connect all health care entities to the hospital and to each other, and is assisting in this plan. The QIO is also working with Dr. Griffith to provide physicians with hospital privileges access to the hospital EMR from their offices.

At the conclusion of the 8th SOW, the QIO intends to have accomplished the following:

- Established a Virgin Islands Health Consortium with representatives from every institution dedicated to accomplishing eHealth;
- Developed a comprehensive planning document that establishes the blueprint for eHealth in the Virgin Islands;
- Designed a means that provides multiple physical points of access to the EHR for each resident;
- Designed a pathway by which health care providers, hospitals, clinics, and physicians can access and update the health record of their patients; and
- Designed a plan for accessing and sharing aggregate data to assist in identifying health disparities in the community.

VIRGINIA – VIRGINIA HEALTH QUALITY CENTER (VHQC)

Two HIE initiatives are evolving in Virginia, one in Central Virginia and one in Southwest Virginia.

The first, CareSpark, encompasses a fifteen-county region along the Tennessee-Virginia border, with its executive leadership housed in Kingsport, Tennessee, part of the Tri-Cities area. In the Southwest region of Virginia, this initiative encapsulates nine counties (Lee, Wise, Scott, Washington, Smyth, Russell, Dickenson, Buchanan and Tazewell). CareSpark is assessing these counties for HIT readiness.

CareSpark's goals for 2005 include an initial medication improvement program with an e-prescribing module, followed by a diagnostic improvement program with CPOE capabilities. Specific partnership activities and opportunities for VHQC include providing:

- Assistance in integrating with statewide QIO program communications;
- Assistance in organizing and conducting sessions for local physicians/staff on the topics of evaluation/selection of EMR software, understanding workflow implications of HIT adoption, using data to monitor/report quality performance indicators, financial incentives for HIT adoption, program participation, and outcomes improvement;
- Assistance in developing materials for outreach programs to support consideration, adoption, and compliance with evidence-based guidelines;
- On-site assistance for physicians/staff to re-engineer workflow for integration of HIT and clinical process improvement programs; and
- Partnership with the information exchange initiative to define and measure improvement in outcomes (clinical process measures, improved health outcomes).

Practices recruited to the DOQ-IT project as a result of the partnership with CareSpark will receive notable benefit from adoption of HIT and advancing to interconnectivity due to the geographic distance between practices in these affiliated counties.

The second initiative, MedVirginia, is Central Virginia's only provider-sponsored HIE initiative. Responding to the unique "business to business" interdependencies present in today's complex health care environment, MedVirginia is uniquely positioned to support clinical and administrative process improvement on behalf of its diverse membership. MedVirginia's initial partners included CenVaNet, a leading hospital- and physician-owned network based in Richmond, VA, and MedAtlantic, an affiliate of the Virginia Urology Center. New partners include Wellogic, a health care software solutions company, Bon Secours Richmond Health System, and Athenahealth, Inc., the premier provider of online revenue cycle optimization services for medical practices. Physician practices that choose to participate in the exchange network will potentially need assistance in HIT selection/adoption. MedVirginia is beginning with HIE for the Richmond metropolitan area. Through its AHRQ grant with Rappahannock General Hospital, it is designing the way in which its infrastructure should be adapted and deployed to meet the needs of a rural community. Essentially, this template will allow MedVirginia to expand to other communities in Virginia, with the intent to offer its services statewide in collaboration with local community providers.
Potential collaborative efforts with the VHQC include co-sponsoring educational/training meetings for physician practices who are interested in adopting HIT, as well as for practices that have already adopted health IT and are interested in moving to HIE.

In addition, activity is beginning to emerge in Northern Virginia with Washington Hospital Center in the lead. It is building an active coalition to identify partners and potential physician practices for participation. The VHQC will participate in this coalition.

A telemedicine consortium via the Rappahannock Health Education Center (RAHEC) is also emerging in the Northern Neck of Virginia. The VHQC is looking toward partnership opportunities with RAHEC for telemedicine education, as well as identifying and recruiting physician practices for DOQ-IT.

Finally, a large medical group in Southeast Virginia plans to implement an EHR in the fall of 2005. Its goal is to extend its newly-implemented EHR to physician practices within the community to promote HIE. The VHQC has worked closely with this group for several years and plans to provide assistance as requested regarding HIE, as well as to recruit community-based practices into the DOQ-IT project.

WASHINGTON – QUALIS HEALTH

In 2005, Washington State Substitute Senate Bill (SSB) 5064 was passed by the legislature and signed by the governor. This bill requires the development of a state strategy for the adoption and use of electronic medical records and health information technologies that are consistent with emerging national standards and that promote interoperability of health information systems. The Washington State Health Care Authority (HCA) is working with a health information infrastructure advisory board (HIIAB) to develop this strategy. Qualis Health's Jeff Hummel, MD, Medical Director for Clinical Informatics, is a member of the HIIAB and has attended its monthly meetings, and contributed to its planning and recommendations. The Washington State Medical Association (WSMA) and the Washington Chapter AARP are also represented. Interoperability of e-prescribing data has been of particular interest to the HIIAB.

The HIIAB is considering several models for more or less centralized interoperable data flow, balancing concerns about security with the desire to have a query-able repository that would support surveillance and quality improvement. Key products/private partners under consideration are eHealthTrust and HealthUnity.

Qualis Health is also advocating with the HIIAB members to pilot test an interoperability network within the community health clinics directly administered by the HCA, in conjunction with a P4P program wherein the HCA would compensate clinics $2 / visit if the patient's care is tracked with an EHR, an additional $2 / visit if the EHR is connected to the interoperability network, and a third performance-based incentive based on quality measures data.

Qualis Health and First Choice Health Network, a provider network, recognized that small physician practices typically come up against two barriers to adopting health information technology: financial resources and EMR consulting. Qualis Health and First Choice Health Network teamed up for the first collaboration of its type in Washington State to help small practices to overcome these barriers. The innovative technology grants are being provided by First Choice Health as part of a joint initiative with Qualis Health to encourage specific physician groups to participate in a program called the Doctor's Office Quality Information Technology (DOQ-IT). The grants, of up to $20,000 each, are designed to help shrink the digital disparity between small, budget-strapped physician groups and their larger counterparts. The project generated 140 applications for the grants and DOQ-IT consultation, with 10 grants awarded to qualified applicants.

Qualis Health is also a member of the Puget Sound Health Alliance (PSHA), a regional partnership of employers, physicians and other health care professionals, hospitals, health plans, unions, patients, and others working together to improve quality and reduce the cost of health care across several counties in Puget Sound region. Jonathan Sugarman, MD, MPH, President and CEO of Qualis Health serves on the Quality Improvement workgroup of the PSHA.

Additionally, Mary Sellers, CIO for Qualis Health, serves as a member of the board of directors for the Community Health Information Technology Alliance (CHITA), an alliance of healthcare technology businesses and organizations with a mission to advance the adoption of information technology in healthcare for the purpose of improving efficiency and quality of care.

WEST VIRGINIA – WEST VIRGINIA MEDICAL INSTITUTE (WVMI)

WVMI, in collaboration with the West Virginia State Medical Association and the West Virginia Hospital Association, formed the West Virginia eHealth Initiative (WVeHI). The group started meeting in August 2004 to assist both associations in the implementation of EHRs and clinical information exchange. WVeHI is being operated by WVMI in collaboration with these two other founding partners. WVMI provides staff to support the operation of the WVeHI, whose goal is to facilitate the development of regional health information network(s) within West Virginia. WVeHI is also working with the state government on this initiative.

In February 2005, the group expanded the steering committee of WVeHI to include representatives from the American College of Physicians, the American Academy of Family Practice, three state medical schools, commercial and state payers, state government, nursing homes, two large tertiary care hospitals, American College of Emergency Physicians, several health care attorneys, West Virginia's Healthcare Authority, primary care network associations, and several IT consultants.

Bylaws and articles of incorporation were approved by the steering committee and the West Virginia eHealth Initiative was incorporated in September, 2005. An early accomplishment of the Initiative is the creation of a "white paper" on acquisition of health information technology/EHRs to assist health care providers in their adoption efforts. It is titled "So You have Decided to Buy an EHR…" and can be found at www.wvehi.org

WVMI's CEO participated on the Governor's Task Force on EHRs during 2005 which produced recommendations to state government for moving the adoption of health information technology (HIT) forward statewide. In early 2006, the Governor, following a recommendation of the Task Force, introduced legislation to jumpstart this objective, and it is anticipated that the legislation will be considered in March 2006.

Additionally, WVMI has been awarded a contract by the Governor's office to create a "road map for HIT" which will create the framework for the next few months and years.

West Virginia, through the efforts of WVMI, is participating in one of the four national contracts known as "ONCHIT 3" which were issued through the office of Dr. David Brailer. The four contracts are held by IBM, Northrop Grumman, CSC and Accenture. The goal of these contracts is to create the national prototype for demonstrating health information exchange. Accenture holds the contract which incorporates West Virginia as part of the demonstration, and WVMI is a subcontractor to assist Accenture achieve its contract obligations.

WISCONSIN – MetaStar

MetaStar has been an active participant in the activities of the Wisconsin Health Information Exchange (WHIE) since its inception in 2004. The WHIE system is supported by federal directives to establish an interoperable national health information infrastructure. The WHIE is one of nine regions awarded a grant by the Foundation of the eHealth Initiative and the US Health Resources and Services Administration (HRSA) to establish an exchange for standardized, electronic patient health information. The WHIE covers a population of 2.06 million (40% of Wisconsin), 42 hospitals, 5419 physicians, 25 health departments, 478 pharmacies and 1506 laboratories. Activities are predominately in Southeastern Wisconsin.

The HRSA grant provides for establishment of governance for a nine-county health information exchange and development of a pilot secure portal for three existing networks; Wisconsin Immunization Registry, Wisconsin Health Alert Network and Public Health Information Network; and to create a sustainable business plan. MetaStar representatives participated as a provisional member in working groups to accomplish these tasks. The WHIE annual meeting on January 24, 2006 culminated in the nomination of Board Members.

MetaStar representatives attend quarterly planning meetings to provide input based on its broad knowledge of care providers and settings to support sharing of demographic and clinical information to improve the efficiency, quality and safety of care in Wisconsin. MetaStar provided a presentation on the Doctor's Office Quality-Information Technology (DOQ-IT) project to illustrate the functionality of the physician office EHR to send and receive information on the WHIE. A MetaStar representative has volunteered to serve on the WHIE Education Committee.

WYOMING- MOUNTAIN-PACIFIC QUALITY HEALTH FOUNDATION

In Wyoming, advancing HIE is challenged by demographics (the state is the most sparsely populated state in the U.S., averaging five people per square mile), a medical liability crisis, low deployment of new technology (most areas use dial-up connections, and it requires an act of the state legislature to release land for a cell tower), and the relatively few number of prospective major players in a HIE (there is no medical school in the state, only 26 hospitals, and only 750 doctors). Nevertheless, a Wyoming Healthcare Commission created two years by the governor has been pivotal in advancing the state toward HIE, and the QIO has been an integral part of the process. Mountain-Pacific is well known and received throughout the state, and thus is playing the important role of convener and neutral entity.

The state health care commission recently issued a Request for Proposal to conduct a state infrastructure study, and Mountain-Pacific has been working with the Denver-based consulting firm that was awarded the contract. Mountain-Pacific has presented before Commission subcommittees charged with identifying HIT issues in the state, and has also been working with the firm to tell them what works and what does not work in helping physicians learn about new technology.

Additional initiatives are in progress: a few critical access hospitals use telemedicine to consult with specialists in Casper, but it is a rarity; and the community of Cheyenne-– which has no electronic infrastructure-–is working toward wireless EHR. While many clinics use fax services for prescriptions, there are no drug stores in Wyoming capable of receiving electronic information via the Internet. Thus in Wyoming, technology limitations are limiting factors in any emerging HIE efforts, but Mountain-Pacific is playing a key role with many stakeholders.

Appendix 2: AHQF Advisory Panel Members

Nancy Archer HCQIP Director Arkansas Foundation for Medical Care	**Christine Bechtel** Director of Government Affairs American Health Quality Association
A. John Blair, III, MD President & CEO Taconic IPA, Inc.	**Meryl Bloomrosen** Vice President Programs eHealth Initiative and its Foundation
Sharon Donnelly DOQ-IT Project Lead HealthInsight	**Lammot DuPont** Office of the National Coordinator for Health Information Technology (ONCHIT), Department of Health and Human Services
Lori Evans Senior Advisor Office of the National Coordinator for Health Information Technology (ONCHIT), Department of Health and Human Services	**Dawn FitzGerald** Chief Operating Officer QSource
Mark Frisse, MD, MBA, MSc Director, Volunteer eHealth Initiative Vanderbilt Center for Better Health	**William Golden, MD** Vice President, Quality Improvement Arkansas Foundation for Medical Care
Justin V. Graham, MD MS Associate Medical Director for Quality and Informatics Lumetra	**Thomas Jackson** Vice President Operations HealthInsight
Robert Kambic, MD Centers for Medicare & Medicaid Services OA/OCSQ/QIG/DCO	**Anthony Linares, MD** Medical Director, Quality Improvement Lumetra
Janet Marchibroda CEO eHealth Initiative and its Foundation	**Marc Overhage, MD, PhD** CEO Indiana Health Information Exchange, Inc (IHIE)
Charles Parker Director, HIT/DOQ-IT MassPRO	**Randy Peto, MD, MPH** Medical Director MassPRO
William Rollow. MD Director, Quality Improvement Group Centers for Medicare & Medicaid Services OA/OCSQ/QIG	**Scott Young, MD** Agency for Healthcare Research and Quality (AHRQ)

Appendix 3: Teleconference Discussion Questions

Health information exchange initiatives are loosely defined as "initiatives designed to mobilize health care data across organizations within a region or community."

1. What roles and responsibilities could QIOs have in health information exchange efforts, including the formation of regional health information organizations (RHIOs) and the National Health Information Network (NHIN)?

2. What roles and responsibilities could QIOs have in the development of health information exchange efforts, including RHIOs?

3. What roles and responsibilities could QIOs have in the implementation of health information exchange efforts, including RHIOs?

4. What roles and responsibilities could QIOs have in the ongoing operation of health information exchange efforts, including RHIOs?

5. Are their other stages of RHIO operation that QIOs might have a role in, such as evaluation?

6. What roles and responsibilities could RHIOs have in helping QIOs drive improvements in health care quality, safety, and efficiency, or vice versa?

7. In what way would the potential roles and responsibilities of QIOs differ depending on whether or not RHIOs were federal contractors or grantees, or private sector entities?

8. How could the potential roles and responsibilities of QIOs differ depending on whether or not QIOs are operating as part of their QIO contract or as a separate business entity in the community?

Appendix 4: QIO-HIE Survey

QIOS AND HEALTH INFORMATION EXCHANGE (HIE): A Survey

The American Health Quality Foundation (AHQF) has contracted with the eHealth Initiative (eHI) to draft a report outlining the potential roles and responsibilities for QIOs in Health Information Exchange (HIE).

A Health Information Exchange network is an electronic infrastructure for sharing clinical health care information across care settings (physician offices, hospitals, pharmacies, etc.) and providers. These networks may be governed and/or operated by community-based entities.

Dr. David Brailer, National Coordinator for Health IT, has referred to such entities as Regional Health Information Organizations (RHIOs).

AHQF seeks your help in identifying how QIOs are already working on HIE issues in their communities. We expect to profile many of these activities in the report under development.

The following information will be used by AHQA/AHQF and eHI staff to guide us as we develop recommendations for how QIOs can be involved in HIE activities. One of our staff will be in touch to discuss the information you provide, and we may ask to schedule an interview in order to acquire more detail about your work.

1. How is your QIO currently involved in an HIE network/RHIO? Please describe your involvement and provide any summary or background information necessary (such as history, key stakeholders, etc):

2. In creating these networks, QIOs might be involved in several stages, such as formation, implementation, operation or evaluation. To the extent that your QIO has been or is involved in these stages, please describe the type of activities you have undertaken or are undertaking in each stage:

   Formation:

   Implementation:

   Operation:

   Evaluation:

Some examples of specific activities might include the following: Please highlight any activities that your QIO is currently engaged in.

- [ ] Organize, convene and facilitate ongoing meetings of stakeholders about creating a HIE network.
- [ ] Convene stakeholders to discuss initiatives that support HIE.
- [ ] Participate in ongoing meetings as part of an existing HIE network.
- [ ] Participate in governance of an existing HIE network.
- [ ] Coordinate the QIO quality agenda with key stakeholders forming or operating the HIE network.
- [ ] Consult on IT architecture needs.
- [ ] Assist with or provide consumer, provider, and community education about HIT, HIE, HIPAA, privacy, security, confidentiality, etc.
- [ ] Identify and/or help coordinate resources for supporting formation or operation of HIE network.
- [ ] Support/accelerate physician/provider adoption of HIT.
- [ ] Serve as a resource for physician workflow and process change/improvement.
- [ ] Coordinate with an HIE entity to aggregate resources for physician office assistance (such as expert consulting, implementation assistance, implementation resources, etc.).
- [ ] Other functions or services related to HIE: Please describe:

3. Of the activities you highlighted or described above, which are you undertaking as part of your current CMS QIO contract? (use cut and paste if that is easiest)

4. What activities are separate from your CMS QIO contract? If some activities are outside of your contract, via other contractual arrangements or grants, please describe that contract/grant and the activities it encompasses (e.g., AHRQ grant, university contract, etc.).

5. Please describe any projects or activities you are currently planning during the 8th Statement of Work related to an HIE Network. Please indicate whether those activities are part of your planned work in the 8th Scope contract, or whether they are separate from the CMS QIO contract.

Please provide your contact information so we can follow up as necessary:

Name:
Title:
QIO:
Email:
Phone:

Appendix 5: Listing of QIOs

Alabama	Alabama Quality Assurance Foundation www.aqaf.com
Alaska	Mountain-Pacific Quality Health Foundation www.mpqhf.org
Arizona	Health Services Advisory Group www.hsag.com
Arkansas	Arkansas Foundation for Medical Care www.afmc.org
California	Lumetra www.lumetra.com
Colorado	Colorado Foundation for Medical Care www.cfmc.org
Connecticut	Qualidigm www.qualidigm.org
Delaware	Quality Insights of Delaware www.qualityinsights.org
D.C.	Delmarva Foundation for Medical Care www.dfmc.org
Florida	FMQAI www.fmqai.com
Georgia	Georgia Medical Care Foundation www.gmcf.org
Hawaii	Mountain-Pacific Quality Health Foundation www.mpqhf.org
Idaho	Qualis Health www.qualishealth.org
Illinois	Illinois Foundation for Quality Health Care www.ifqhc.org
Indiana	Health Care Excel www.hce.org
Iowa	Iowa Foundation for Medical Care www.ifmc.org
Kansas	Kansas Foundation for Medical Care www.kfmc.org
Kentucky	Health Care Excel of Kentucky www.hce.org
Louisiana	Louisiana Health Care Review www.lhcr.org
Maine	Northeast Health Care Quality Foundation www.medicarequality.org
Maryland	Delmarva Foundation for Medical Care www.dfmc.org
Massachusetts	MassPRO www.masspro.org
Michigan	Michigan Peer Review Organization www.mpro.org
Minnesota	Stratis Health www.stratishealth.org
Mississippi	Mississippi Information and Quality Healthcare www.iqh.org
Missouri	Primaris www.primaris.org
Montana	Mountain-Pacific Quality Health Foundation www.mpqhf.org
Nebraska	CIMRO of Nebraska www.cimronebraska.org

Nevada	HealthInsight www.healthinsight.org
New Hampshire	Northeast Health Care Quality Foundation www.medicarequality.org
New Jersey	HealthCare Quality Strategies, Inc. www.hqsi.org
New Mexico	New Mexico Medical Review Association www.nmmra.org
New York	Island Peer Review Organization (IPRO) www.ipro.org
North Carolina	The Carolinas Center for Medical Excellence www.ccme.org
North Dakota	North Dakota Health Care Review www.ndhcri.org
Ohio	Ohio KePRO www.ohiokepro.com
Oklahoma	Oklahoma Foundation for Medical Quality www.ofmq.com
Oregon	Oregon Medical Professional Review Organization www.ompro.org
Pennsylvania	Quality Insights of Pennsylvania www.qipa.org
Puerto Rico	Quality Improvements Professional Research Organization www.qipro.org
Rhode Island	Rhode Island Quality Partners www.riqualitypartners.org
South Carolina	The Carolinas Center for Medical Excellence www.ccme.org
South Dakota	South Dakota Foundation for Medical Care www.sdfmc.org
Tennessee	Center for Healthcare Quality, QSource www.qsource.org
Texas	TMF Health Quality Institute www.tmf.org
Utah	HealthInsight www.healthinsight.org
Vermont	Northeast Health Care Quality Foundation www.medicarequality.org
Virgin Islands	Virgin Islands Medical Institute www.vimipro.org
Virginia	Virginia Health Quality Center www.vhqc.org
Washington	Qualis Health www.qualishealth.org
West Virginia	West Virginia Medical Institute www.wvmi.org
Wisconsin	MetaStar www.metastar.com
Wyoming	Mountain-Pacific Quality Health Foundation www.mpqhf.org

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