Diabetes Mellitus QUERI: Impacts, Contributions and Products

Description	Project Label and Center Goal
RESEARCH PRODUCTS	
Findings (selected)	
• In January 2006, all VA medical centers (VAMC) were directed to implement comprehensive, evidence-based clinical weight management programs to help address the high prevalence of obesity and overweight in VA patients. The *MOVE! Weight Management Program for Veterans* was offered to facilities as a guide to enhance and/or initiate weight loss programming. Nearly 2 years later, *MOVE!* program uptake ranges from high to negligible across VAMCs. With RRP funding, investigators from the Diabetes QUERI research coordinating center conducted a study to explore barriers and facilitators to uptake of *MOVE!* Three VAMCS with high patient participation in *MOVE!* were selected, along with two facilities with low participation. Semi-structured phone interviews were conducted with 24 regional or facility-level stakeholders. Questions were developed from factors found to influence uptake in previous research. Eighteen closed-ended items from Klein and Sorra's implementation instrument were also administered. Interview data were transcribed, coded, and analyzed using rigorous qualitative content analysis techniques. Limited resources constrained *MOVE!* uptake at all facilities. However, VAMCs with high-uptake of *MOVE!* had stakeholders who believed in the importance of MOVE!, a conducive climate for innovation, and congruence between MOVE! and local priorities. Stakeholders at high uptake VAMCs: 1) embraced *MOVE!*; 2) negotiated dedicated time; 3) engaged staff; 4) built a strong multi-disciplinary team; and 5) had effective champions. Quantitative measures strongly supported these findings. High-uptake VAMCs averaged 4.4 (using a 1 - 5 agreement scale) for management support, 4.4 for communications, and 4.5 for relative priority compared to 2.8, 3.2, and 3.1 for low-uptake facilities (p-values<.02). Despite the small sample size, striking differences in implementation climate, management support, and communication quality were evident. Even in an environment of pervasive constrained resources, interventions to modify key organizational factors may help accelerate uptake of *MOVE!* in the VA. These findings along with a pilot and feasibility study of a weight loss program based on the small change approach promoted by behavioral choice therapy are being incorporated as part of a planned project to test the efficacy of a phone-based counseling program that, if effective, could be an important advancement for the MOVE! Program.	MOVE Uptake **self-management**
• Failures to intensify medications at visits with elevated blood pressure (BP) have been documented, but factors underlying what appears to be clinical inertia have been studied less systematically. The ABATE study was designed to examine the process of care for diabetic patients with elevated triage BP values (≥ 140/90) during routine primary care visits to assess 1) whether a treatment change occurred; 2) and to what degree clinical uncertainty, competing demands and prioritization, and medication related factors correlated with the likelihood of treatment change at the visit. ABATE was a prospective cohort study of 1169 diabetic patients with scheduled primary care visits to 92 primary care providers (PCP) at 9 VA facilities located in 3 midwestern states. Overall findings showed that approximately 50% of diabetic patients presenting with a substantially elevated triage blood pressure received treatment change at the visit but that clinical	ABATe **CV risk/co-morbidity**

Description	Project Label and Center Goal
uncertainty about the true blood pressure value was a prominent reason that providers did not intensify therapy. Given prior work showing that chronic pain interferes with diabetes patients' self-management, an RCC based investigative team also conducted a sub-study to examine whether addressing pain at a primary care visit acts as a competing demand in decisions to intensify blood pressure (BP) medications for diabetic patients with an elevated BP. After the visit, PCPs provided information about the top three issues discussed, whether medications were intensified or reasons for not intensifying. A multi-level logistic model was constructed to assess whether discussing pain during the visit decreased the likelihood of BP medication intensification, while controlling for other potentially relevant clinical, demographic and visit specific factors. The results showed that PCPs discussed pain during 222 (20%) of the visits. Visit BP did not differ between patients with whom pain was and was not discussed. BP medications were intensified during 44% of the visits. However, the predicted probability of intensification when pain was discussed was significantly lower than when pain was not discussed (35% vs. 45%, p=0.03). Concern about pain contributing to BP elevation was noted in only 5 visits in which pain was discussed and medications not intensified. Consequently, discussing pain at a primary care visit competed with medication intensification for elevated BP. This finding is of great concern when considering that controlling blood pressure may be the most important factor in decreasing long-term complications for patients with diabetes. Given the prevalence of chronic pain among VA patients and the importance of controlling clinical factors that increase patient risk for poor outcomes, these findings underscore the need to develop and implement effective care management models for complex patients to ensure that both pain and other chronic conditions are adequately addressed. These findings support the continued efforts of the Diabetes QUERI to develop, implement and evaluate both provider-focused and patient-focused interventions that address issues surrounding complex patients (of which multi-morbidity is just one aspect) in order to improve both care delivery and self-management.	
• The association of nephrologic care and survival in patients with diabetes mellitus and chronic kidney disease is unknown. Using data from 1997 to 2000, investigators at the Clinical Coordinating Center conducted a retrospective cohort study of Veterans Health Administration clinic users having diabetes mellitus and stage 3 or 4 chronic kidney disease. The baseline period was 12 months and median follow-up was 19.3 months. Degree of consistency of visits to a nephrologist was defined as the number of calendar quarters in which there was 1 visit or more (range, 0-4 quarters), and covariates were calculated from the baseline period. The outcome measure was dialysis-free death. Of 39,031 patients, 70.0%, 22.4%, and 7.6% had early stage 3, late stage 3, and stage 4 chronic kidney disease, respectively, and 3.1%, 9.5%, and 28.2%, respectively, visited a nephrologist. Dialysis-free mortality rates were 9.6, 14.1, and 19.4, respectively, per 100 person-years. More calendar quarters with visits to a nephrologist were associated with lower mortality: adjusted hazard ratios were 0.80 (95% confidence interval, 0.67-0.97), 0.68 (95% confidence interval, 0.55-0.86), and 0.45 (95% confidence interval, 0.32-0.63), respectively, when the groups having 2, 3, and 4 visits were compared with those who had no visits. One visit only was not associated with a difference in mortality when compared with no visits (adjusted hazard ratio,1.02; 95%	Chronic Kidney Disease **diabetes complications**

Description	Project Label and Center Goal
confidence interval, 0.89-1.16). The consistency of outpatient nephrologic care was independently associated in a graded fashion with lower risk of deaths in patients with diabetes and moderately severe to severe chronic kidney disease. However, only a minority of patients had any visits to a nephrologist.	
• Delivering and documenting evidence-based treatment to all Department of Veterans Affairs (VA) foot ulcer patients has wide appeal. However, primary and secondary care medical centers where 52% of these patients receive care are at a disadvantage given the frequent absence of trained specialists to manage diabetic foot ulcers. A retrospective review of diabetic foot ulcer patient records and a provider survey were conducted to document the foot ulcer problem and to assess practitioner needs. Results showed of the 125 persons with foot ulcers identified through administrative data, only, 21% of diabetic foot patients were correctly coded. Chronic Care and Microsystem models were used to prepare a tailored intervention in a VA primary care medical center. The site Principal Investigators, a multidisciplinary site wound care team, and study investigators jointly implemented a diabetic foot ulcer program. Intervention components include wound care team education and training, standardized good wound care practices based on strong scientific evidence, and a wound care template embedded in the electronic medical record to facilitate data collection, clinical decision making, patient ordering, and coding. A strategy for delivering offloading pressure devices, regular case management support, and 24/7 emergency assistance also was developed. It took 9 months to implement the model. The results from this project, along with some of the intervention components, the results of an implementation sub-study (Footcare Implementation) and work underway in VISN 11 provide the basis for a planned project to implement and evaluate a VISN-Wide Telewound Care program.	Footcare Collaborative **diabetes complications**
• Incorporating shared medical appointments (SMAs) or group visits into clinical practice to improve care and increase efficiency has become a popular intervention. Work underway at the Diabetes Co-Clinical Coordinating Center on the use of SMAs for improving diabetes care found that SMAs require complex changes that impact on care routines, collaborations, and various organizational levels. Although the SMA was not originally thought of as a form of system redesign that would alter the context in which it was implemented, it became clear that tailoring the intervention alone would not ensure sustainability, and adjustments to the system were also required. In addition to providing important insights related to the implementation of SMAs, this work has another novel application in teaching medical students and residents about chronic illness management. This concept has been extended in a planned project to evaluate the use of SMAs as an educational intervention for improving interprofessional practice and management of diabetes recognizing that quality diabetes care (and management of most chronic illnesses) is likely best provided in a multi/interdisciplinary manner.	Shared Medical Appointments Training **diabetes complications**
• Report, which was produced from a 2-day multidisciplinary conference on assessing the quality of care for diabetes mellitus and funded by VA OQP, NIDDK and AHRQ posted on AHRQ website	Core **Quality measurement/improvement**

Diabetes Mellitus QUERI: Impacts, Contributions and Products

Description	**Project Label and Center Goal**
Databases	
• VISN 11 diabetes registry and dataset	Core
• The VA Diabetes Epidemiology Cohort (DEpiC) is a linked national database of all VA patients since 1998 with data from VA medical visits, Medicare claims, pharmacy and laboratory records, and patient surveys (developed by Clinical Coordinating Center and Bedford COE). Profiled in Kupersmith et al. Health Affairs, 2007	Medical Service Epidemiology **co-morbidity**
• Patient survey data, medical record information, automated data (pharmacy, encounter, lab), NDI death data for diabetes patients participating in the TRIAD and TRIAD 2 studies.	TRIAD TRIAD 2 **quality measurement/ improvement**
Measures and methods	
• Using EPRP data to develop an excellent glycemic control measure based upon the use of Quality Adjusted Life Years • Using EPRP data to develop composite measures for diabetes care • Using ABATe data to develop longitudinal measure for hypertension • Working with OQP to incorporated linked measures into performance profiles	Core **quality measurement/ improvement**
• Continuing to extend work on continuous and weighted measures in diabetes (Pogach, Rajan, Aron, Diabetes Care, 2006)	Core A1c Risk Adjustment **quality measurement/ improvement**
• Continuing to refine use of mixed methods for implementation research	Core