

# FORUM *translating research into quality health care for veterans*

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VA Health Services Research & Development Service

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## The Changing Face and Pace of VA Ambulatory Care

*Recently Forum interviewed Alan S. Perry, M.H.A., FACHE, Director, VA Central California Health Care System*

■ **Every day, 900 patients access the VA Central California Health Care System's (CCHCS) ambulatory services. What systems does the CCHCS have in place to optimize patient encounters?**

A number of changes from the ambulatory system of 5 to 10 years ago have enabled the CCHCS to improve access to services we offer through our ambulatory care system. First, we offer advanced clinic access in primary and specialty care so that our patients can get an appointment usually within a week and in some cases the same day. Second, we've put into place service agreements between Primary Care and Specialty Care that extend to cardiology, ENT, ophthalmology, orthopedics, gastroenterology, audiology, mental health, and even imaging. These agreements help us reduce wait times and ensure that every effort is made to secure an appointment within 30 days.

To help orient our newest patients, the CCHCS offers weekly group meetings that give newcomers the information they need to maneuver through our system with things such as telephone care and pharmacy reordering. We also offer group educational counseling—run by an interdisciplinary health care team—for congestive heart failure patients, diabetics, and those patients seeking smoking cessation counseling. We have a process in place to help reduce medication errors by reviewing all of the patient's medications at admission, discharge, or at any change in level of care. In addition, we place a

high priority on customer service training for all employees to empower them to solve problems and ensure patient satisfaction.

We face a number of challenges in offering our patients an optimal ambulatory care encounter. First among these is determining when a group versus an individual encounter is the best approach to improving health care outcomes and what level of provider is best for group encounters. Research in this area would be helpful, especially as we continue to grapple with increasing numbers of patients suffering from chronic conditions such as diabetes.

Another challenge is overcoming language and cultural barriers so that we communicate effectively and ensure patient adherence to treatment guidelines. One third of our patients are Hispanic, and while veterans typically speak English well, many of their family members—who are often also their caregivers and who are critical to patient compliance—do not. Treatment decision making in the ambulatory setting is another challenge. For example, what are the best screening methods or other tools for efficiently assessing patient needs?

■ **VA is lauded as the leader in the country in implementation of the electronic medical record. How does this technology affect patient encounters at CCHCS?**

The electronic medical record (EMR) has greatly enhanced our ambulatory care services in terms of diagnosis, treatment, and efficiency. Prior to a patient visit, our providers use EMR for data recovery and chart review. Clinical

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## Director's Letter

Much of what we do in HSR&D is aimed at improving the effectiveness and outcomes of health care for veterans. Fittingly, optimizing systems of care is the focus of this issue of FORUM, which begins with a thoughtful discussion of facility-level systems and challenges. Next, we highlight several research projects that illustrate ways in which HSR&D is working to advance knowledge and evidence for systems improvements.

At our most recent State of the Art Conference (SOTA), the agenda focused on "Managing Complexity in Chronic Care." Held in September, the SOTA brought together a multi-disciplinary group of 90 experts to discuss complex care from both the patient and systems perspectives. As background for discussions, HSR&D commissioned seven papers on topics ranging from the prevalence of complex chronic conditions to the patient's experience, and from the business case for and information systems needed to support improved care. Work group and panel discussions were lively and informative and resulted in several interesting recommendations that are expected to inform future research solicitations. The *Journal of General Internal Medicine* will publish final papers in a supplement next year. We are also working on other dissemination strategies for the SOTA deliberations and recommendations.

In August, the Scientific Merit Review Board reviewed 131 proposals and we hope to fund 28 of these in fiscal year 2007. In addition, we continue to receive strong applications for Career Development Awards under the new ORD-wide program designed for both clinicians and non-clinicians. We expect to fund 9 of the 36 applications reviewed in September.

Planning continues for the HSR&D National Meeting, scheduled for February 21-23, 2007. Visit [www.hsrd.research.va.gov/meetings/2007/](http://www.hsrd.research.va.gov/meetings/2007/) for the latest details.

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

reminders appear on the computer screen alerting providers about immunizations and screenings. Providers can easily access a patient's history, or can order medications with a couple of key strokes. EMR also allows the provider and patient to review the medical record together and discuss trends over time.

For all its benefits, the EMR offers some challenges when it comes to the patient encounter. Our appointments have stretched from 20 to 30 minutes to allow providers sufficient time for data review and input. What do we know about how best to manage the time and resources of the patient, provider, and the computer in the exam room? What are best practices in terms of the physical layout of the exam room and communications to enhance sharing of electronic information between providers and patients?

### ■ *How have advances in technology such as the Internet and wireless devices affected the way that CCHCS meets the health care needs of its patient population?*

The availability of text messaging and wireless computer access has definitely changed the pace of care. Providers can quickly communicate with one another from various locations; they can access images that were taken at another facility; and with telemedicine consultations they can care for patients in remote locations. We also have patients with home monitoring devices that track vital information on their conditions. MyHealtheVet will eventually allow patients access from home through the Internet to information about their appointments, medications, and their medical records. These reduce patient travel and clinic time and help to increase our efficiency.

A challenge we face is determining how best to maximize the convenience and benefits of these technologies for our patients. As we hand over more control of care to patients, what is the right balance between them tak-

"As we hand over more control of care to patients, what is the right balance between them taking charge of their own care and those of us who are clinically responsible for monitoring that care?"

ing charge of their own care and those of us who are clinically responsible for monitoring that care?

### ■ *How is your facility meeting the needs of the new veterans from conflicts in Iraq and Afghanistan?*

Like the majority of VA facilities, we have a case management program to help us track and assist the 950 veterans from these conflicts registered as patients at CCHCS. Some of them were referred to us from the Department of Defense or from the VA Polytrauma Center in Palo Alto, and others simply arrived as walk-ins. We also conduct outreach to new veterans. We try to get our arms around them as quickly as possible and get their cases managed. In caring for these new veterans, we are seeing very young men and women with injuries to the extremities, mental health needs, and dental needs.

One challenge for us is how to effectively screen for and treat post traumatic stress disorder (PTSD). Another is how best to reach out to the veterans who might not seek care for themselves. In addition, how do we help very young men and women acknowledge that their injuries are long term or permanent and provide them with the appropriate services to help them optimize what they can do?

At CCHCS we continuously strive to provide optimal evidence-based care for all of our patients. ■

## Response to Commentary

# HSR&D Working to Meet New Challenges in VA Ambulatory Care

By Richard M. Frankel, Ph.D., VA HSR&D Center on Implementing Evidence-Based Practice, Indianapolis VAMC

In this issue's lead commentary, Alan Perry, Director of the VA Central California Health System (CCHCS), states that every day 900 patients access CCHCS' ambulatory services. That's approximately 234,000 opportunities per year to engage veterans in health-enhancing processes and outcomes of care—nothing to be sneezed at! Recent innovations that have greatly facilitated care at CCHCS include a sophisticated electronic medical record system, advance clinic access, and service agreements between primary and specialty care services.

Despite, or perhaps because of these innovations, a number of challenges remain. For example, we do not know when a group appointment is better than an individual visit, when and how language and cultural barriers affect patient adherence, and which screening and treatment decisions are feasible and effective in the ambulatory setting.

### The Promise of Group Appointments

Group medical appointments (GMAs) are a relatively new form of practice. They typically involve a physician or health care team, e.g. physician, behaviorist, nutritionist, etc., interacting for 60 to 90 minutes with either a drop-in group medical appointment (DIGMA) or an identified cohort of patients who meet on an ongoing basis. At Kaiser Permanente, for example, DIGMAs have been used for the past several years to work with distressed high utilizers of medical care. The initial results have been encouraging. Utilization has gone down in this group and satisfaction with care has increased. Patients point to the value of social support that comes from

being able to speak with others who have the same condition and to benefit from their wisdom and experience as well as the physician's.

Despite its promise, the use of GMAs in the VA system will require additional study to determine its effectiveness in chronic disease management. At this point, we do not know which chronic diseases are best treated using GMAs as compared with individual visits. Likewise, age may be an important factor in determining who benefits most from a GMA approach. There is evidence in the literature that older, frail patients do well in this setting but studies have not yet compared groups of older and younger patients.<sup>1</sup> In addition, we need to address questions of confidentiality, waiting time, and patient flow, as well as drop-out rates, before full implementation of GMAs can occur.

VA has become a national leader in promoting early detection and screening and is currently funding research on best practices for patient self management. Another area for continued research is barriers that occur when differences in language and culture exist between physician and patient, and the effect of these barriers on patient adherence. In addition to cultural differences in language and literacy levels, communication about adherence itself may be sub optimal. One study found that primary care physicians and surgeons checked for patient comprehension—a key to ensuring adherence—only 1.5 percent of the time.<sup>2</sup> More research into the conditions under which language and culture in the medical visit create barriers to adherence will help address this problem.

### The Science of Implementation

In making study findings practical, researchers distinguish between what works under controlled conditions (efficacy) and what works in the real world (effectiveness). This distinction is the central challenge of the science of implementation. Knowing that a flu shot for every veteran is a worthy goal does not ensure that every veteran will take advantage of the opportunity to receive one. Naturalistic observation and qualitative research methods that get at the patient's experience of care can be powerful tools in bridging the gap between the ideal and the actual. A classic study by Inui and Carter demonstrated that successive rounds of in-depth interviews with veterans to identify and weigh barriers to obtaining flu shots resulted in an increase in utilization from 35 percent to nearly 80 percent. More research of this kind will be necessary to bridge the gap between knowledge of what's feasible and what works in day-to-day practice.

It is heartening to see the progress VA ambulatory care is making at CCHCS and other facilities. We have many research challenges ahead of us but we have made substantial progress in research and development toward identifying and implementing the best evidence and practices that provide the most benefit to our patients. Our veterans deserve no less than our very best efforts to bring knowledge from the bench to the bedside and from clinical trials to the clinical encounter. ■

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## Research Highlights

# Teledermatology Improves Access to Care by Improving Time to Intervention

By John D. Whited, M.D., M.H.S., Durham HSR&D Center of Excellence

Timely delivery of specialty care and the ever-increasing demand for those services are challenges facing the VA. As the primary care population base increases, so to does the demand for specialty services such as dermatology. In addition, the decentralization of VA health care through the expansion of community-based outpatient clinics will require innovative means of delivering dermatologic care to these remote sites of primary care. Teledermatology is one means of addressing these needs. Visually-oriented specialties such as dermatology seem well suited to telemedicine technology. Teledermatology has the potential to improve consult processes and provide care in both remote sites of primary care, such as community-based outpatient clinics, and in centralized sites of dermatologic care at VA Medical Centers.

### Improving Time to Intervention

Through a VA HSR&D funded study “Health Services Implications of a Teledermatology Consult System,” we began to address the question of how teledermatology could impact access to care. Study subjects were randomized to either a “store and forward” teledermatology consult or the conventional consult process. “Store and forward” teledermatology consults generate “still” digital images coupled with a standardized history collection for review by a dermatologist consultant. Usual care implies that the conventional text-based consult system is reviewed and typically results in a visit to the dermatology clinic. The dermatologist consultants would then decide whether a clinic visit was required and, if so, the timing of that visit.

We hypothesized that the additional information contained in the teledermatology consult, particularly the visual data, would improve time to intervention and that this may occur in one of two ways. First, dermatologists could identify those patients that do not require a clinic visit. For example, dermatologists could determine that a subject with a benign skin lesion (e.g., seborrheic keratosis) requires no further intervention. The dermatologist could relay that information back to the referring clinician and avert a dermatology clinic visit. Second, triage decisions can be affected. Dermatologists could triage a skin lesion with high malignant potential directly to a procedural clinic visit for biopsy and avoid both the need for a diagnostic clinic visit and the associated wait period for such a visit.

Based on our actual visit analysis, we found that teledermatology significantly decreased the time to intervention. Subjects in the teledermatology study arm reached a point of intervention by a median of 50 days, compared to a median of 137.5 days in usual care ( $p = 0.0027$ ). All 140 usual care subjects were scheduled for a dermatology clinic visit. Twenty-five of the 135 subjects that randomized to teledermatology were not scheduled for a clinic visit. Only one of those 25 subjects subsequently presented for a clinic visit during the follow-up period.

The use of telemedicine in general, and teledermatology specifically, has several potential implications for VA health care. High demand for services coupled with limited dermatology resources result in long wait times for routine dermatologic care—a situation that is not unique to the VA.

Given VA’s fixed dermatology resources, teledermatology may be one strategy to manage the high demand for services.

### Satisfaction with Teledermatology

Avoiding the need to schedule a portion of teledermatology referrals for a dermatology clinic visit opens up clinic time for those patients that are identified as requiring a dermatology clinic-based intervention. Some patients can be managed based on advice provided by the dermatologist consultant and implemented by the referring clinician. More effective triage of referrals may result in better timing of clinic visits. Rather than relying only on textual information to assess acuity, teledermatology consults provide the dermatologist consultant with visual information with which to make that decision.

Intuitively, more timely care might reasonably be expected to result in improved satisfaction among both clinicians and patients. In fact, that is what was found in another product of this study. Overall, dermatologists, referring clinicians, and patients were all satisfied with the teledermatology process. This project provides evidence that teledermatology may play an important role in managing VA health care resources and improving health care delivery. ■

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# Improving Eye Care for Veterans with Diabetes

By Steven J. Bernstein, M.D., M.P.H., and Sarah L. Krein, Ph.D., R.N., HSR&D Center for Practice Management and Outcomes Research, VA Ann Arbor Healthcare System

Diabetes affects nearly 20 percent of veterans who use the VA health care system, or more than one million veterans. Diabetes is the leading cause of new cases of blindness in adults ages 20-74 in the United States. In the VA, approximately one-fourth of all eye procedures performed in 1998 were in persons with diabetes; among VA patients with diabetes examined by an ophthalmologist nearly 5 percent were blind. Yet, 90 percent of visual loss due to diabetic retinopathy can be prevented through optimal medical and ophthalmologic care. Given the devastating impact of diabetes on veterans and known mechanisms to prevent diabetes-related visual loss, the Diabetes-QUERI has focused some of its effort on this problem.

## Pilot Promotes Close Follow-Up

Over the past five years, the Diabetes-QUERI has conducted a series of studies to determine optimal screening intervals and to identify circumstances surrounding preventable visual loss among patients with diabetes. In addition, we implemented a pilot project to promote close follow-up of patients at high risk of developing diabetic eye disease. This work included performing a cost-utility study; carrying out a medical record review; conducting survey and semi-structured interviews with VA health care providers who provide ophthalmologic care to patients with diabetes; surveying patients regarding their experiences receiving eye care provided by VA; developing means to capture information not readily available in current medical records; and lobbying to make screening criteria more evidence based.

We found that while annual screening is cost-effective for diabetic patients with very poor glycemic control, it is not appreciably better in preventing blindness than screening every two to three years for those patients whose previous exam was normal. For patients with known eye disease, close monitoring or surveillance is a key factor in preventing diabetes related blindness. In fact, a medical record review of 238 VA and non-VA patients who had undergone retinal photocoagulation for diabetic retinopathy or macular edema identified 102 patients (43 percent) whose visual loss was considered potentially preventable with earlier treatment. However, none of these cases involved a patient who had gone one to three years without a screening exam. On the other hand, two-thirds of cases were associated with inadequate follow-up of those with identified disease, delays in treatment scheduling, or unexpectedly rapid disease progression.

These findings suggested that the prevailing performance measure, which encouraged an annual exam for all patients with diabetes, could potentially hurt quality. Trying to screen everyone annually consumes much of the eye care clinic's limited resources, making it more difficult to aggressively monitor and follow-up those at highest risk.

## Preventing Visual Loss

To address some of these issues, we undertook an eye care improvement project to prevent visual loss among VA patients with diabetes. This project involved shifting responsibility for the coordination of dia-

betes eye care to the eye clinic and using automated tools to facilitate less frequent screening of low risk patients and more aggressive follow-up of those at higher risk. A cornerstone of the project was the Progressive Reminder and Scheduling System (PRSS), which was designed to automatically track patients. The PRSS requires knowing the patient's risk of developing diabetic eye disease (which is assigned by the eye care provider following a clinical exam), the recommended time for the patient's next visit, and the appointment status—which includes whether an appointment is scheduled, whether a visit is made, or if the appointment is cancelled or missed. Currently, only appointment status is available in an extractable electronic format from the VA electronic medical record. Since the scheduling system is distinct from the rest of the electronic health record, we were unable to develop a fully automated proactive scheduling system, however, we did develop a simplified, manual version of the PRSS that has been used at one study site.

Our research has produced important information to help us further understand patients' risk status and potential gaps in follow-up at VA eye care clinics. Our research also offers general lessons for implementation science, especially as it relates to proactive, risk-stratified scheduling and follow-up. Also, in conjunction with these projects, both the Health Plan Employer Data and Information Set (HEDIS) and VA revised and adopted diabetes performance measures allowing every other year eye exams for patients at low risk (with continued annual exams for high risk patients).

Work by the Diabetes-QUERI to promote changes in the delivery of eye care services for veterans with diabetes demonstrates the promise of the QUERI model in facilitating the more rapid implementation of evidence into practice. ■



## Research Highlights

# Implementing Information Systems and Technologies to Improve Health Care Delivery

By Bradley N. Doebbeling, M.D., M.Sc., Steven M. Hare, M.S., Mindy Flanagan, Ph.D.,  
VA HSR&D Center on Implementing Evidence-Based Practice, Indianapolis VAMC

The VA pioneered the use of information and communications technology (IT) to deliver improved health care services. High patient satisfaction rates, readily available real-time information, improved delivery processes, reduced administrative and clinical redundancy, and improved quality and safety have resulted from effective implementation of IT in VA.

### Barriers and Opportunities to Integrating IT

Unfortunately, barriers to changing health care delivery systems loom large, slowing the acceptance and use of IT within patient, provider, organization, and health care system domains. These deterrents include the following: costs associated with development, testing, implementation, and training for IT initiatives; lack of financial and return on investment models; concerns regarding privacy and security of personal health records; lack of senior administration and leadership support and priority; and scarcity of clinical time and resources to adapt existing processes and practices to incorporate the use of new technologies.

Significant opportunities exist to better integrate IT into acute care. In a nationally representative study of 448 U.S. hospitals, including all VA acute hospitals, we examined the impact of hospital practices to prevent and control antimicrobial resistance (AMR). Implementation of recommended practices for antimicrobial use and optimization of the duration of empirical antibiotic prophylaxis were associated with a lower prevalence of AMR. Use of automated antimicrobial order entry and use of com-

puterized decision support were not associated with lower rates of AMR, although relatively few hospitals had implemented computerized order entry for health care providers. In fact, many of the facilities that reported use of computer support tools in implementing AMR guidelines were VA facilities.

### Use of Computerized Tools

For example, our Indiana Accelerating Change and Transformation in Organizations and Networks (ACTION) Collaborative is implementing evidence-based practices using a lean six sigma approach to engage front-line staff to markedly reduce methicillin-resistant bacteria (MRSA) infection and creating an informatics tool for electronic

sharing of laboratory data across hospitals. Participating hospitals determine if a presenting patient has been cultured for MRSA at other hospitals, leading to a cost reduction in unnecessary cultures and quick determination of isolation. We expect this implementation initiative to reduce the spread of MRSA infections around the Indianapolis community. Our efforts build upon the VA initiative underway in a number of VA facilities, led by Dr. Robert Muder at the Pittsburgh VAMC and funded by VA's Office of Quality and Performance.

As a second example, the Indianapolis VAMC developed and implemented a standardized handoff tool, as recommended by the 2006 JCAHO National Patient Safety Goals. Many communication errors occur during "handoffs," when a patient's care is transferred from one care provider to another. We are currently conducting a formative evaluation, funded by HSR&D, of the existing computerized patient handoff tool developed at the Indianapolis VAMC.

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### HSR&D National Meeting in February 2007

HSR&D's 25th National Meeting will be held on February 21-23, 2007 at the Hyatt Regency Crystal City, in Arlington, Virginia. This scientific meeting helps to facilitate integration of ideas and information between VA's research community and the clinical, management, and policy-making communities. The meeting will help ensure that VA policy is informed by evidence-based research and research is responsive to the needs of managers and the organization.

This year's meeting theme, "Managing Recovery and Health Through the Continuum of Care," is particularly well timed given current challenges to the health care system to address the short- and long-term needs of veterans returning from conflicts in Iraq and Afghanistan. Almost 500 abstracts were submitted for competitive review and selection for presentation at the meeting, which will feature paper, workshop, and poster sessions addressing issues of access, clinical and systems improvements, quality, satisfaction, cost-effectiveness, and methods. In addition, there will be special talks by VA leadership, award presentations, and opportunities to explore productive collaborations between VA facility, network, and research communities to enhance the development and dissemination of innovative approaches to patient care and health care service delivery.

For more details about the meeting agenda, to view abstracts, and for registration information, please visit the HSR&D Web site at <http://www.hsrd.research.va.gov/meetings/2007/>.

# Group Medical Visits: Improving Chronic Disease Management

By Mary K. Goldstein, M.D., and Catharine Fenn, Ph.D., both from Geriatrics Research Education and Clinical Center, VA Palo Alto Health Care System, and Brian B. Hoffman, M.D., Medical Service, VA Boston Healthcare System

Hypertension, a highly prevalent risk factor for cardiovascular disease, is in principle eminently treatable. Nonetheless, evidence-based target blood pressures in patients with hypertension are often not achieved. Strategies that are directed toward primary care clinicians with the goal of improving the quality of hypertension care may improve guideline-concordant prescribing. However, it is ultimately the patient who decides whether or not to adhere to the medication regimen and other, non-pharmacological measures. Therefore, patient self-management is key to care of chronic diseases such as hypertension. Lorig et al. have developed a model for improving self-management of chronic disease by enhancing the patients' sense of self-efficacy for self-care. They showed that group participation in a chronic disease self-management program can improve symptom control and reduce limitation of activity.

## Testing a VA Group Model Design

Group visits, used sporadically for more than a century in the United States, have become increasingly popular in recent years. In an HSR&D QUERI-funded project on translating research findings about hypertension into practice, we developed a model of group medical visits for the general medical clinic at VA Palo Alto, incorporating an approach designed to enhance patients' self-efficacy for managing their hypertension. In our model, patients receive medical care in a group setting while interacting with each other and with their primary care provider. The pro-

ject aim is to develop, implement, and evaluate a model of medical group visits for use in the VA. The design is a cluster-randomized trial. The population includes VA patients who have a diagnosis of hypertension and who are assigned to the panels of primary care physicians enrolled in the study.

Our project used a staircase study design in which we initially enrolled three providers in *step one* to implement an initial model of group medical visits adapted from non-VA study sites. This step was followed by a formative evaluation and redesign with enrollment of three more providers in *step two* and another formative evaluation and redesign, culminating in enrollment of additional providers in *step three* for summative evaluation of the final model. At enrollment, primary care providers were randomized in a 2:1 ratio to conduct group visits or to serve as treatment-as-usual controls. We then recruited patients of these providers. Patients of group visits providers were randomized in a 2:1 ratio to participate in group visits (GV-patients) or to serve as control patients of group visits providers (GV-controls). Patients of control group providers served as treatment-as-usual controls (TAU-controls). Our study plan also called for tracking organizational issues that arose as either barriers to, or facilitators for the group visits program. Our primary outcome measure is blood pressure control. Secondary measures include medication adherence, patient and clinician satisfaction with care, self-efficacy and stages of change measures, and qualitative results of the organizational study.

Patients see their own primary care provider in the group clinic sessions in a medical appointment shared with other patients. Visits are held in a conference room close to the general medical clinic in order to facilitate short, private examinations in a regular exam room when necessary. The conference rooms also have computer access to the computerized patient record system. Initially, the sessions included a 30 minute educational topic presented by someone other than the primary care provider.

## Satisfaction with Group Visits

As clinicians gained experience with conducting the visits, they incorporated more of the educational content into the clinical review of each patient, turning the discussion to the entire group. We found that for both providers and patients, discussion topics changed over time, with initial visits focused exclusively on hypertension but later visits covering a broader range of clinical problems. We are now analyzing the data and expect to report quantitative results soon. Preliminary review of qualitative data, including clinician interviews and patient comments at the end of the study, suggest high rates of satisfaction with the program, and the general medical clinic hopes to offer group visits as part of their regular care program in the future. ■

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We are collaborating with the VA National Center for Patient Safety (NCPS) to foster implementation of the handoff tool at multiple other VAMCs.

As a final example, we are exploring applications of rapid process improvement techniques—such as lean six sigma, health care simulation, and systems modeling—in our facility to improve safety, quality and efficiency. Expected outcomes might include improving exam room utilization to mitigate both short-term and long-term demand for additional space, reducing appointment tardiness to achieve full compliance with national appointment timeliness performance measures, better mental health systems planning, and disseminating evidence-based clinic workflow best practices.

For more than a decade, the VHA and the VAMCs across the nation have led a national movement to incorporate information and communications technologies as well as process and systems reengineering in improving care delivery. By working to break

down known barriers to change, using technologies to provide greater information availability and integrity, and creating new collaboration models, rapid improvements within VA's health care delivery systems will continue to lead the nation. ■

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