About QUERI
VA/HSR&D’s Quality Enhancement Research Initiative (QUERI) currently focuses on ten areas of great importance related to healthcare for Veterans: Chronic Heart Failure, Diabetes, eHealth, HIV/Hepatitis, Ischemic Heart Disease, Mental Health, Polytrauma and Blast-Related Injuries, Spinal Cord Injury, Stroke, and Substance Use Disorder.

Working with health system partners to develop research that speeds improvements in Veterans’ healthcare, QUERI utilizes a six-step process to diagnose gaps in performance and identify and implement interventions to address them.

• Identify priority conditions and opportunities for improving the health of Veterans.
• Identify effective practices for improving outcomes for priority conditions.
• Examine variations in existing practices, the sources of variation, and their relation to health outcomes.
• Identify and test interventions to improve the delivery of best practices.
• Evaluate the feasibility, adoption, and impact of coordinated improvement programs to spread best practices.
• Evaluate the effects of improvement programs on Veterans’ health outcomes, including quality of life.

Background
Type 2 diabetes affects nearly 20% of Veterans who use the VA healthcare system, or more than one million Veterans at any given time. Diabetes is a leading cause of blindness, end-stage renal disease, and amputation in the U.S. Further, up to 80% of patients with diabetes will develop or die from macrovascular disease, such as heart attack and stroke. While there is a growing array of therapeutic options and efficacious treatment strategies to prevent or delay some of the most severe diabetes-related complications and to enhance quality of life, there remain significant gaps in the use of these treatments.

Diabetes Quality Enhancement Research Initiative (QUERI)
Diabetes-QUERI is committed to research and collaborations that promote the use of effective care strategies to help Veterans with and at risk for diabetes to live longer and better lives. Diabetes-QUERI is committed to achieving two overarching goals, each with specific sub-goals:

• To work with operations partners to promote evidence-based approaches to improve treatment and reduce complications of diabetes. Specifically by:
  o Developing and implementing individualized assessments and decision-support tools to enhance the use of appropriate diabetes treatments and decrease inappropriate care; and
  o Developing and implementing innovative programs to improve diabetes self-management.

• To work with partners to promote evidence-based approaches to improve outcomes for priority conditions. Specifically by:
   Developing and implementing low-cost, scalable approaches to support self-management for diet, exercise, and weight loss; and
   Developing and using individualized assessments to tailor recommendations and enhance uptake of prevention programs.
• To work with partners to promote evidence-based approaches to improve the use of appropriate diabetes treatments and decrease inappropriate care; and
• To work with partners to promote evidence-based approaches to improve diabetes self-management.

Diabetes-QUERI Projects and Findings
Diabetes-QUERI conducts a diverse portfolio of projects to facilitate the implementation of research findings and evidence-based recommendations within routine clinical practice. The following projects are examples of how Diabetes-QUERI is addressing its priority areas.

ASPIRE-VA Weight Management
Investigators tested a weight loss intervention (ASPIRE-VA) in a three-arm randomized trial in which a lifestyle coach helped Veterans lose weight either by phone or in face-to-face group sessions using a “small changes” approach to behavior change. Key program components included: a patient manual with educational material and activities, setting small goals, keeping a food log, and logging daily steps by wearing a pedometer. Veterans in all three arms of the study lost significant weight, but individuals participating in the ASPIRE face-to-face sessions lost more weight than those in the phone-based program or MOVE! (VA’s national weight management program). Veterans
had significantly higher participation in both ASPIRE arms (15 and 13 sessions completed) compared to MOVE! (6 sessions) over the 12-month study.

**Advancing Implementation Science**

The Consolidated Framework for Implementation Research (CFIR), developed by QUERI researchers, is being used by an increasing number of researchers within and outside VA, as reflected by the nearly 300 published articles that cite it. The CFIR provides a common taxonomy of 39 theory-informed constructs, organized by five domains that are believed to influence implementation success. As reported in one published study, ten constructs influenced the ability of staff at VA medical centers to implement VA’s MOVE! program. For example, leadership engagement leading to available resources (i.e., space and time) and perceived high relative priority for getting the program implemented, along with strong working relationships and a well-functioning team, all contributed to a robust program. In other evaluations, investigators found that people were able to work around the absence of some of these factors, and that a different combination of factors also led to success.

DM-QUERI investigators are in the process of synthesizing results from six studies that used the CFIR. Findings will help identify combinations of organizational factors that contribute to implementation success or failure in different scenarios. This information can be used to design strategies for success which will ultimately lead to better care for Veterans.

**CarePartners for Veterans with Diabetes**

In this preliminary study, 303 Veterans with diabetes from 16 VA outpatient clinics throughout the upper Midwest received three to six months of weekly automated interactive voice response (IVR) telephone calls to assess their diabetes self-management behaviors and to provide them with as-needed educational messages. Veterans could enroll with an informal caregiver who received suggestions on self-management support, and notifications were issued to Veterans’ clinicians when significant problems were reported. During the study, 21 clinician notifications were triggered per 100 patient-weeks.

After the intervention, Veterans showed improved medication adherence and functioning, fewer distress symptoms, and improved frequencies of blood glucose self-testing and abnormal self-monitored blood glucose readings. The study team concluded that the system provides information that is reliable, valid, and actionable, and may increase access to between-visit monitoring and diabetes self-management support. Moreover, it seems to lead to consistent improvements in diabetes self-management and a variety of key patient-oriented outcomes. Investigators suggest that a randomized controlled trial be conducted to verify these encouraging findings.

**VA Diabetes Prevention Clinical Demonstration Project**

In an effort to reduce the incidence of type 2 diabetes among Veterans, VA is conducting a Diabetes Prevention Clinical Demonstration Project at three VA Medical Centers (Baltimore, Minneapolis and Greater Los Angeles). Diabetes-QUERI researchers are coordinating the project and the associated implementation evaluation, in collaboration with cost-effectiveness experts at the Durham VAMC, along with the strong support of the VA National Center for Health Promotion and Disease Prevention. At the three demonstration sites, lifestyle coaches trained to deliver the Group Lifestyle Balance adaptation of the original Diabetes Prevention Program (DPP), will lead small groups of Veterans through the DPP curriculum. Since late 2012, DPP groups have been running at all three sites. The evaluation will focus on measuring the impact of specific elements of the DPP that differ from MOVE! on weight loss and program participation, as well as identifying barriers to national implementation and subsequent cost-effectiveness of the DPP within VA.