Information Technology: Facilitating the Translation of Research Into Practice

The Veterans Health Administration (VHA) offers unparalleled, advanced information systems and integrated decision support, which are vital tools for measuring and improving the quality of health care. Information technology (IT) can facilitate the translation of research findings into practice. The future of a cost-effective, evidence-based clinical care system is dependent upon IT that supports clinical research and strengthens clinical practice. This technology has become an integral and essential part of the quality improvement process found within VHA's Quality Enhancement Research Initiative (QUERI).

Each of the QUERI Coordinating Centers works with the existing IT to achieve their goals. The groups have also created new IT to meet their individual needs. The QUERI Centers currently focus on a separate disease or condition including: chronic heart failure, colorectal cancer, diabetes, HIV/AIDS, ischemic heart disease, mental health, spinal cord injury, and substance use disorders.

Information technology plays a critical and unique role in the six-step QUERI process that aims to achieve and maintain continuous quality improvement for these specific diseases/conditions.

The six-Step QUERI Process:
1. Identifies high risk/high volume diseases/problems.
2. Identifies best practices.
3. Defines existing practice patterns and outcomes across VHA and current variation from best practices.
4. Identifies and implements interventions to promote best practices.
5. Documents that best practices improve outcomes.
6. Documents that outcomes are associated with improved health-related quality of life (HRQOL)

Data and IT needs differ through the steps in the QUERI process. For example, during steps 1-3, activities focus on identifying existing and new data sources and data elements to describe and analyze VA health care practices and performance. QUERI groups need to ascertain the reliability, sensitivity, and completeness of this data, and anticipate future needs for target populations. To accomplish these goals, groups may need to assess and develop case-findings or screening algorithms and methods for identifying patients, in addition to devel-

oping or expanding existing patient registries and cohort databases. Each registry or cohort database must then be evaluated and validated. Linkages with other information systems (e.g., inpatient and long-term care facility data) need to be considered. As the QUERI Centers build these data resources, they are encouraged to make the data available to other researchers. In steps 4-6, the QUERIs are expected to implement and assess changes, based on evidence-based practice. Timely data collection and analysis are critical to evaluating implementation strategies that are both generalizable and sustainable.

Information technology also may serve as an intervention component (Step 4) to improve performance gaps. As part of an intervention, IT might include linkages with electronic medical records, organizational data, and clinical decision support tools. When the Ischemic Heart Disease (IHD) QUERI group began to develop a national clinical

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Through its work to date, QUERI has learned that success and impact in improving healthcare quality and outcomes require increased collaboration between QUERI and its non-VA peers and counterparts. This success also depends on higher levels of internal integration and coordination of the numerous VHA programs and organizations working to develop and implement evidence-based clinical policies, practices, and quality improvement strategies.

QUERI's external collaboration partners include federal and non-federal granting agencies, large public and private healthcare delivery systems, and others involved in efforts to improve healthcare quality and outcomes through increased implementation of evidence-based practices. QUERI's internal integration goals include identifying common VHA programs and activities conducted at the national, regional, and local (facility) levels, in order to develop a coordinated approach that facilitates mutual support and synergy among these activities.

For example, ongoing discussions with the Agency for Healthcare Research Quality (AHRQ) and several National Institutes of Health (NIH) agencies are expected to produce benefits for QUERI and non-QUERI investigators, through increased interaction at conferences and meetings and through joint research initiatives. In addition, QUERI representatives will work with other VHA representatives to develop a new "blueprint" for enhanced integration of VHA's numerous quality improvement-related programs and activities, including those conducted by the Office of Quality and Performance, the Office of Patient Care Services, and the Employee Education System. These efforts should improve the effectiveness and efficiency of these programs, and their success in achieving common goals.

John G. Demakis, MD
Director, HSR&D

QUERI Develops National Meeting Opportunities

Professional meetings and conferences offer valuable opportunities for QUERI to disseminate its findings and insights outside VA, and to strengthen mutually beneficial collaborations with non-VA research and practice experts sharing QUERI's mission and goals. QUERI is increasing its efforts to participate in important conferences as part of a broader goal to strengthen dissemination and collaboration activities.

The major conference addressing QUERI's mission of "translating research into practice" is appropriately labeled "TRIP" – Translating Research into Practice. The TRIP conference brings together those who share an interest in the translation of clinical and health services research findings into practice. This year's conference will be held in Washington DC from July 12-14 and is co-sponsored by the Agency for Healthcare Research Quality (AHRQ) and the National Cancer Institute (NCI), with additional support from other agencies including VA's Health Services Research and Development Service (HSR&D). QUERI investigators plan to participate in a number of ways, such as conference presentations and posters. Additional information regarding HSR&D/QUERI participation in this year's meeting is available from Jeff Smith, PhD, Implementation Research Coordinator for the Mental Health QUERI (e-mail at Jeffrey.Smith6@med.va.gov).

Another annual conference bringing together researchers, policy experts and clinician and non-clinician healthcare delivery system leaders is the "Building Bridges Conference, *Research on the Cutting Edge: Adopting Evidence for the Real World.*" Sponsored by AHRQ, along with the American Association of Health Plans/Health Insurance Association (AAHP/HIAA) and the Centers for Disease Control and Prevention (CDC), it will be held in Miami, April 1-2, 2004. The conference is billed as "an opportunity to share innovative research projects and examine effective methods for translating evidence-based research into improved health care policies, medical decision-making processes and clinical practice."

Annual or special conferences addressing research implementation or translation themes are also held in specific clinical areas. The American Heart Association's 5th Scientific Forum on "Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke" will be held in Washington DC from May 15-17. QUERI representatives are active participants in this annual conference, examining "new and developing opportunities, initiatives, projects, policies and research relevant to measuring and improving the quality of care and outcomes for persons with, or at risk for cardiovascular disease and stroke." Research implementation and translation issues also are addressed at the annual meetings of major HSR professional associations, including AcademyHealth, as well as the Society for Medical Decision-Making.

* For more information about meetings mentioned in this article:

TRIP:
www.blsmeetings.net/TRIP2004;

Building Bridges:
www.aahp.org/links/bridges04/index.htm;

AcademyHealth:
www.academyhealth.org/arm/index.htm

and Society for Medical Decision-Making:
www.smdm.org/AnnualMeeting.html

Upcoming Events

HSR&D Announces Two New QUERI Solicitations

HSR&D is pleased to announce two special solicitations issued through QUERI that invite applications to establish one new QUERI Center in Amputations and one new QUERI Center in Chronic Heart Failure (CHF). All eligible VHA investigators are encouraged to submit proposals. A formal Letter of Notification is required to respond to this solicitation, and full proposals will be accepted only from investigators submitting a complete Letter of Notification by the designated deadline. Instructions for the development and submission of the Letter of Notification, as well as the full proposal, are provided in the solicitation. The Letter of Notification is due by COB April 1, 2004, with full proposals due by May 17, 2004.

Solicitations are posted on the VA Office of Research & Development (ORD) website at www.va.gov/resdev/fr/frrfp/solicitations.cfm and on the HSR&D website at www.hsrd.research.va.gov/for_researchers/funding/solicitations. Questions concerning this solicitation may be directed to Dr. Brian Mittman via email at: (Brian.Mittman@med.va.gov) or telephone (818-895-9544), or to Ms. Linda McIvor (202-254-0230); Linda.McIvor@hq.med.va.gov.

QUERI Guide for Implementing Evidence-Based Research

In 1998, the Quality Enhancement Research Initiative (QUERI) was established to generate new knowledge about how to facilitate the systematic implementation of evidence-based research findings into clinical practice. These efforts continue, and much has been learned over the past six years about the real world requirements of implementing evidence into practice. To make optimal use of this new knowledge and "lessons learned," a QUERI Guide for *Implementing Evidence-Based Clinical Practice and Conducting Implementation Research* is being launched on the HSR&D QUERI web site. This web-based QUERI Guide will provide detailed information about:

- Theory and Methods for Integrating Research into Practice,
- QUERI Research Implementation Activities and Experience, and
- Resources for Implementing Research into Practice (with links to a variety of other resources).

The Guide will be updated as QUERI progresses and will be a valuable resource for anyone interested in the implementation of research into practice. Look for the new QUERI Guide on the HSR&D web site at www.hsrd.research.va.gov.

SOTA Conference Focuses on Implementation of Research

HSR&D will host their seventh state-of-the-art (SOTA) conference on "Implementing the Evidence: Transforming Practices, Systems, and Organizations" in Washington, DC, August 30 – September 1, 2004. The goal of this SOTA will be two-fold:

1. Synthesize the state-of-the-art of implementing research into practice by identifying what we know and what we need to know about:

- Lessons learned about implementation – what works, what doesn't;
- Successful implementation strategies; and
- Resources, relationships, infrastructures, and policies that are needed to ensure successful implementation.

2. Make policy and research recommendations to assist VA and the larger health care community to systematically and continuously implement research evidence into routine clinical practice that improves patient care and outcomes.

Background papers that focus on various issues surrounding the implementation of research have been commissioned and will serve as the focal point of discussion for designated SOTA workgroups. Conference participants (invitation-only) will comprise an interdisciplinary mix of clinicians, researchers, policy makers, and managers, who have unique perspectives and knowledge regarding the implementation of research into clinical practice. For further information, contact at Karen.Bossi@med.va.gov.

QUERI National Meeting

Hold the dates! On December 1 through December 3, 2004, HSR&D will bring together researchers, clinicians, VA leaders, translation and implementation experts, and non-VA leaders in the field of quality improvement for the next QUERI National Meeting. For more information about the meeting, to be held in Washington, D.C., visit the QUERI website at www.hsrd.research.va.gov/queri/.

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reminder (NCR) for lipid level management, existing protocols and procedures were incomplete. IHD worked with VA's Office of Quality and Performance (OQP) and the National Clinical Practice Guidelines Council to develop formalized, well-documented processes for developing, testing, and implementing NCR in the clinical information system.

Integration of clinical needs and technology capacity is a dynamic and ongoing process. The Office of Information (OI) assists with issues regarding data development, particularly in the development of new sources and enhancements to other databases. OQP facilitates access to additional data such as the External Peer Review Process. Groups are encouraged to work with local Information Resource Management (IRM), exploring and testing local data extraction. Capacity building will also ensure broad applicability for VA researchers working to implement best practices. VA's information technology architecture provides a core of resources and linkages for this quality improvement effort.

Integration of clinical needs and technology capacity continue to be a dynamic and ongoing process. QUERI efforts and resources are expected to integrate with other VHA activities to ensure broad applicability with VHA's efforts in order to implement best practices. Databases and informatics provide tools to inform best practices and improve the care of veterans. Integration is needed for this information to be used efficiently by others within the VA health care system, including mechanisms for reporting and feedback.

VIReC assists the QUERI groups in reassessing data needs and facilitating/ coordinating collaborative and multidisciplinary approaches to meet those needs. The QUERI "Data Issues Workgroup" (DIWG) includes representatives from each group, including OI and OQP. The DIWG focuses on updates to new data sources and changes/enhancements to existing databases, as well as access to the data sources.

VIReC is facilitating a special journal series with the *Journal of American Medical Informatics* that discusses innovative and unique informatics methods from QUERI's work. Publication is anticipated for 2005.

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*For more information about VIReC, visit their website at www.virec.research.med.va.gov