



# QUERI

## Diabetes Mellitus

Quality Enhancement Research Initiative

### **Diabetes Mellitus**

One of the main reasons diabetes mellitus was chosen to be part of the QUERI initiative is because of its prevalence among veterans and the nation. Diabetes affects an estimated 10-16 million people in the United States. Microvascular diabetes complications are the leading cause of blindness, end stage renal disease, and amputation in the western world. Further, middle-aged persons with diabetes have two to four times the risk of macrovascular disease (e.g., coronary artery disease and stroke) and overall mortality compared to similar persons without diabetes. In 1997, US medical expenditures for the care of individuals with diabetes totaled over \$77 billion, and within VA accounted for nearly 25% of all pharmacy costs and were responsible for over 70,000 hospital admissions.

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, as well as to produce critical information on disseminating and implementing practices that are deemed essential for effective diabetes care. Since its inception in 1998, QUERI-DM has focused on evaluating the implementation of diabetes care guidelines system-wide and examining the impact of this implementation on costs and health outcomes.

### **Translating Research into Practice**

The primary objective of the QUERI-DM translation plan is to decrease the number of veterans with diabetes who are at high

risk for preventable morbidity and mortality by reducing the number with: sub-optimal blood pressure (BP) control (systolic > 140mmHG or diastolic > 90mmHg); substantial elevations of LDL cholesterol (LDL > 140mg/dL); and substantial elevations in HbA1c > (9.0%). Reasons for targeting these 3 areas include:

- The HAIG (Healthcare Analysis and Information Group) FY98 Diabetes Costs and Outcomes Report, produced in collaboration with QUERI-DM, shows that a considerable number of veterans' care outcomes deviate from diabetes guidelines.
- Epidemiological evidence and simulation models indicate that improving these aspects of care is medically feasible, cost-effective, and that even modest improvements should result in significant improvements in outcome.
- Targeting these areas will produce the most rapid and sustainable benefits for veterans and can easily be incorporated into other QUERI projects to produce short- and long-term impacts.

In addition to broad-scale dissemination efforts being conducted by the Office of

Quality and Performance (OQP) and the HAIG, QUERI-DM engaged primary care providers from one VISN in a focused education and cooperative feedback intervention. The results to date show that over the past several years there has been great progress in improving care and outcomes for veterans with diabetes throughout the VA system. The education/feedback intervention is associated with improvements in primary care providers' knowledge about the importance of BP control among patients with diabetes and, in conjunction with current broad-scale dissemination activities, may promote even greater progress in decreasing the number of individuals with poor BP and lipid control. Observed improvements, both nationally and in the intensive intervention, translate into the prevention of more than 15,000 heart attacks and as many as 10,000 lives saved.

### **Other QUERI-DM Projects and Findings**

Here are a few of the other exciting areas of 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

### **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 **Rod Hayward, MD** and the Clinical Coordinator is **Leonard Pogach, MD**. QUERI-DM's Executive Committee includes 13 other experts in the field of diabetes mellitus: David Aron, MD, MS, Claude Cowan Jr., MD, Noreen Durkin, RN, MSN, Linda Haas, PhD, RN, CDE, **Mary Hogan, PhD, RN** (Translation Coordinator), Deborah Khachikian, PharmD, Sarah Krein, PhD, RN, Mavoureen Mangan, RN, MS, CDE, Michael Miller, MD, PhD, Gayle Reiber, PhD, MPH, Clark Sawin, MD, Paul Shekelle, MD, PhD, and Ruth Weinstock, MD, PhD.

care delivery within the VHA to improve the processes and outcomes of care for veterans with diabetes. Further, by collaborating with the Centers for Disease Control and Prevention (CDC), which is conducting the same study with six managed care organizations, this project will allow the direct comparison of structural and organizational factors and health care outcomes in VHA with private sector health care organizations and the community-based populations for which they provide care.

- *Impact of Quality Management Intervention on Foot Care Outcomes:* Project objectives include describing facility-level variations in structural features, amputation rate, ulcer rate, quality of clinician-provided diabetes foot care and patient-reported foot care practices. The results of this study

### 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 283(7), 2000]
- Automated program evaluation and patient education/tracking toolkit to assist facility-level diabetes education programs. [Can be downloaded from the QUERI-DM website]

will provide important information for VA facilities about strategies for modifying or constructing programs that promote optimal care and improve outcomes for veterans with high-risk foot conditions.

- *Aspirin use and counseling about aspirin among veterans with diabetes:* Low dose aspirin therapy is a simple, inexpensive therapy that significantly lowers cardiovascular risk among patients with diabetes. Data from a VA pilot test of the Diabetes Quality Improvement Program survey, conducted in collaboration with OQP, show that VA clinicians are doing well in counseling their diabetes patients about aspirin therapy, and that more than 70 percent of veterans with diabetes report using aspirin on a daily basis. Being counseled and using aspirin are both strongly associated with whether a patient has a pre-existing coronary condition. However, because almost all persons with diabetes are at high risk for cardiovascular events or death, clinicians need to remember to include counseling about aspirin therapy as a care priority for all patients with diabetes.
- *Evaluating new or current approaches to implementing key care practices and the impact on patient outcomes:* This is a high-priority area of research for QUERI-DM. Projects currently underway include: Proactive Diabetes Case Management, Improving Diabetes Care Via Automated Telephone

Assessment and Patient Education, Developing and Implementing a Quality Measure for Glycemic Control, and Disease Management and Educational Intervention Outcomes in High-Risk Diabetes. Some of the patient outcomes being assessed are glycemic control and the subsequent effect on longer-term microvascular complications; control of blood pressure and lipids and the effect on cardiovascular events; and patient satisfaction, health status and self-care practices.

### Quality Enhancement Research Initiative

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

### 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 and systems improvements.

#### Contact for general QUERI information:

Lynn McQueen, DrPH, RN  
Associate Director for HSR&D QUERI  
Health Services Research and  
Development Service  
202/273-8227  
lynn.mcqueen@hq.med.va.gov

#### Contact information for QUERI-DM:

Lyla Kaplan, MS, or  
Sarah Krein, PhD, RN  
Center for Practice Management & Outcomes Research (11H)  
VA Ann Arbor Healthcare System  
Ann Arbor, MI 48113-0170  
Tel: 734/930-5138  
Fax: 734/930-5159  
E-mail: lyla.kaplan@med.va.gov or sarah.krein@med.va.gov

VA's Research and Development QUERI Website: <http://www.va.gov/resdev/queri.htm>

QUERI-DM direct web link: <http://www.hsrdev.ann-arbor.med.va.gov/QUERI-DM/QUERI-DM.htm>