



Case Study

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Rhode Island Quality Institute: A Statewide Partnership to Improve Health Care Quality

DEBORAH CHASE, M.P.A.
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Abstract: Rhode Island was the first state to begin moving toward establishing state-wide public-private partnerships for quality improvement and is the only state to have established an independent nonprofit organization to house and coordinate such efforts. Since its initial collaborative forum in 2001, the Rhode Island Quality Institute (RIQI) has guided the state toward notable improvements in reducing hospital-acquired infections and costs, establishing statewide capacity to fill electronic prescriptions, and adopting electronic health records by the majority of practices. RIQI is successful because its leadership structure includes top-level health care executives who must participate directly in all meetings, enabling rapid decision-making. The organization collaborates across government, industry, provider, and consumer groups. RIQI has built a solid foundation that allowed it to receive a \$15.9 million Beacon Community grant which will help further its mission to create a statewide electronic health information system.



OVERVIEW

Rhode Island was the first state to work to establish statewide public-private partnerships for quality improvement.¹ The state is alone in having established an independent, nonprofit organization to house and coordinate such efforts. Founded in 2001, the Rhode Island Quality Institute (RIQI) has guided the state toward notable improvements in reducing hospital-acquired infections and costs, establishing statewide capacity to fill electronic prescriptions, and the adoption of electronic health records by the majority of practices. RIQI provides an example of one approach to statewide quality improvement and offers lessons that can inform other states as they implement health care reform and delivery system change.

For more information about this study, please contact:

Deborah Chase, M.P.A.
Issues Research, Inc.
dchase@goinet.com

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History and Structure of RIQI

Origin and mission. In 2000, Rhode Island Attorney General Sheldon Whitehouse, now a U.S. Senator, convened a group of high-level public and private health care leaders to establish a partnership to improve the quality, safety, and value of health care in the state. Participants included the state’s director of health, the lieutenant governor, and chief executive officers of hospitals, health plans, and other health institutions. RIQI was launched the following year, under the direction of Laura Adams, a faculty member at the Institute for Healthcare Improvement. Unlike quality partnerships in other states, RIQI does not have any statutory authority, thus there is no required participation. In addition, participants receive no financial benefit for participating.

Leadership and membership. The founding board chairman, George Vecchione, is the chief executive of Lifespan, Rhode Island’s largest integrated delivery system. He established the precedent that organizations that joined the RIQI board had to be represented by their top leadership. “If top executives are at the table, it just adds a whole degree of acceptance and involvement at the senior-most level,” he said. Currently, the board is chaired by Jim Purcell, the chief executive of Blue Cross and Blue Shield of Rhode Island. The current board has 24 members, including heads of the public offices of health, human services, and health insurance regulation; the current and past lieutenant governors; the CEOs of the four health insurers in Rhode Island; the CEOs of the integrated hospital networks, independent hospitals, and hospital association; as well as leaders from community and consumer groups, purchasers, businesses, and universities.

The president and CEO of RIQI, Laura Adams, has a background in quality improvement and chairs the board of the National eHealth Collaborative, which advises the U.S. Department of Health and Human Services (HHS) on nationwide health information systems. She also chairs the Institute of Medicine’s planning committee to develop an electronic infrastructure for the health care system and is a

member of the panel advising HHS’s health information technology policy committee.

Operating principles and procedures. As an organization of potential competitors as well as partners, RIQI has had to develop a strong sense of trust and collaboration. RIQI’s founders created the following operating principles:

1. Collaborate and work together regardless of the competition among entities.
2. Focus on producing results and measuring outcomes rather than acting like a think tank or research institution.
3. Involve everyone through a process of trust-building characterized by transparency, a level playing field, and broad representation.
4. Require commitment from participants; do not permit substitutions for CEO-level leadership.

Meetings occur monthly and are open to the public. In addition, individual committees meet at other times to focus on projects. RIQI’s staff consists of about a dozen program managers and leaders primarily responsible for day-to-day management and oversight of projects.

“The structure itself breeds collaboration. This is the model, along with the electronic sharing data, that is going to reform and improve health care.”

—Jim Purcell, RIQI board chair and CEO, Blue Cross and Blue Shield of Rhode Island

Financial support. Without a statutory base, ongoing funding of RIQI is a constant challenge. Currently, over 40 different contributors, many of whom are represented on the board, provide support for core operations and projects. Support comes from local health plans and insurers, hospitals and other providers, local businesses and educational institutions, private

individuals, and philanthropic and government entities. In 2009, RIQI's annual budget was \$3.8 million and in 2010 is \$6.1 million. In late 2010, RIQI received a \$15.9 million Beacon Community federal grant to promote the use of computerized records and other electronic tools to improve clinical care, reduce costs, and improve population health.

QUALITY IMPROVEMENT

Reducing intensive care unit complications. In 2005, RIQI collaborated with the Hospital Association of Rhode Island and Quality Partners of Rhode Island, as well as the local hospitals, to work collectively on safety improvement in the state's intensive care units (ICUs). The collaborative sought to reduce ICU-related complications, such as ventilator-associated pneumonia and central line-associated blood stream infection, and costs associated with these complications.

A leadership team was formed to raise and manage funds, organize hospital staff training, and coordinate overall strategies. RIQI staff were responsible for financial management, fundraising, and other administrative responsibilities, but project leadership was shared among multiple individual and institutional partners. Leadership team members included representatives from RIQI, Quality Partners of Rhode Island (the Rhode Island Medicare Quality Improvement Organization), the Hospital Association of Rhode Island, and a critical care physician consultant. The effort's success is attributed in large part to active engagement of all participants. All of the adult ICUs in Rhode Island's acute care hospitals participated, for a total of 23 ICUs and 263 beds. Participation among the hospital staff included senior executives, ICU directors, nurse managers, physicians and nurses, pharmacists, respiratory therapists, infection control specialists, and quality improvement and support staff.²

Through collaborative learning, "Plan Do Study Act" cycles, and shared best practices, the ICUs made substantial progress improving safety around specific indicators in terms of culture, infection rates, care, and costs (see [Table 1](#)). Staff surveys

documented improvements in teamwork and attitudes toward patient safety between 2005 and 2009. Rates of blood stream infections from central line catheters were nearly halved. Ventilator-associated pneumonia decreased by 16 percent, and sepsis mortality has been reduced. As of 2009, \$9.13 million cumulative savings had been realized since 2007 because of these ICU quality improvements ([Table 1](#)).

Promoting e-prescribing. RIQI chose to increase electronic prescribing by providers as a strategy to reduce prescription errors. The project was also selected because it was expected to be an early success that would establish a track record for RIQI. The project began in 2003 in partnership with Surescript, which operates a large e-prescription network. The project began with a pilot involving 40 physicians in multiple, unaffiliated practices. The pilot was successful, in part owing to the engagement of physician leaders and support and leadership from the governor and the department of health.

As of September 2009, 63 percent of Rhode Island prescribers were using electronic tools for new prescriptions and refill requests, with 31 percent of prescriptions filled electronically.³ However, only a small proportion of the state's 500 top prescribers were e-prescribing.⁴ As a result of these findings, RIQI established a statewide eRx committee to focus on high-volume prescribers—typically those who care for patients with chronic conditions—to encourage them to e-prescribe. In addition, RIQI publishes a report on those providers who are e-prescribing and provides nonfinancial awards to them. Blue Cross and Blue Shield of Rhode Island now designate e-prescribing providers in their provider listing to help patients identify them.

The initiative has been particularly successful engaging the state's pharmacists. One hundred percent of Rhode Island's pharmacies are capable of handling electronic prescriptions.⁵ Rhode Island has received a Surescripts Safe Rx Award for being one of the country's top three electronic prescribing states every year since the award was instituted in 2006.⁶

Table 1. Trends in Quality and System Improvement in Rhode Island

	2005	2006	2007	2008	2009
SAQ safety climate score	43.8	44.3	44.7	47	67
SAQ teamwork score	46.3	45.5	47.8	50	68
CLABSI per 1,000 catheter days		3.12	1.80	1.17	1.60
VAP bundle compliance		62%	69%	80%	87.3%
VAP per 1,000 ventilator days		4.03	3.38	3.28	3.4
Sepsis mortality				25.1%*	18.2%**
Days in ICU reduced***			958	1118	1195
Cost savings			\$2.8M	\$3.1M	\$3.2M****

SAQ: Safety attitudes questionnaire to measure the culture of safety.

CLABSI: Central line-associated blood stream infections.

VAP: Ventilator-associated pneumonia.

* Third quarter, 2008.

** Fourth quarter, 2009.

*** Calculation based on the opportunity calculator, an analytical tool developed by Johns Hopkins University that calculates the average attributable morbidity and mortality rates, blood stream infections, and ventilator-associated pneumonia based on the average length-of-stay and cost for an intensive care unit day.

**** Cumulative savings since 2007 are \$9.13 million.

Source: Michigan Health and Hospital Association Care Counts database. Data include all 11 acute care hospitals and 23 intensive care units in Rhode Island; and J. B. Sexton, R. L. Helmreich, T. B. Neilands et al., "The Safety Attitudes Questionnaire: Psychometric Properties, Benchmarking Data, and Emerging Research," *BMC Health Services Research*, April 3, 2006 6:44.

Adopting health information technology. RIQI was created because state leaders wanted to improve health care quality and safety and viewed health IT as a means to that end. In 2003, RIQI leadership began to envision a statewide health information exchange (HIE). They approached the Rhode Island department of health to apply for funding from the Agency for Healthcare Research and Quality (AHRQ). Rhode Island became one of six states to receive a \$5 million, five-year state and regional demonstration project in health IT contract. The expectation was that the state would develop an HIE system that could integrate patient health data from various health care organizations and make data accessible to authorized health care providers. Building on early successes of collaboration, demonstrated by the improvements in ICU safety and e-prescribing, RIQI was designated by the state to become its regional health information organization (RHIO) and the state-designated entity for the HIE grant funded by the American Recovery and Reinvestment Act of 2009 (ARRA).

While the state builds infrastructure, RIQI has turned to increasing adoption of electronic health records (EHRs) by physicians across the state. RIQI

supports physician practices that are in various stages of EHR adoption. However, as experienced in other states, simply moving physicians toward adoption has been a major challenge. RIQI chose to promote adoption by relying on social and peer networking. The project mobilized the provider community to adopt EHRs by reaching out to physician leaders, educating these leaders on the advantages of EHRs and then asking them to endorse the practice with their peers. When considering adopting a new innovation, such as EHRs, physicians look to others to share experience and mitigate potential risks of changing established practices. If a respected peer has had a positive experience, a physician will be much more likely to try the innovation.

In Rhode Island, reaching physicians is difficult. Eighty-seven percent of physicians are in private practices and 90 percent practice in groups of five or less. But the social networking strategy appears to have been successful: 74 percent of Rhode Island physicians have EHRs, compared with a national adoption rate of 43 percent.⁷ To further support EHR adoption, RIQI has created a Web site (www.docEHRtalk.org) to support physician practices. It offers providers the

latest information on available health plan incentives, meaningful-use incentives, and other funding opportunities related to health information technology. It also allows physicians to communicate among each other on their EHR selection, installation, and practice redesign.

RIQI, in partnership with the Rhode Island Department of Health, is also working to protect the privacy of patient information. Rhode Island passed the Health Information Exchange Act of 2008, a law designed to provide privacy protections, ensure participation in the HIE is voluntary for consumers and providers, and place restrictions on the use of data. Consumers must consent to enroll in the statewide HIE, called *currentcare*, and can stipulate who has access to their health information. They have the following three options:

- all providers treating them or involved in coordinating their care may access all of their health information;
- all providers may have access, but only in an emergency or unscheduled event; or
- only providers specifically designated by the patient may have access to health information.

Patients can enroll in *currentcare* online, but it occurs more frequently in hospitals or physicians' offices in the context of an established patient-provider relationship. Of the approximately 100,000 patients who had enrolled as of October 2010, approximately 90 percent chose the first option. Enrollment is growing at a rate of 10 percent to 20 percent each month. To boost enrollment, staff are reaching out to individual clinics and hospitals and are seeking endorsements from trade groups, like the local diabetes association. To support physicians, RIQI sends staff to train office personnel on frequently asked questions and protocols for filling out the form to enroll in *currentcare*. RIQI also offers a reimbursement of \$3 per enrolled patient to practices to compensate for their time investment and to make sure patients fully understand the program and their options. When fully

operational, the HIE will provide clinicians statewide with a longitudinal medical record for each patient who signs up to participate. It will also allow consumers a comprehensive view of their medical information. The goals of the HIE are to provide access to information that improves the quality of care, drives down costs by eliminating duplicative tests providing better care coordination, gives critical medical information to providers when delivering care, and offers consumers better information to help manage their health.

NEXT PHASE OF DEVELOPMENT

Expanding HIT Activities. The Rhode Island Quality Institute has received over \$27 million in ARRA funding through three federal grant awards. These funds will be used to expand the development of the health information exchange in Rhode Island, to continue to offer electronic health record adoption tools and services to the provider community, and to support the expansion of patient-centered medical homes with health information tools that improve outcomes metrics.

RIQI will use funding from its \$15.9 Beacon Community grant to develop interventions that leverage the HIE and further its ability to create reports on quality, especially reports to primary care physicians participating in patient-centered medical home initiatives. For example, the grant will be used to:

- enhance reporting capabilities for primary care practices, providing them with decision support, clinical guidelines information, and comparisons of their individual performance against guidelines;
- map referral patterns to help primary care physicians communicate electronically with specialists;
- create notification systems for primary care physicians after patients have been admitted to the hospital; and

- build an all-payer claims database to provide information on hospital readmission rates and emergency room visits.

While the grant is focused on specific projects and interventions, the larger goal is to use these individual measures to demonstrate how the whole system is improving. Participating practices will gain by being well-positioned to benefit from new payment systems.

Behavioral health. Rhode Island, like other states, is struggling to make behavioral health care available and effective. RIQI participated in the development of the Rhode Island Network of Care for Behavioral Health (<http://rhodeisland.networkofcare.org/mh/home/index.cfm>). Managed by Butler Hospital, the Network of Care is an online resource for individuals, families, and agencies concerned with behavioral health. It provides information about behavioral health services, laws, and related news, as well as communication tools and other features. It creates a secure place where consumers can connect, providers can share challenges and ideas, and agencies can use private message boards to create their own Web sites. Funding to support this initiative has come from multiple RIQI partners, with additional in-kind support from RIQI collaborators and community service providers.

Becoming self-sustaining. RIQI has succeeded in part because of its wide base of support in the community and its ability to secure grant funding. In 2008, RIQI engaged the Boston Consulting Group (BCG) to develop the business case for HIE in the hopes of identifying potential long-term investment opportunities. The estimate generated by BCG was based on a conservative evaluation focused only on the value created from improvement in day-to-day care delivery and coordination, without considering the additional value generated from research, quality improvements, public health benefits, and workers' compensation improvements. Using these parameters, the evaluation concluded that a fully functioning HIE in Rhode Island would produce approximately \$108 million annually in savings, given approximately a \$5 million investment.⁸

The report by BCG also revealed the crux of the HIE sustainability problem. The resource benefits so many different entities—both public and private—that the benefit to any individual organization is not sufficiently great to justify providing core support. “No business person in their right mind would fund something singlehandedly when 75 percent of the return on investment goes elsewhere,” said RIQI president and CEO Laura Adams.

After reading the BCG report, the RIQI board looked toward government for long-term, dependable funding sources. During the 2010 legislative session, RIQI leadership pursued legislation that would create a claims assessment on both the privately insured and the self-insured. The assessment would have allowed a long-term, stable, permanent funding stream to support the continued development and maintenance of the HIE. However, because of the historically weak economy in Rhode Island and trepidation about supporting a new tax in an election year, the proposal was not introduced into the legislature. The board is currently developing a new strategy, which may include another attempt to enact legislation in the 2011 session.

LESSONS LEARNED

Robust and engaged state government. Statewide public-private partnerships are most effective when the state government is amenable and robust enough to promote and support innovation. In 2004, Rhode Island was primed to apply for Agency for Healthcare Research and Quality money, largely because the state health department had already envisioned a statewide health information technology infrastructure and was willing to take a leadership role in the process. Since then, RIQI has developed the infrastructure to quickly apply for federal economic recovery money in the short time frames mandated by the federal government. States with historical commitment to reform and with strong government infrastructure, leadership, passion, and experience are able to take advantage of federal funding opportunities.

Rhode Island has a history of collaboration with the private sector. In 1997, the state created a

RIQI has created a cultural change. Information technology translates into other ways to work together; for instance, around Medicaid legislation. The whole structure and process gives you an opportunity to work on something jointly rather than the traditional provider–payer relationship.

—*Jim Purcell, RIQI board chair and CEO, Blue Cross and Blue Shield of Rhode Island*

confidential, electronic child health information system that serves families, pediatric providers, and public health programs. It includes data from birth records, child health care providers, family outreach programs, lead poisoning prevention programs, nutrition programs, and many others. These data are available to all child health care providers who agree to provide immunization and other public health data.

RIQI also demonstrates the importance of government support as it creates protections around its information systems. As stated, Rhode Island was the first state in the nation to enact a law specific to health information exchange. The protections for disclosure of health information set forth in the act are the strictest of any state or federal law. The heightened privacy and security measures have been incorporated into RIQI's operational policies and procedures.

History of innovation. Rhode Island has achieved one of the lowest uninsurance rates in the nation, due primarily to implementation of RItE Care, a managed care and expansion program for Children's Health Insurance Program and Medicaid beneficiaries. Rhode Island has long had a tradition of top political leadership commitment to health care improvement through public policy and strong staff expertise. Historically, the state has built its health care reforms (such as RItE Care) through consensus models that draw on broad-based collaboratives.⁹ The state also introduced a health insurance commissioner position. This office has developed a reputation for driving innovation, as well as for effectively regulating insurers while

encouraging them to invest in health system improvements. The health insurance commissioner holds a seat on the RIQI board.

Early success builds momentum. RIQI began its efforts with short-term projects that were important for health improvement but also allowed the collaboration to demonstrate early success. Those immediate results allowed the initiative to build trust and gave the participants energy to continue to work on more long-term, incremental efforts, even when they prove challenging. Robust HIT work is difficult. It takes strong collaborative efforts among engaged and active partners who are hard-working, tenacious, creative, and committed to a long-term process.

Trust. The collaborative and consensus-driven processes that characterize RIQI's work has contributed to and benefited from a growing sense of trust among its partners. In the words of RIQI's president and CEO, Laura Adams, "It's important to understand that financial capital can't buy social capital. It's the relationships, trust, and accountability that produce results."

NOTES

- ¹ J. Rosenthal and C. Hanlon, *State Partnerships to Improve Quality: Models and Practices of Leading States* (Portland, Maine: National Academy for State Health Policy, June 2009).
- ² L. McNicoll, V. A. DePalo, M. Cornell et al., “The Rhode Island ICU Collaborative: The First State-wide Collaborative Four Years Later,” *Medicine and Health Rhode Island*, Aug. 2009 92(8):272–76.
- ³ Surescripts 2009 year-end utilization report.
- ⁴ Ibid.
- ⁵ Ibid.
- ⁶ Data from Rhode Island Quality Institute grant application to Agency for Healthcare Research and Quality, Oct. 2009.
- ⁷ <http://www.health.ri.gov/chic/performance/physician.php>
- ⁸ Boston Consulting Group, *Rhode Island Quality Institute: Business Case for Health Information Exchange*, Dec. 5, 2008, <http://www.riqi.org/matriarch/documents/RIQI%20business%20case%2008Dec2008%20FINAL.pdf>.
- ⁹ S. Silow-Carroll, E. K. Waldman, J. A. Meyer et al., *Assessing State Strategies for Health Coverage Expansion: Case Studies of Oregon, Rhode Island, New Jersey, and Georgia* (New York: The Commonwealth Fund, Nov. 2002).

ABOUT THE AUTHOR

Deborah Chase, M.P.A., is a health policy consultant with more than 20 years of experience in health care policy, with a primary focus on low-income and minority populations. She has worked for local government agencies, large health systems, small nonprofits, health care providers, national foundations, and academic institutions. Her expertise includes Medicaid policy, health care disparities research, qualitative and quantitative studies, and facilitation of neighborhood strengthening efforts. Ms. Chase has a master's degree in public administration from Harvard University's John F. Kennedy School of Government.

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The aim of Commonwealth Fund-sponsored case studies of this type is to identify institutions that have achieved results indicating high performance in a particular area of interest, have undertaken innovations designed to reach higher performance, or exemplify attributes that can foster high performance. The studies are intended to enable other institutions to draw lessons from the studied institutions' experience that will be helpful in their own efforts to become high performers. It is important to note, however, that even the best-performing organizations may fall short in some areas; doing well in one dimension of quality does not necessarily mean that the same level of quality will be achieved in other dimensions. Similarly, performance may vary from one year to the next. Thus, it is critical to adopt systematic approaches for improving quality and preventing harm to patients and staff.

