

FORUM

translating research
into quality health care
for veterans

November 2005

VA Health Services Research & Development Service

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Meeting the Challenges of Veterans with Chronic Illnesses

By Madhulika Agarwal, M.D., M.P.H., Chief Patient Care Services Officer

Today, an estimated 125 million Americans suffer from one or more chronic conditions such as high blood pressure, diabetes, and asthma. Compared to the general population, veterans served by the Veterans Health Administration suffer from three additional non-mental health diagnoses and one additional mental health diagnosis.¹

Once a health care system designed to care largely for those with acute illnesses and in need of episodic care, the VA has transformed itself over the last decade. This transformation has led to significant improvements in care for patients with chronic illnesses. VA has invested heavily in its primary care framework, informatics infrastructure, and performance measurement system to improve quality of care and decrease treatment gaps. These investments have resulted in demonstrably better care for veterans with chronic illnesses. In fact, one recent study found that VA patients were more likely than patients in a national sample to receive needed care for chronic illnesses. In particular, patients in the VA sample received significantly better care for depression, diabetes, hyperlipidemia, and hypertension.²

Despite VA's transformation, substantial opportunities for improvement in the quality of care delivered to veterans with chronic medical conditions remain. The Office of Patient Care Services (PCS) has an ambitious vision to identify and improve health care delivery to chronically ill veterans. This agenda was highlighted in a PCS—Office of Information retreat, as well as a more recent PCS strategic plan-

ning retreat. Participants explored common themes that emerged from the primary care model, specialty care, care coordination program, the hub and spoke model of care for specialized populations, as well as clinical research and education programs in mental illnesses, geriatrics, and neurological diseases. Many of these models incorporate the six key dimensions that characterize the Chronic Care Model (CCM): organization of health care, clinical information systems, delivery system design, decision support, self-management support, and community resources.³

“Despite VA's transformation, substantial opportunities for improvement in the quality of care delivered to veterans with chronic medical conditions remain.”

The essential elements of chronic care management that need further enhancement and implementation within the VA include the following.

Patient-focused system. For many chronically ill patients, self-management remains the cornerstone of their care. In fact, patients with chronic illnesses spend only a few hours a year



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Director's Letter

Fiscal Year 2005 has been a busy and productive year for HSR&D. In addition to ongoing work in HSR&D's many funded projects, this year's highlights include the implementation of a Polytrauma & Blast-Related Injuries Quality Enhancement Research Initiative (QUERI), and implementation of the HSR&D Cyber Seminars program conducted with our Resource Centers on subjects such as health economics, measurement theory, and using VA databases.

In the aftermath of one of the greatest natural disasters our nation has faced, HSR&D utilized the cyber seminars platform to assist the National Center for Post-Traumatic Stress Disorders (NCPTSD) to reach out to the field. We worked quickly to provide assistance to NCPTSD by hosting an important seminar that disseminated critical information to VA caregivers about PTSD treatment for victims of Hurricanes Katrina and Rita.

We also are working to enhance investigator initiated research (IIR) funding percentages. The IIR program enables VA clinicians and social scientists to pursue their personal research interests while advancing HSR&D priorities and contributing to the quality, effectiveness, and efficiency of VA health care. Overall, HSR&D reviewed 161 research proposals at our August review, and we expect to fund 22 percent of them, with a focus on veteran-centric research. This rate is up from 16 to 17 percent during the previous two reviews. We have also selected four Merit Review Entry Program candidates for funding and hope to fund four career development awards. Additionally, we have implemented a web-based orientation program for reviewers that has been well-received by users.

We look forward to a productive Fiscal Year 2006!

*Shirley Meehan, M.B.A., Ph.D.
Acting Director, HSR&D*

with health care professionals. Most of the time, these patients take care of themselves. As a result, patients and their families must be knowledgeable, empowered to manage their own care, and have access to a full continuum of care at their point of entry into the health system.

Together with proactive patient education, VA's patient web-portal, My HealtheVet offers great promise in this arena. My HealtheVet gives veterans information and tools to improve their health, as well as easy access to their medical record. Veterans can also add personal information and share with VA and non-VA doctors. My HealtheVet can help make patients partners in their own care by providing evidence-based preventive care information, health reminders, shared-decision making, individualized health education information, and easier access to VA's centers of excellence and experts.

"My HealtheVet can help make patients partners in their own care by providing evidence-based preventive care information, health reminders, shared-decision making, individualized health education information, and easier access to VA's centers of excellence and experts."

Full support for appropriate level of care matched to the level of need. Care and services across the continuum must be patient centered, accessible, coordinated, delivered in the most appropriate settings, and matched to the patient's level of need. Since chronically ill patients have different levels of need during the course of their illness—from fully functional to conditions requiring hospitalization—strong collaboration between primary care staff and specialists

and a clear understanding of responsibilities are critical. It is essential to have relationships with the right professionals and multidisciplinary teams to achieve better outcomes. Care coordination and telehealth offer the best blend of technologies, informatics, and care management to improve access to health care and to shift health care delivery into the home and community when appropriate.

Evidence-based decision support system. VA's computerized patient record system with clinical reminders allows for clinical decision support integrated into the daily practice of busy clinicians. The success of VA's electronic health record (EHR) has raised expectations. VA clinicians expect an integrated, user-friendly EHR system that will allow clinical and temporal abstractions, integrate evidence-based guidelines into care plans, and "define patterns" for protocols (combination of lab, meds, diagnosis, etc). We hope that this future system will provide better statistical information and allow health professionals to spot trends early and take action promptly. We also hope that this system will have the ability to identify those patients at risk for chronic illnesses, as well as provide risk stratification.

Use of Clinical Information Systems

VA has made major investments in clinical information systems that inform decision makers and improve patient care. For example:

■ Over the course of the last several years, VA's performance measurement system has led to significant improvements in health care processes and outcomes. This system has enabled the routine collection of data to support process measures and, in some cases, to achieve target values in chronic diseases such as diabetes, hypertension, and congestive heart failure with reporting of results and feedback to clinical groups.

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■ Use of disease registries and databases for population health management, data mining, and data warehousing capabilities gives health managers new insights into health trends and enables them to manage resources better. These tools also monitor and analyze process measures, indicating whether treatment protocols are being followed.

■ Timely access to texts, online journals, and research trials provides clinicians and trainees with important, up to date medical knowledge.

■ Follow-up and reminder systems track results for future actions for both providers and patients.

The concept of disease management is not new to clinicians as they have always managed patients with chronic illnesses; however, it is a challenge to provide integrated evidence-based care for multiple chronic illnesses that affect our patients without adequate ancillary support. Our goal is to be a patient-centric, compassionate, evidence-based information driven system that is continually improving and innovating. The future paradigm entails focusing on an individual's personalized health education aimed at prevention, early risk identification, and stratification, as well as evidence-based practices that provide opportunity for the most optimal health possible.■

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Response to Commentary

VA Research: Meeting the Challenge of Managing Chronic Diseases

By Joel Kupersmith, M.D., Chief Research and Development Officer, VA Office of Research and Development

VA is uniquely committed to managing chronic illnesses and injuries among veterans. VA delivers this care with superior quality as a result of its information systems, its continuum of services, and its emphasis on evidence-based practice. Because the mission of VA research is to help veterans, it should come as no surprise that our efforts have aligned with the chronic disorders prevalent among veterans. In fact, much of the evidence base that underlies the current management of chronic conditions such as hypertension, diabetes, ischemic heart disease, lipid disorders, and mental illness has resulted from VA research.

In her commentary, Dr. Agarwal points out that the continued transformation of VA into a patient-focused delivery system requires patient self-management in home settings, timely evidence-based decision support, and care that is customized to the individual. For VA research, there are three corresponding challenges if we are to manage chronic diseases effectively:

- Improve how we generate knowledge from real-world practice settings (**methods**);
- Enhance the integration of research and clinical care (**implementation**); and
- Understand the determinants of disease trajectory and treatment response at the individual level (**genomics**).

Methods. VA needs both to examine and to develop new research methods to look at chronic illness and care. Although the randomized controlled trial (RCT) remains the gold standard, more generalizable approaches may be needed in the case of chronic conditions. At the Office of Research and Development (ORD), we will be utilizing some of these approaches as well as devel-

oping others. One of the strengths of VA research is that clinical care and research are under the same roof, which creates opportunities for translating research into clinical practice and for having clinical care settings inform our research agenda.

Implementation. Although the process of translating research from the laboratory to the bedside has been likened to a pipeline, a better analogy is a cycle in which the needs of the system drive the questions asked by researchers. Researchers' outputs are, in turn, spread through actions taken by clinical leaders, policymakers, and "activated" patients. This process must be done without compromising high standards for rigorous design and sound analysis. VA's Quality Enhancement Research Initiative (QUERI) provides a case study of how this can be done, but collaborative inquiry really needs to occur throughout the full spectrum of our work.

Genomics. Patients with chronic disease are heterogeneous in terms of disease course and response to treatment. Even when a given approach is supported by RCT evidence, the management of the individual patient remains largely trial-and-error. This approach may soon change. Genetic factors underlie the course of a disease and dictate therapeutic responses, drug clearance, and adverse effects. A major ORD initiative is the development of a genomic database that would link patient genetic information with longitudinal health outcomes using our electronic health record. While considerable issues remain, few areas hold as much promise for changing everyday practice. ORD looks forward to collaborating with the Office of Patient Care Services to meet the challenges of managing chronic diseases. ■

Research Highlights

Clinical Decision-Support for Managing Chronic Disease in Primary Care: ATHENA DSS

By Mary K. Goldstein, M.D., M.S., VA Palo Alto Health Care System GRECC, Eugene Oddone, M.D., M.H.Sc., Durham VAMC, Center for Health Services Research in Primary Care, and Brian B. Hoffman, M.D., VA Boston-West Roxbury Medical Service

Clinical practice guidelines assist clinicians by summarizing current evidence and recommending best practices; however, publication of guidelines alone is not effective in changing clinician behavior. Many experts believe that such information must be incorporated into everyday clinical workflow. Specific strategies such as automated recommendations at the time of medical decision-making for individual patients may enhance clinician guideline adherence.

The Automated Treatment for Hypertension: Evidenced-based Advice (ATHENA) project was initiated to develop and evaluate methods of guideline implementation by providing recommendations to primary care clinicians at the time of outpatient clinic visits for patients with chronic disease. The project selected hypertension as a model for initial study because it is highly prevalent and has serious consequences that can be ameliorated with treatment. In addition, hypertension has evidence-based guidelines and offers substantial opportunity to improve quality of care. The ATHENA team developed an automated decision support system, ATHENA DSS, in collaboration with Stanford Medical Informatics (SMI), using the Protege and EON architecture developed at SMI.

One possible explanation for why guidelines fail to improve quality of care is that individual clinicians may perceive that they are already practicing high-quality medicine. When clinicians overestimate their own adherence to guidelines, they may not fully recognize opportunities for improvement. As part of baseline data collection, we surveyed clinicians about their perceived

adherence to clinical practice guidelines for treatment of patients with hypertension. We then compared their self-assessments with their actual adherence to guideline recommendations for medication regimens and blood pressure control. We found that, overall, clinicians overestimated their adherence to medication guidelines and also substantially overestimated their success in meeting blood pressure targets for their patients.

Feedback to clinicians about their performance may be particularly useful as a “priming” strategy, alerting clinicians that they are not achieving guideline targets and thereby increasing their receptivity to interventions. The ATHENA DSS shows the clinician whether or not a patient’s clinical data indicate that the clinician is guideline-adherent, both for blood pressure and for medication choice.

The overall aim of clinical practice guidelines is to improve patient health, so the ultimate test of guideline implementation is its impact on patient outcomes. However, it is also useful to study the extent to which clinicians do or do not follow specific guideline recommendations. Assessing clinician response to guideline-based drug recommendations requires a detailed analysis of patient pharmacy data in relation to recommendations at specific points in time. We analyzed VA pharmacy data to determine what prescriptions were active just prior to and just following each primary care clinic visit. We then developed an Adherence Advisory Evaluator (AAE) program to compare the changes to each patient’s prescriptions following a visit with the changes (if any) recommended by the guidelines.

We developed the ATHENA DSS for quality improvement and with patient safety in mind; however, new technologies for health care providers can be expected to introduce new and unanticipated sources of error. In addition to taking care to minimize the likelihood of errors and pre-testing the system, we instituted procedures for ongoing monitoring of the system. Our monitoring detected some rarely occurring problems in data extraction in a timely manner so that they could be corrected promptly. Such ongoing monitoring should be a routine part of deployment of new automated systems.

Deployment of the ATHENA DSS system has been a success. However, technical success in implementing automated clinical decision support may not translate directly into use by clinicians. For Athena DSS, we found rates of use that were much higher than those published by other groups, suggesting that clinicians found the system both usable and useful.

The technology developed using hypertension as a model in the ATHENA project can be applied to other clinical domains. Future research studies will be needed to understand the best methods of presenting information to busy primary care clinicians. Furthermore, the underlying knowledge base and guideline execution engine for ATHENA DSS, with a revised user interface, could also be used to generate recommendations for presentation directly to patients, for example through the patient portal, My HealtheVet. ■

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Reaching Out to Chronically-Ill Veterans: The Potential of Interactive Voice Response Calls

By John D. Piette, Ph.D., VA Ann Arbor Healthcare System, Center for Practice Management and Outcomes Research

Chronic illnesses present enormous day-to-day challenges, and self-care can be difficult under even the best of circumstances. Many VA patients face additional problems such as barriers to outpatient clinic use and inadequate social supports. While some patients need weekly or even daily assistance, such services can be impossible to provide in most outpatient clinics. Telephone care programs can help patients manage their illness, but standard telephone care services are labor intensive, and many health systems are reluctant to devote the necessary staff time.

Internet-based, self-management support services offer one potential solution to the challenge of providing between-visit chronic illness care. Unfortunately, many veterans lack computers in their homes or the reliable, high-speed Internet access that these services often need. Other patients have health literacy deficits that limit their ability to use text-based Internet communication. Interactive voice response systems (IVR) can deliver recorded messages to large numbers of chronically-ill veterans at low cost. Patients interact with IVR services using their touch-tone keypad or voice response technology. IVR systems can strengthen the link between patients and clinicians without requiring the use of personal computers (PCs) or other computer hardware.

IVR-Based Interventions Can Be Effective

Like all clinical services, IVR-based interventions are most effective when they have clearly defined goals. One of the biggest challenges for chronically-ill patients is coordinating their many self-management

tasks and visits with VA providers. Not surprisingly, clinic “no-show” rates for people with chronic diseases are notoriously high, and patients often have difficulty taking their medication as prescribed. IVR reminder calls can reduce no-show rates and promote medication adherence. The evidence for the effectiveness of IVR reminders is sufficiently strong that VA facilities should consider adopting these services more broadly in chronic illness care.

IVR monitoring calls can gather up-to-date information about patients’ health status and behavioral needs. We have found that VA patients with diabetes will complete regular IVR assessments, and that these assessments accurately identify groups at high risk for adverse outcomes. However, results of the VA Ambulatory Care Quality Improvement Project (ACQUIP) trial suggest that IVR screening with feedback to clinicians will have little benefit if clinicians are limited in their ability to change treatment plans or if treatment changes are not tightly linked with health outcomes. To achieve its potential, IVR monitoring must be part of a coordinated effort to give clinicians and chronically-ill patients the resources they need to act on the information collected.

Patients with chronic illnesses require extensive self-management education, but busy VA providers often are unable to provide this education in the context of periodic outpatient visits. IVR calls can increase patients’ access to tailored self-management information at a time and pace that is comfortable for them. Furthermore, studies show that patients are interested in accessing IVR messages about their self-care.

IVR Exchange Can Facilitate Peer Support

Peer support (i.e., support between individuals living with the same illness or self-management challenges) can reduce self-management problems and relieve the mental stress of living with chronic disease. Unfortunately, most peer support programs such as group visits require frequent face-to-face meetings and can be inaccessible to many veterans. With funding from a VISN 11 telemedicine initiative, we developed a prototype chronic disease, peer-support program facilitated by an IVR exchange. Diabetes patients were paired and asked to contact their partner at least once a week using the toll-free IVR calling line. Participants used their own phone number as a “PIN” to link with their partner while protecting their anonymity. IVR reminders encouraged frequent peer contact so that patients were not solely responsible for ensuring that they talked regularly. Overall, we found that the IVR intervention was easy for veterans to use. In fact, 92 percent of participants in the pilot said that they would be more satisfied with VA care if IVR-facilitated peer support services were available. A randomized trial evaluating the impact of this intervention on diabetes outcomes is planned.

VA remains at the forefront of innovative research on using communication technology to improve chronic illness care, and studies of IVR interventions are a key component of that agenda. With the support of creative VA research, IVR interventions may strengthen communication with chronically-ill patients, improve the timeliness of their medical care, support more effective self-management, and ultimately improve patients’ health. ■

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Research Highlights

Measuring Quality at the End of Life

By James A. Tulsky, M.D., and Karen E. Steinhauser, Ph.D., Durham HSR&D Center of Excellence

“How do we measure quality for a condition which, by definition, leads to increasing disability and dependence? How do we measure quality when gains are likely not to be found in traditional biomedical markers but, rather, in spiritual or existential domains?”

The VA has committed to improving the quality of care for patients approaching the end of life. In doing so, it has also assumed many challenges. Among these is the problem of how one measures improvement in quality at the end of life. Some efforts will be easily quantifiable, such as reducing pain scores or increasing the access of hospice care. However, intuitively we know that assessing quality at the end of life is far more complicated. How do we measure quality for a condition which, by definition, leads to increasing disability and dependence? How do we measure quality when gains are likely not to be found in traditional biomedical markers but, rather, in spiritual or existential domains?

Over the past seven years we have conducted a series of studies toward the goal of developing an instrument to measure quality of life at the end of life. We began with the premise that we did not know what ought to comprise such a measure. We conducted focus groups and a national survey with patients, bereaved family members, physicians and non-physician health care providers to learn what was important at the end of life. We identified six key domains considered essential for a “good death”: pain and symptom management, clear decision-making, preparation for death, completion, contributing to others, and affirmation of the whole person. What we found most interesting was the tremendous importance of factors not traditionally considered within the biomedical framework of care.

With this empirical assessment of the underlying important factors, we set about constructing a new multidimensional measurement tool to assess the quality of life at the end of life. Our first version included 54 items covering six domains derived from the focus groups and surveys, and which were measured on a

five-point Likert scale. We administered the instrument to 200 patients with cancer, congestive heart failure, end stage renal disease, and chronic obstructive lung disease. Using factor analysis, we arrived at a final instrument with 24 items in five distinct domains that closely matched the domains identified empirically.

We then took this instrument, called the QUAL-E, and conducted another validation study with 248 different patients with the same disease profiles in order to further assess the instrument’s psychometric properties, including its associations with existing measures, evaluation of robustness across diverse sample groups, and stability over time. We confirmed a four-domain structure including life completion, symptoms, relationship with health care provider, and preparation for end of life. Convergent and discriminant validity were demonstrated with multiple comparison measures. Test-retest reliability assessment showed stable scores over a one-week period. We now know that the QUAL-E demonstrates acceptable validity and reliability, is easy to administer, performs consistently across diverse demographic and disease groups, and is acceptable to seriously ill patients. We offer it as a new instrument to assist in the evaluation of the quality and effectiveness of interventions targeting improved care at the end of life. ■

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Mental Health Care Improvements Need New Care Models

By Lisa Rubenstein, M.D., M.S.P.H., VA Greater Los Angeles and Ed Chaney, Ph.D., VA Puget Sound

Depression treatment—whether antidepressants or psychotherapy—has the potential not only to improve patient satisfaction, but also to reduce job loss and improve patient quality of life. While this is good news, the VA—like other providers—faces challenges in providing timely and effective mental health care particularly for depression.

The main problem is that most patients with depression are detected in primary care settings, and there is a gap between primary care detection and mental health treatments. Studies have shown that about 20 percent of primary care patients screen positive for major depression symptoms. About half of these screen-positive patients are being treated for mental health issues within the VA health care system. Referring the remaining 10 percent of the primary care population for mental health treatment, however, as is done in many clinics, is not necessarily a good solution. First, only about half to three quarters of the screen-positive patients need depression treatment; the remainder has subthreshold depression or other conditions for which antidepressants or psychotherapy are not indicated. Second, many patients refuse mental health specialty (MHS) treatment. Third, mental health referrals for screen-positive patients use a large fraction of available MHS visits for depression assessment and triage alone.

Demand for MHS appointments results in long scheduling delays, reduced access to appropriate follow-up care for depression, and fewer appointment slots available to patients with other mental health conditions; all this occurs in sharp contrast to the goals of advanced clinic access. Yet most primary care clinicians have neither the time nor expertise to assess fully and triage these patients prior to MHS referral.

Depressed patients who do not wish to go to MHS or who must wait months for an appointment may receive no treatment or may start treatment in primary care but fail due to inadequate follow-up support.

What Works

This problem can be solved. Depression collaborative care models have been extensively tested in randomized trials and found to be clinically effective and cost-effective. In these models, trained nurse care managers promptly assess and triage patients referred by primary care clinicians for possible depression. Based on patient needs and preferences, care managers either support MHS referral or support medication management in primary care.

We know that achieving successful treatment completion requires that patients receive active, frequent support and monitoring from clinicians, particularly during the early treatment phases. Care managers can successfully provide this support through brief phone calls, thus avoiding unnecessary primary care visits. Mental health specialists support the care manager and primary care clinician by reviewing care manager cases weekly. Since care managers regularly monitor depression symptoms, any patients followed in primary care who are not improving can be identified for case review and treatment adjustment.

TIDES Produces Positive Outcomes

Translating Initiatives for Depression into Effective Solutions (TIDES) is a quality improvement project that works with VISN partners and their primary care, mental

health, nursing, and administrative leaders to improve depression care by implementing evidence-based collaborative care models. TIDES support helps VISNs and their medical centers implement all elements of the chronic illness care model that underlies collaborative care, including Computerized Patient Record System informatics solutions, education and training tools and support, templates for identification of local resources, and active panel management. The TIDES program also provides ongoing quality monitoring of TIDES depression care and outcomes.

The TIDES program has achieved early success. The program has seen over 1,000 patients in VISNs 10, 16, and 23. Eighty percent of these patients are followed in primary care without MHS visits. Patient adherence to treatment under the program is 80 percent. Recovery at six months is 70 percent among primary care patients and 50 percent among the more severely ill patients referred to MHS. TIDES is now being adopted by VISN 22 and additional medical centers in the three original VISNs.

TIDES is committed to ongoing outcome assessment and evidence-based innovation as it continues to address a key dilemma: how to provide appropriate mental health care in today's overloaded primary care and mental health settings. Serving as depression care managers, TIDES nurses have had a significant positive impact on veteran health and quality of life.

Programs like TIDES have the potential for improving outcomes among veterans suffering from mental illness, especially depression. ■

Further information on TIDES is available through the Mental Health Quality Enhancement Research Initiative (QUERI) Center in Little Rock at www.hsrd.research.va.gov/queri/exec_summaries.cfm and the TIDES Web site at www1.va.gov/tides_waves/.

Organizational Profile: CCDOR—Improving the Quality of Chronic Disease Care

By *Hanna E. Bloomfield, M.D., M.P.H., Minneapolis VA HSR&D Center of Excellence*

The Center for Chronic Disease Outcomes Research (CCDOR) at the Minneapolis VA Medical Center is one of 15 VA Health Services Research and Development (HSR&D) Centers of Excellence. Our mission is to enhance—through research, education and dissemination activities, the delivery and accessibility of high-quality, cost-effective health care that will result in optimal clinical, psychosocial, and functional outcomes for veterans with chronic disease.

CCDOR's research focuses on improving the quality of chronic disease care. Our primary goal is to understand and improve provider, patient, and system level factors and interactions to enhance the quality of and access to care. CCDOR's research covers a broad range of content areas and employs a variety of research methodologies. Content areas include preventive cardiology, smoking cessation, vaccine preventable disease, cancer detection and prevention (prostate and colon cancer), abdominal aortic aneurysm, urological disease, osteoporosis, effects of trauma on health, patient self management, quality of care, effect of race/ethnicity on access to care, health literacy, and systems interventions. CCDOR uses a variety of research methodologies, including clinical trials, observational epidemiology, systematic reviews and meta-analysis, surveys, qualitative methods, and database and economic analyses.

One of CCDOR's strengths lies in its ability to span the research spectrum from developing the evidence base for clinical practice to determining how best to translate that evidence into clinical practice. We have clinical research expertise in observational epidemiology, clinical trials, and evidence synthesis. In addition, we have expertise in developing and testing theory-based interventions for translating research evidence (i.e., clinical best practices) into practice.

CCDOR staff includes a multidisciplinary team of 60 doctorate level, clinical, and other research staff. Investigators include social psychologists, sociologists, epidemiologists, statisticians, clinical psychologists, general internists, and a health economist, medical anthropologist, geriatrician, and dermatologist. CCDOR is also home to several other centers including an Agency for Healthcare Research and Quality supported Evidence-based Practice Center; the VA/National Cancer Institute Colorectal Cancer Quality Enhancement Research Initiative (QUERI) Center; the VA Polytrauma and Blast-related Injuries QUERI Center; and one of two VA Clinical Research Centers of Excellence, the Center for Epidemiological and Clinical Research.

CCDOR's recent work has resulted in:

- Evidence that short and long term smok-

ing cessation rates in VA are significantly improved by implementing a telephone quit-line.

- An automated system that identifies system level processes needed to improve colorectal cancer screening performance.
- Development and dissemination of an award winning patient education pamphlet to help men make informed choices about whether to be screened for prostate cancer.
- Revised guidelines from the U.S. Preventive Services Task Force on screening criteria for abdominal aortic aneurysms. ■

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