

Diabetes Mellitus

Diabetes affects nearly 20% of veterans receiving care in the VA health care system and is a leading cause of microvascular complications, such as blindness, end stage renal disease, and amputation. Moreover, middle-aged persons with diabetes have two-to-four times the risk of coronary artery disease and stroke compared with similar persons without diabetes. VA is the largest integrated health care system in the U.S. providing care to people with diabetes. Patients with diabetes account for nearly 25% of all VA pharmacy costs and are responsible for more than 1.7 million hospital bed days of care annually.

The Diabetes Mellitus Quality Enhancement Research Initiative (QUERI-DM) was created to employ the QUERI process (see back page) to improve the quality of care and health outcomes of veterans with diabetes, and to produce information on disseminating and implementing practices that are deemed essential for effective diabetes care.

QUERI-DM Projects and Findings

Contributing to QUERI's overall mission, QUERI-DM conducts a diverse portfolio of projects to facilitate the implementation of research findings and evidence-based recommendations within routine clinical practice settings. Current projects focus on health issues that are of critical importance to veterans with diabetes, such as:

- Decreasing visual loss due to diabetic retinopathy by improving follow-up of high-risk patients and more optimal timing of laser therapy;
- Decreasing amputation rates through the development and

implementation of effective strategies and system interventions for veterans at high risk; and

- Reducing rates of preventable morbidity and mortality by facilitating more rapid and/or aggressive treatment of hyperlipidemia and systolic hypertension.

QUERI-DM works to accomplish these goals through the following projects.

Evaluation of a Coordinated Proactive Diabetes Eye Care Program

Evidence suggests that 90% of visual loss due to diabetic retinopathy can be prevented through optimal medical and ophthalmologic care, with early detection and optimally timed laser therapy playing a key role. This project will implement and evaluate a coordinated eye care program that will: 1) employ a flexible scheduling system that assures priority scheduling for high-risk patients; 2) provide effective reminders to patients who need less frequent follow-up; 3) coordinate care and communication across multiple providers and clinics; and 4) improve information and record-keeping so that patients can be prioritized according to risk status. This prototype program may serve as a model for disseminating diabetes eye care best practices throughout the VA system.

Impact of a Quality Management Intervention upon Foot Care Outcomes

Previous QUERI-DM research on foot care produced a number of insights into the gaps and potential solutions for improving the care, outcomes, and quality of life of diabetic patients at high risk for amputation. Planning is underway for a new prototype project to evaluate the implementation of specific interventions that will enhance care for persons with high-risk foot conditions.

Provider-focused Profiling and Feedback

Results from this project demonstrate that system-wide organizational approaches, especially the efforts of the Office of Quality and Performance (OQP), have been very successful in promoting improvements in diabetes care in VA. Further results of this project show that more intensive feedback and reporting produced only small additional benefits. Findings also reveal two target areas in which additional improvements should be encouraged - the treatment of systolic hypertension, and the use of statin therapy among patients with diabetes. However, before undertaking another major initiative to address these issues, it is necessary to gain a better understanding of factors (system/provider/patient) that may serve as barriers to closing the quality gap.

The QUERI-DM Executive Committee

Each QUERI Executive Committee is co-chaired by a research expert and a clinician. The QUERI-DM Research Coordinator is **Eve Kerr MD, MPH** and the Clinical Coordinator is **Leonard Pogach, MD**. QUERI-DM's Executive Committee includes additional experts in the field of diabetes mellitus: David Aron, MD, MS; Douglas Bradam, DrPH; Claude Cowan Jr., MD; Jennifer Davis, MHA; Noreen Durkin, RN, MSN; Linda Haas, PhD, RN, CDE; **Mary Hogan, PhD, RN** (Implementation Research Coordinator); Deborah Khachikian, PharmD; Sarah Krein, PhD, RN; Mavourneen Mangan, RN, CDE; Michael Miller, MD, PhD; Gayle Reiber, PhD, MPH; Denis Repke, PhD; Clark Sawin, MD; and Ruth Weinstock, MD, PhD.

Additional QUERI-DM research

- *TRIAD-VA*: Translating Research into Action for Diabetes in the VA (TRIAD-VA) is designed to provide a better understanding of the effectiveness of different systems and organizational features of health care delivery within VHA, in order to improve the processes and outcomes of care for veterans with diabetes. By collaborating with the

QUERI-DM TOOLS

- Retinopathy risk stratification model to determine risk level and required diagnostic schedule for diabetes patients to minimize rates of vision loss and maximize cost effectiveness. [See Vijan et al., JAMA 2000; 283(7): 889-96.]
- Automated program evaluation and patient education/tracking toolkit to assist facility-level diabetes education programs. [Can be downloaded from the QUERI-DM website at www.va.gov/annarbor-hsrdrd/QUERI-DMhome.html]
- Protocols, survey instruments, and information about the foot care project may also be viewed at the QUERI-DM website.

Centers for Disease Control and Prevention (CDC), which is conducting the same study with six managed care organizations, this project will compare structural and organizational factors and health care outcomes in VA with private sector health care organizations. Results from this study will be available soon.

- *Self-management*: A new priority area for QUERI-DM is patient self-management. Analyses of survey data show that patients' assessments of their diabetes self-care using a simple, five-question instrument were significantly associated both with actual A1c control, and with receiving recommended diabetes services (e.g., eye exam, nephropathy screening). These findings reinforce the usefulness of patient evaluations of their own self-management for understanding and improving glycemic control. Additional projects to identify and implement strategies to support better self-management by patients with diabetes are being planned.

Quality Enhancement Research Initiative

QUERI currently focuses on nine conditions that are prevalent and high-risk among veteran patients: Chronic Heart Failure, Colorectal Cancer, Diabetes, HIV/AIDS, Ischemic Heart Disease, Mental Health, Spinal Cord Injury, Stroke, and Substance Use Disorders.

The QUERI Process

The QUERI process includes six steps:

- 1) identify high-risk/high volume diseases or problems;
- 2) identify best practices;
- 3) define existing practice patterns and outcomes across VA and current variation from best practices;
- 4) identify and implement interventions to promote best practices;
- 5) document that best practices improve outcomes; and
- 6) document that outcomes are associated with improved health-related quality of life.

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