

**RESEARCH AND DEVELOPMENT PROGRAM**

## PRINCIPAL INVESTIGATOR(S)

Bloomfield, Hanna E. (Director)

## TITLE OF PROGRAM PROJECT (Not to exceed 72 character spaces)

Center for Chronic Disease Outcomes Research (Minneapolis)

## KEYWORDS (MeSH terms only; minimum three)

Health Services Research, Mental Health, Chronic Disease, Combat Disorders, Epidemiology, Research Design, Patient-Centered Care, Physician-Patient Relations, Health Surveys, Statistics

## BRIEF STATEMENT OF RESEARCH OBJECTIVES (Do not use continuation sheets)

Research focus More than 600,000 new veterans have become eligible for VA services since the beginning of the global war on terror. These veterans face a host of unique combat-related problems, many of which will become lifelong chronic conditions. To help ensure that these veterans receive the highest quality care, the Center for Chronic Disease Outcomes Research (CCDOR) will place a major focus over the next five years on *post-deployment health*. The three specific areas of post-deployment health we will target are: 1. Post traumatic stress disorder (PTSD); 2. Polytrauma and Blast-related injuries (PT/BRI) and other unique health issues facing veterans of Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF); and 3. Substance use disorders (including tobacco).

Specific Objectives within Post-deployment Health 1. We will undertake longitudinal studies of OIF/OEF veterans to identify those most at risk for poor mental health outcomes following deployment-related trauma. 2. We will develop, test, and implement interventions that reduce barriers to obtaining and adhering to treatment for PTSD. 3. We will carry out studies to optimize care of the PT/BRI veteran. Specifically, we will focus on transitions between care venues; screening for highly prevalent, "invisible" problems such as hearing loss and traumatic brain injury; and facilitating the supportive care provided by family members. 4. We will leverage our expertise in designing effective interventions for substance use disorders to develop treatment approaches for substance users with co-morbid mental health problems.

Although we have prioritized post-deployment health as our primary growth area, a significant portion of our research portfolio will continue to focus on our other areas of established strength. These include our internationally renowned clinical research programs in osteoporosis, vaccine preventable disease, prostate and urological disease, and abdominal aortic aneurysm; our leadership in intervention and implementation research in colorectal cancer screening; our emerging strength in health disparities in disadvantaged populations; and our cutting edge work on methods for reducing bias in observational studies. We expect to use much of the methodologic expertise we have developed in these other areas to enhance the quality and rigor of our post-deployment health research agenda.

Facilities and capacity CCDOR has strong and stable leadership; a large team of talented VA-based investigators, solid training programs, excellent space and infrastructure; and a local resource commitment (including dedicated FTE and direct dollars) equivalent to \$1.84 million/year. We believe that these strengths will allow us to successfully pursue our research agenda thereby contributing to VA's efforts to provide high quality care to its newest veterans.

## I. EXECUTIVE SUMMARY

Research focus More than 600,000 new veterans have become eligible for VA services since the beginning of the global war on terror. These veterans face a host of unique combat-related problems, many of which will become lifelong chronic conditions. To help ensure that these veterans receive the highest quality care, the Center for Chronic Disease Outcomes Research (CCDOR) will place a major focus over the next five years on **post-deployment health**. We believe that CCDOR, perhaps more than any other VA HSR&D Center, is uniquely positioned to make a major contribution to veterans' health in this area. We currently have 13 investigators actively working in this area leading 15 funded projects, and are home to the Polytrauma/Blast-Related Injuries (PT/BRI) Quality Enhancement Research Initiative (QUERI) Center. The three specific areas of post-deployment health we will target are: 1. Post traumatic stress disorder (PTSD); 2. PT/BRI and other unique health issues facing veterans of Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF); and 3. Substance use disorders (including tobacco).

Although we have prioritized post-deployment health as our primary growth area, a significant portion of our research portfolio will continue to focus on our other areas of established strength. These include our internationally renowned clinical research programs in osteoporosis, vaccine preventable disease, prostate and urological disease, and abdominal aortic aneurysm; our leadership in intervention and implementation research in colorectal cancer screening; our emerging strength in health disparities in disadvantaged populations; and our cutting edge work on methods for reducing bias in observational studies. We expect to use much of the methodologic expertise we have developed in these other areas to enhance the quality and rigor of our post-deployment health research agenda.

Past accomplishments CCDOR has demonstrated exceptionally competitive grant writing, strong leadership in implementation, and significant impact on clinical practice and health policy. In the past 5 years, we initiated 56 externally funded projects and 80% of the VA HSR&D Investigator Initiated Research projects we submitted were funded. We were awarded the new PT/BRI QUERI Center in 2005; a VA Clinical Research Center of Excellence in 2004; and an Agency for Healthcare Research and Quality Evidence-based Practice Center in 2003. Our Colorectal Cancer Care Collaborative (C4) project became the first national rollout of an implementation intervention, a milestone for the national VA QUERI program. Our work has influenced clinical guidelines (e.g. abdominal aortic aneurysm screening) and VA policy (e.g. colon cancer screening) and has led to publications in top journals and national media attention.

Future activities Over the next five years we will initiate post-deployment health research activities in four key areas. First, we will undertake longitudinal studies of OIF/OEF veterans to identify those most at risk for poor mental health outcomes following deployment-related trauma. Second, we will develop, test, and implement interventions that reduce barriers to obtaining and adhering to treatment for PTSD. Third, we will carry out studies to optimize care of the PT/BRI veteran. Specifically, we will focus on transitions between care venues; screening for highly prevalent, "invisible" problems such as hearing loss and traumatic brain injury; and facilitating the supportive care provided by family members. Fourth, we will leverage our expertise in designing effective interventions for substance use disorders to develop treatment approaches for substance users with co-morbid mental health problems.

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## II. RESEARCH FOCUS AND POTENTIAL FOR FUTURE CONTRIBUTIONS

### A. CENTER HISTORY

The mission of the Center for Chronic Disease Outcomes Research (CCDOR) 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*. When founded in 1998 the core investigator group consisted of seven general internal medicine research-trained physicians, no PhD investigators, and no supporting personnel. Since then we have expanded our group of core investigators to include eight MD and 14 PhD investigators, and developed an infrastructure that includes a professional administrative core and a 14-person statistics and data management team. Leadership of the Center has been stable: Hanna Bloomfield, MD, MPH has been Center director since its founding; Melissa Partin, PhD, has been a core investigator since 1998 and associate director since 2003.

In 2003 we successfully applied for an additional five years of funding. At that time our strategic plan identified CCDOR's overarching research theme as: *Improving the quality of chronic disease care*. We identified three major focus areas: Population – disadvantaged and stigmatized populations; Disease – cancer (colon, prostate), mental health (substance abuse, including tobacco, post-traumatic stress disorder), cardiovascular, vaccine-preventable disease, osteoporosis, and skin disease; and Methodology – intervention development and testing, multi-center clinical trials, evidence synthesis, and surveys. As discussed below, our proposed strategic plan extends and builds on these themes, although we have substantially sharpened our priority focus area. Specifically, we will emphasize **post-deployment health** in returning combat veterans. CCDOR, perhaps more than any other VA health services research center, is ideally positioned to make a unique and significant contribution to improving veteran health in this area of intense national interest.

### B. RESEARCH FOCUS

**Rationale for strategic emphasis on post-deployment health** Deployments expose service members to significant hazards that can result in a variety of life-long adverse health consequences including traumatic injuries, chronic infectious diseases, and debilitating psychiatric disorders. Since 2003 we have developed an exceptionally strong research program in post traumatic stress disorder (PTSD) and other health issues experienced by combat veterans. Our strengths in this area were recognized by the award of the Polytrauma and Blast-Related Injury (PT/BRI) Quality Enhancement Research Initiative (QUERI) Center in 2005.

Given our expertise, past accomplishments and future opportunities, we are particularly well-poised to make significant contributions to three specific areas of post-deployment health: **1. PTSD; 2. PT/BRI and other unique health issues of OIF/OEF veterans** and **3. Substance use disorders (including tobacco)**. Our experience in these areas and their importance to VA is described below.

**1. PTSD** is a chronic disabling psychological condition caused by exposure to traumatic events. The symptoms of PTSD include recurrent, intrusive and distressing recollections of trauma; heightened autonomic reactivity; sleep disturbances; poor concentration; memory problems; and other adverse psychological effects. These symptoms can make it difficult for sufferers to hold jobs and maintain social relationships. Lifetime prevalence of PTSD among combat veterans is between 20-30%. It is the most common mental health condition for which veterans seek VA disability benefits. Each year the VA spends hundreds of millions of dollars compensating or treating more than a half million veterans with PTSD. Advancing our understanding of how to better treat and prevent PTSD is therefore a high priority for the VA.

As detailed below, CCDOR investigators have considerable research and clinical expertise as well as national prominence in this area. Over the next five years we will leverage these strengths to develop and evaluate interventions promoting effective treatment seeking and treatment engagement to improve health outcomes in the PTSD population.

2. PT/BRI and other unique health issues of OIF/OEF veterans In addition to PTSD, substance use disorders and other conditions traditionally associated with combat deployments, the newest generation of veterans returning from OIF/OEF is presenting with unique and clinically complex combinations of illnesses and injuries. Due to improvements in body armor and more effective care in the field, OIF/OEF soldiers are surviving major blast related injuries with multiple health issues. These include traumatic brain injury, amputations, nerve damage, burns, wounds, fractures, vestibular damage, vision and hearing loss, pain, and mental health and adjustment problems. As these conflicts continue the number of veterans affected by polytrauma and blast related injuries (PT/BRI) will continue to rise. Reflecting the importance of this challenging population, VA HSR&D recently issued two targeted solicitations on OIF/OEF veterans and one on PT/BRI. It also funded the PT/BRI QUERI Center. As home to this new QUERI Center, we will provide national leadership in defining research priorities for this population. We are already contributing significantly to VA HSR&D's research portfolio in this area and will expand this work over the next five years (as detailed in sections II.C and III.B).

3. Substance use disorders (including tobacco) While smoking rates are declining in the general population, they are increasing among veterans. Smoking prevalence in veterans is nearly 34% compared to 24% in the general population. It is particularly high among OIF/OEF veterans (39%-56%) and veterans with PTSD (40%-60%). Given the considerable health risks, staggering medical costs, and high prevalence of tobacco dependence in the veteran population, reducing tobacco dependence among veterans is a high priority for the VA.

Other substance use disorders are also highly prevalent among veterans. An estimated 340,000 veterans carry a substance use diagnosis other than nicotine dependence. Among veterans with PTSD, prevalence may be as high as 75%. Forty percent of OIF/OEF veterans have screened positive for hazardous alcohol use and 21% for alcohol dependence. Only 30% of those screening positive for hazardous alcohol use and 40% of those screening positive for alcohol dependence reported having had alcohol counseling. Opioid dependence is also an important problem in VA, currently affecting 26,000 veterans. In FY06, fewer than 35% of these patients received therapy with methadone or buprenorphine, the most effective and cost effective treatments for opioid dependence. Thus there is substantial room for improvement in ensuring that veterans with a variety of substance use disorders receive evidence-based care.

As detailed in Section III, CCDOR has long demonstrated research excellence in the field of substance abuse treatment. We will continue to deepen our expertise and to cultivate our close ties to other organizations dedicated to substance abuse research. For example, our researchers closely collaborate with the University of Minnesota's NIH-funded Transdisciplinary Tobacco Use Research Center and with the VA's Substance Use Disorders QUERI; in fact, Dr. Hagedorn, a CCDOR investigator, serves as Implementation Research Coordinator for this QUERI. In the future, we will continue to pursue this area of research with particular emphasis on developing interventions for patients with co-morbid mental illness and substance abuse.

**Unique strengths that CCDOR brings to post-deployment health** Our strengths in this area include a large group of investigators active in post-deployment health (Section VI.B) and a strong research portfolio (Section III). In addition, we expect to leverage our Center's long-established methodologic expertise to enhance the quality, rigor, and relevance of our post-

deployment health research agenda. Our methodologic specialties include intervention development and testing, multi-center randomized trials, qualitative research expertise, evidence synthesis and systematic reviews, implementation and survey research, and methods to control for bias. Our strength in health disparities research, including low health literacy, is particularly relevant as a disproportionate number of OIF/OEF veterans are from ethnic and racial minority and lower socioeconomic groups.

### C. OUTLINE OF STRATEGIC GOALS AND OBJECTIVES

<p><b>Goal 1. Conduct research that makes significant contributions to improving post-deployment health care quality and outcomes.</b></p>
<ul style="list-style-type: none"> <li>A. Develop and evaluate interventions to promote treatment seeking and adherence to optimize outcomes in veterans with PTSD</li> <li>B. Provide national leadership on developing and executing a research agenda that will assess and address the unique needs of OIF/OEF veterans, including those with PT/BRI.</li> <li>C. Develop and evaluate innovative treatment programs for patients with substance use disorders and common co-morbid mental health conditions.</li> </ul>
<p><b>Goal 2. Identify and evaluate new approaches to improving and measuring health care quality and outcomes for veterans with chronic disease.</b></p>
<ul style="list-style-type: none"> <li>A. Conduct cutting edge clinical research and systematic reviews that establish the evidence base for clinical practice and provide targets for future implementation efforts.</li> <li>B. Develop and evaluate novel interventions to promote best practices</li> <li>C. Conduct foundational studies to improve patient-centered performance measurement in VA</li> <li>D. Develop and apply innovative health services research methodologies</li> </ul>
<p><b>Goal 3. Provide leadership in the implementation of research into practice</b></p>
<ul style="list-style-type: none"> <li>A. Promote and facilitate rapid dissemination of research findings</li> <li>B. Engage in active, strategic implementation efforts</li> <li>C. Monitor and evaluate the spread of innovations in clinical settings</li> </ul>
<p><b>Goal 4. Enhance local and national VA productivity and capacity to conduct rigorous, innovative, high impact health services research</b></p>
<ul style="list-style-type: none"> <li>A. Leverage postdoctoral fellowship and career development funding mechanisms to develop and support promising health services researchers</li> <li>B. Develop seminars, workshops, conferences and other training programs in our areas of specific methodologic expertise for local and national audiences</li> <li>C. Support professional development opportunities for investigators</li> <li>D. Leverage and expand productive collaborative relationships</li> </ul>
<p><b>Goal 5. Build an infrastructure and culture that support Center values and goals</b></p>
<ul style="list-style-type: none"> <li>A. Refine organizational structures and processes to maximize accountability and efficiency</li> <li>B. Explore the feasibility and financial benefits of establishing an internal survey lab</li> <li>C. Promote an organizational culture that maximizes staff achievement and satisfaction</li> <li>D. Efficiently manage and leverage financial resources</li> </ul>

Below we summarize our plans for the research related goals (Goals 1-3). Operational details for Goals 4 (capacity building) and 5 (infrastructure) appear in Sections VI and VII, respectively.

**Goal 1: Conduct research that makes significant contributions to improving post-deployment health care quality and outcomes** by expanding and maximally leveraging our growing research portfolio in the specific focus areas of PTSD; PT/BRI and other unique health

issues of OIF/OEF veterans; and substance use disorders (including tobacco). In the area of PTSD we have already achieved considerable success in identifying the unique needs and challenges of this population. Based on this work, our primary objective for the next five years will be to develop and evaluate interventions that promote appropriate PTSD treatment and improve health outcomes. In the area of PT/BRI and other unique health issues of OIF/OEF veterans, we have two primary objectives. First, for polytrauma patients, we will focus on transitions between care venues, screening for highly prevalent, “invisible” problems such as hearing loss and traumatic brain injury, and sustaining family caregivers’ ability to provide supportive assistance. Second, we will identify veterans most at risk for poor mental health outcomes following deployment-related trauma through a series of studies on risk and resiliency. This work will determine which populations are in greatest need of preventive interventions and provide guidance on intervention design. In the area of substance use disorders we have already developed and proven the effectiveness of a number of health services interventions for the general population of substance abusers. We now plan to employ our skills and experience to develop and evaluate innovative treatment approaches for veterans with co-morbid mental health and substance use diagnoses.

**Goal 2. Identify and evaluate new approaches to improving and measuring health care quality and outcomes for veterans with chronic disease.** As described above, our primary area for growth over the next five years will be post-deployment health. Along with this priority area, our research portfolio will continue to include other areas of established strength and emerging interests. In particular, we will continue to conduct research that: 1. establishes the evidence base for clinical practice and provides targets for future implementation efforts; 2. informs the development and evaluates the implementation of novel interventions to improve health care quality, access, and outcomes; and 3. identifies and ameliorates health disparities in disadvantaged populations. In addition we will continue to develop and apply innovative health services research techniques to address the methodologic challenges inherent in studying difficult populations such as PTSD and substance use patients. Finally, we are becoming increasingly interested in refining performance measurement systems to be more patient centered. To fuel development in this emerging area of research, we have several foundational initiatives under development that will identify and prioritize future research activities.

**Goal 3. Provide leadership in the implementation of research into practice** CCDOR is home to the PT/BRI QUERI and to the Implementation Research Coordinator of the substance use disorders (SUD) QUERI. Additionally, CCDOR researchers are leading several ongoing implementation studies initiated as part of the former colorectal cancer QUERI. Implementation research will therefore continue to be important to our research portfolio. We are currently leading or participating in several QUERI implementation efforts including: a national quality improvement effort to enhance the timeliness of colon cancer screening; a national effort to develop and evaluate tools to monitor the quality of colorectal cancer treatment and palliative care; a randomized trial evaluating a multi-component patient-directed intervention to reduce no-shows and cancelled appointments in endoscopy clinics; and a randomized trial evaluating a contingency management approach to substance use treatment. We are developing a study that will monitor the spread of innovations developed in an ongoing colorectal cancer screening follow-up implementation effort. Finally, we are completing the formative work necessary to the development of implementation initiatives in the areas of PTSD and PT/BRI.

### **III. PRODUCTIVITY**

#### **A. CURRENT PROJECTS**

During the past five years, 56 new projects have been externally funded (21 VA HSR&D, 7 other VA, 12 federal non-VA, and 16 non-federal). Since 2001, 80% of the VA HSR&D Investigator

Initiated Research projects (IIRs) we submitted were funded. On average, in each of the last four VA HSR&D IIR review cycles (through June 2006), 45% of our submitted grants were funded compared to the national average of 22%. During that same time period, 23% of CCDOR first submissions were funded compared to the national average of 11%.

This section includes a sample of currently funded projects, projects finished in the past fiscal year, and submitted proposals. A complete list is presented in Appendix 2. Grant numbers beginning with three letters are nationally funded VA HSR&D grants.

### **Goal 1. Conduct research that makes significant contributions to improving post-deployment health care quality and outcomes**

PTSD CCDOR is a leader in PTSD related health services research. Over the past five years our investigators have conducted 2/3rds of all national VA HSR&D IIRs funded in this area. In particular we have unique expertise in evaluating the equity of disability allocation and the impacts of disability benefits on access to care and recovery. In the next five years, the formative work we have done will become the basis for intervention development, testing, and implementation for this difficult, chronic condition. Current projects in this area include:

- Barriers and facilitators to PTSD treatment seeking (Sayer PI, DHI05-111, 2006-07). This qualitative study is conducting in-depth interviews with OIF/OEF and Vietnam veterans filing claims for PTSD to assess their beliefs about PTSD treatment and to identify possible individual, socio-environmental, and mental health system barriers and facilitators to PTSD treatment seeking. The results will be used to refine a conceptual model for PTSD treatment seeking to facilitate development of interventions.
- Participation in PTSD treatment: who starts, who stays and who drops out (Spoont, PI, IAC06-266, 2007-10). Over 75% of veterans receiving outpatient care for PTSD participate only episodically in their treatment. Fewer than 20% receive an adequate trial of selective serotonin reuptake inhibitors, the treatment of choice for PTSD. This newly funded national longitudinal survey of veterans with PTSD will test causal hypotheses about PTSD treatment seeking and engagement behaviors. Results will inform the development of interventions to facilitate PTSD treatment participation.
- Sexual assault prevalence among male, PTSD-disabled Gulf War era veterans (Murdoch and Polusny, co-PIs, GWI04-352, 2006-09). Sexual assault prevalence is higher among military than civilian men, and may be particularly high among men who served during the Gulf War era. This study will examine risk and protective factors for male military sexual trauma (MST) and identify organizational-level and patient-level factors that facilitate or inhibit screening veterans for MST experiences.
- Does PTSD service-connection affect disease course and functioning? (Murdoch PI, IIR01-188, 2003-06). This recently completed panel study of over 3000 veterans who applied for PTSD disability benefits is the first to have examined the long-term impacts of VA PTSD service connection (or lack thereof) on PTSD symptom severity, social adjustment and functioning, employment status, family income, health care utilization, homelessness, and mortality. Analyses are currently underway.

PT/BRI and other unique health issues of OIF/OEF veterans As a natural extension of our expertise in combat-related disorders, especially PTSD, we successfully competed to establish the PT/BRI QUERI Center in 2005, headed by Dr. Sayer. Current projects in this area include:

- Longitudinal risk and resilience factors predicting psychiatric disruption, mental health service utilization, and military retention in OIF National Guard troops (Polusny, PI, DoD W81XWH-07-2-0033, 2007-11). This four year study funded by the Department of Defense is investigating the role of in-theater organizational support on subsequent

psychiatric disruption, mental health service utilization, and operational readiness in National Guard soldiers returning from Iraq. This study is unprecedented in that it includes *pre-deployment* baseline information on a large cohort of troops. For more details on this study and future projects that will build on it, see Section III.B, Project 1.

- Variations across VA Polytrauma Rehabilitation Centers (Sayer, PI, RRP06-150, 2006). This chart review study was conducted in 2006 to: identify gaps and needs within the four VA Polytrauma Rehabilitation Centers (PRCs) and the Polytrauma System of Care; describe practice patterns within the PRCs; identify high priority problems in patients with severe combat injuries; and describe variations in practice and outcomes. Findings confirmed the clinical complexity of PT/BRI patients; highlighted the need to screen for highly prevalent “invisible” problems such as hearing loss and traumatic brain injury; and identified unmet provider education needs.
- Rapid needs assessment of VA Polytrauma Rehabilitation Centers (Friedemann-Sanchez, PI, RRP06-149, 2006). This recently completed formative study conducted qualitative interviews with 56 providers from the four VA PRCs to describe providers’ perspectives on the health care needs of PT/BRI patients and how PRCs are meeting these needs. Findings suggest that the unique needs of PT/BRI patients and their families have necessitated adaptive changes in treatment protocols and care processes. These changes and the challenges of meeting the unique needs of PT/BRI patients and their families are described by PRC providers as stressful but rewarding.
- Soldier to civilian: Randomized controlled trial of an internet-based intervention for new veterans (Sayer, PI, DHI07-150, submitted 12/06). This innovative study, currently under review, is designed to reduce psychological distress and improve physical and interpersonal functioning in veterans returning from hazardous deployments. It will test the efficacy of a web-based intervention, in which veterans write about their thoughts and feelings regarding their deployment for 15-20 minutes a day for three to four consecutive days. This 3 arm trial will determine whether this low-cost intervention, shown to be useful in other settings, is effective in combat veterans.
- Family care-giving for PT/BRI patients (Griffin and Friedemann-Sanchez, co-PIs, SDR-07-044, concept paper approved 3/07). This mixed methods study will investigate how family stress and functioning affects outcomes for polytrauma patients with traumatic brain injury and their caregivers after discharge from a polytrauma rehabilitation center. Survey findings will quantify the effect of informal caregiver characteristics, context, cognitions, behaviors and wellbeing on patient outcomes, such as neurobehavioral functioning, community integration, and mental health. Variation by patient cognitive function and branch of service will then be studied in greater detail through a series of qualitative interviews. This work will be critical for understanding where to target future interventions to maximize outcomes for patients with traumatic brain injury and polytrauma and for their families. A component of this research plan was also submitted as the research component of Dr. Friedemann-Sanchez’s career development application in December 2006.

Substance use disorders (including tobacco) CCDOR has a long history of leadership in developing and testing system-level interventions for tobacco and other types of substance abuse. Since the Center’s inception, our investigators have initiated and led 8 VA HSR&D or NIH funded studies evaluating interventions for smoking or other substance use disorders and have collaborated on several others. Currently active projects include:

- Proactive tobacco treatment for diverse veterans smokers (Fu, PI, IAB05-303) Current tobacco treatment approaches are reactive, requiring smokers to initiate treatment or depending on providers to initiate care. As a result, current proven tobacco treatments

are underused by veteran smokers. This randomized trial (which received a fundable score of 18 at the March 2007 review) will test a *proactive outreach strategy* offering a choice of cessation services, an innovative approach that, if proven effective, will transform the way tobacco treatment is delivered in VA.

- Tobacco treatment among racial/ethnic minority smokers (Fu, PI, RC2004-0017). This study funded by the Minnesota Partnership for Action Against Tobacco, combines qualitative and quantitative methods to examine ethnic differences in tobacco cessation outcomes and the relation of cultural factors to the use of tobacco treatment among racial/ethnic minorities. Findings from the qualitative phase suggest that personal beliefs, views towards physicians, and lack of knowledge are important determinants of the use of evidence-based treatments by ethnic minority smokers. The quantitative phase consists of a survey, currently underway, of nearly 2000 low-income smokers. Findings from this study will inform the development of effective strategies to ameliorate ethnic disparities in tobacco cessation treatment.
- Effectiveness of contingency management in VA addictions treatment (Hagedorn, PI, IIR03-120, 2006-09). This randomized trial will determine if a “contingency management” intervention is better than usual care for veterans in substance use treatment programs. The intervention consists of small prizes distributed by lottery for clients who test negative for drugs and alcohol at each visit. Outcomes include abstinence rates and clinic attendance. If the intervention is effective, Dr. Hagedorn will develop an implementation project to expand its use throughout VA.
- The Tobacco Longitudinal Care Study (Joseph, PI, P-50-DA13333-06, 2004-09) This NIH-funded randomized controlled trial will evaluate the effect of a one year longitudinal smoking cessation treatment program (including early repeat treatment for those who relapse) on prolonged smoking abstinence. This project will provide evidence on the effectiveness of a chronic care model approach for the treatment of tobacco dependence and will provide guidance for managers and health care systems on the adoption of national recommendations to treat tobacco use as a chronic condition.

## **Goal 2. Identify and evaluate new approaches to improving and measuring health care quality and outcomes for veterans with chronic disease**

Clinical Research CCDOR continues to be a leader in this area with special emphasis on osteoporosis, abdominal aortic aneurysm, vaccine-preventable disease, and prostate/urological conditions. One of our particular strengths is our ability to span the research spectrum from developing the evidence base for clinical practice (e.g. clinical trials and systematic reviews) to determining how best to translate that evidence into clinical practice. We strongly believe in the value of cross-fertilization between the clinical and health services research domains, a synergy that is vibrant within and integral to CCDOR culture.

In 2003 CCDOR core investigator Dr. Wilt in collaboration with Robert Kane, MD of the University of Minnesota, successfully competed for an AHRQ funded Evidence-Based Practice Center. This Center develops and disseminates comprehensive, rigorous, evidence-based reports on a variety of health care topics. As detailed below (Section IV), this group’s work has had substantial impact on clinical policy recommendations and we anticipate that this expertise will be extremely useful for our formative work in post-deployment health (see Section III.B, Activity 2). Other clinical research projects are listed in Appendix 2.

Development and evaluation of novel interventions Our background as active VA clinicians and our experience with multi-center clinical trials has informed the health services intervention research that has been a large part of our portfolio since our inception. Current projects include:

- Use of telehealth messaging to improve gastrointestinal (GI) endoscopy completion rates (Griffin, PI, IIR03-295, 2006-08). Low completion rates for GI endoscopic procedures are a major barrier in VA to timely follow-up for persons who screen positive on fecal occult blood testing. This 3-arm randomized trial tests the efficacy of a novel, multi-component patient-directed intervention (interactive voice response system that includes educational and motivational messages, and reminders) to reduce no-shows and cancelled appointments. The study will provide VA with policy and process recommendations for improving GI clinic capacity and procedure completion rates.
- Evaluation of store-forward teledermatology for skin neoplasms (Warshaw, PI, IIR01-072, 2002-06) Access to dermatology services is limited at many VA medical centers and teledermatology represents a promising mechanism for providing these services in a cost-effective manner. This recently completed randomized trial evaluated the diagnostic accuracy of store-forward teledermatology compared to in-person care in over 2100 veterans presenting with skin neoplasms. Preliminary findings indicate that this technology may not be as accurate for diagnosis of skin neoplasms as in-person care. This work will directly inform the evolution of teledermatology programs within VA.
- Assessing and addressing patient colorectal cancer screening barriers (Partin, PI, IIR04-042, 2005-08). Despite strong evidence for the value of a variety of colorectal cancer (CRC) screening methods, current CRC screening rates fall far below the levels needed to significantly impact CRC mortality. This survey study of a nationally representative sample of 3480 veterans will determine patient and environmental-level barriers to CRC screening in order to inform the development of future interventions to improve CRC screening rates.

Health Disparities Many CCDOR investigators are interested in and passionately committed to the development of interventions to eliminate health disparities among disadvantaged and stigmatized populations. In this endeavor, we have collaborated closely with nationally-recognized expert Dr. Michelle van Ryn, former Associate Director of CCDOR and now fulltime at the University of Minnesota. Dr. van Ryn mentors several of our investigators (Drs. Burgess, Fu and Griffin). Further, CCDOR investigators are helping to build the University of Minnesota's new Health Disparities Research Program under the leadership of the Academic Health Center's Executive Director of the Office of Clinical Research, Dr. Jasjit Ahluwalia. In addition to the two projects highlighted below, disparity-related secondary hypotheses are integral to a number of our other current projects (e.g., *Assessing and addressing patient colorectal cancer screening barriers; Participation in PTSD treatment: who starts, who stays and who drops out; and Proactive tobacco treatment for diverse veteran smokers*).

- The effect of quality improvement and organizational factors on racial disparities in pain management (Burgess, PI, IAA07-071, submitted 12/06;). This observational study utilizing national VA surveys and databases, will explore whether programs not specifically aimed at minority groups ameliorate health disparities. Specifically it tests the hypothesis that quality improvement (QI) and organizational processes and structures that support QI will reduce racial disparities in pain management. It will also compare the effectiveness of specific system-level processes and structures. The results of this study will inform future pain management quality improvements efforts as well as future interventions to reduce health disparities.
- Determining the prevalence and correlates of health literacy among veterans (Griffin, PI, CR103-153, 2004-06) Although studies suggest that poor health literacy skills are associated with worse health status, the magnitude of this problem within VA had never been documented. This recently completed multi-center study found that one in six veterans have inadequate or marginal health literacy skills. The oldest, poorest, least

educated and sickest were most likely to have the lowest skills. Further analyses of these data are currently underway to determine the association between low literacy and health outcomes or behaviors and to identify specific patient groups at highest risk.

Research Methods Over the past few years CCDOR has developed an expert team of investigators skilled in developing new research methods, focusing in particular on reducing bias in non-randomized studies. In a recently completed methods project funded by VA HSR&D (Nelson, PI, IIR03-005, 2004-06), Drs. Nelson and Noorbaloochi developed a new theory of sufficient dimension reduction that extends and generalizes propensity theory for use in estimating differences in outcomes among multiple populations based on categorical measures. This work has created a valuable set of new methods for facilitating sound statistical inference in complex study designs that we are already utilizing in several of our ongoing projects. Additional examples of our innovative work in research methods are discussed in the context of proposed future research activities (see Section III.C).

Patient-centered performance measurement Our long history of clinically-oriented health services research and large cadre of clinician investigators underlie this emerging area of interest for our Center. We currently have two studies under review:

- How do veterans value potential outcomes of guideline recommended care? (Rector, PI, IIR07-142, submitted 12/06) This ultimate objective of this observational study is to promote patient-centered care by improving concordance between patient values and provider treatment decisions. We will interview 300 patients with heart failure to determine how they weigh potential outcomes such as prolonged survival, avoiding hospitalization, and symptom reduction, against medication side effects and treatment regimen complexity. This study will inform development of tools by which providers and patients can better incorporate patient values into clinical decision making.
- Effects of performance measurement on healthcare systems (Powell and Bloomfield, PIs, IIR07-140, submitted 12/06). This qualitative study will investigate the effect of VA's performance measurement system on the clinical care delivered to patients as perceived by providers, clinic support staff, and clinical leaders at four VA facilities. As one of the first studies to empirically investigate possible unintended effects of performance measurement in health care settings, it will form the basis for development of a conceptual model to guide future research and management initiatives to improve performance measurement in VA.

### **Goal 3. Provide leadership in the implementation of research products into practice**

Over the past five years we have achieved a vigorous and highly successful implementation research portfolio. Our partnership with VA's Office of Quality and Performance (OQP) on the C4 project described below was the first national rollout of an implementation intervention, a milestone for the QUERI program. Some of our current implementation projects include:

- Colorectal Cancer Care Collaborative (C4) (Powell, PI, 2005-07). This national quality improvement initiative was jointly funded by VA HSR&D and OQP. It is a collaboration between QUERI, OQP and the Advanced Clinic Access office. In the study, 21 VA facilities, one in each VISN, used a learning collaborative approach to increase the timeliness of diagnostic follow-up to positive colorectal cancer screening tests. We generated custom baseline data reports for each team, developed a website and listserv, and are now evaluating the processes and outcomes of the initiative. C4 has generated intense interest throughout VA and "best practices" identified by the initiative are now being widely disseminated through a C4 spread initiative, organized by OQP.

- Facilitating quality improvement through the measurement process: The VA lung cancer survey (Powell, PI, 2006-07). The goal of this OQP-funded project, which was conducted in nearly 75% of all VA facilities (N=133), was to improve the timeliness of lung cancer diagnosis. Our data collection instrument provided immediate feedback to each facility's leadership thus facilitating the identification of problem areas and the initiation of quality improvement efforts. This study is the first to quantify the timeliness of lung cancer care processes across the VA. Follow-up work is currently under way to identify best practices used by the highest performing facilities.
- Diabetes case management (Ishani, PI, 2006-08) This VISN 23-funded study is designed to determine if a nurse managed, protocol driven disease management program based on the chronic care model, results in better blood pressure, lipid and blood sugar control than usual care among patients with Type II diabetes. Components of the intervention include cooperative goal setting, education, and patient self-management techniques.
- Lung disease self management care program (Rice, PI, 2004-07) This VISN 23-funded five site implementation study is investigating the feasibility and cost-effectiveness of implementing a self management program for patients with chronic obstructive pulmonary disease (COPD) at high risk of hospitalization. The program includes proven principles of treatment, but delivers them in a more streamlined approach that is expected to be as effective as but less costly than usual care.

## **B. FUTURE RESEARCH PROJECTS**

CCDOR has a strong pipeline of research projects in each of the three Goal areas described above. However, here we will highlight our primary focus area by describing three new post-deployment health research projects we will undertake during the next five years.

**Project #1: Risk and resilience factors associated with mental health outcomes in OIF/OEF veterans** (Melissa Polusny, PhD). Over 1.4 million military service personnel have been deployed to Iraq and Afghanistan with 600,000 OIF/OEF combat veterans already discharged from active duty and eligible for VA care. These veterans are at increased risk for PTSD, depression, and anxiety. Most of what is known about traumatic stress and mental health comes from cross-sectional studies since researchers rarely have the opportunity to collect data from subjects *prior* to their exposure to traumatic events. Thus it is virtually unknown how pre-deployment characteristics might confound and predict post-deployment outcomes.

Dr. Polusny and her research team have developed an unprecedented program of longitudinal risk and resiliency research focused on National Guard soldiers and their families. Currently, over 2,600 Minnesota National Guard soldiers are deployed to OIF with the 1<sup>st</sup> Brigade Combat Team of the 34<sup>th</sup> Infantry Division (1/34 BCT). Dr. Polusny's team traveled to Camp Shelby, Mississippi, where the 1/34 BCT was preparing for deployment to Iraq and successfully collected baseline measures of risk and resilience from a large, representative cohort of 530 male and female soldiers prior to deployment. Dr. Polusny was recently funded by the Department of Defense (DoD) to follow this well-characterized cohort over time and will be able to identify pre-deployment predictors of post-deployment mental health functioning and reintegration. This team has also received support to conduct an unprecedented in-Iraq assessment of the entire 4,000-person brigade's experiences to date, including exposure to mild concussive shock blasts (that might be missed by the post-deployment DoD screener). Dr. Polusny's team has also received support to conduct initial clinical diagnostic interviews with all surviving soldiers as they return from Iraq. Over the next few years her team will pursue funding to collect critical one-year and two-year follow-up clinical interview data from this cohort.

Dr. Polusny's research program will significantly advance understanding of the natural course of post-deployment adjustment; define factors that predict resilience and recovery; identify veterans most at risk for developing long-term mental health problems in the wake of acute trauma; and reveal critical time points for intervention. Additional initiatives over the next several years will investigate the impact of PTSD and deployment stress on veterans' relationship functioning (a VA/DoD priority area); evaluate the effectiveness of reintegration interventions for resilience in OIF/OEF veterans; measure the health economics of deployment; and describe gene-environment predictors of resilience in combat veterans.

**Project #2: Increasing access and adherence to PTSD treatment** (Nina Sayer, PhD and Michele Spont, PhD). As discussed above, PTSD is highly prevalent in combat veterans and negatively impacts quality of life and functioning. Research and expert consensus indicate that PTSD treatment improves symptoms and functioning. Currently only a minority of affected patients is receiving mental health treatment; of those who do access treatment, most participate only episodically. Furthermore, referral to specialty mental health services is often not possible (e.g., in rural areas) or not accepted by patients. As a result, a substantial number of veterans with PTSD are diagnosed and treated in primary care settings. Given resource limitations and the absence of mental health expertise in primary care, these patients are less likely to receive behavioral interventions and adequate trials of antidepressant treatment. Little is known, however, about the factors that interfere with appropriate help seeking for PTSD or the factors that predict sustained treatment engagement.

To address this gap we recently initiated two studies that will lay the foundation for interventions to promote appropriate treatment seeking and long-term treatment engagement for veterans with PTSD. The first, led by Dr. Sayer, is a qualitative study using in-depth interviews with OIF/OEF and Vietnam Era veterans filing claims for PTSD. The interviews assess PTSD treatment beliefs and identify possible individual, socio-environmental, and mental health system barriers and facilitators to PTSD treatment seeking. The second is a national longitudinal survey of veterans diagnosed with PTSD. Under Dr. Spont's leadership, this survey will build on Dr. Sayer's study by testing causal hypotheses about PTSD treatment seeking and engagement behaviors.

The findings from these studies will inform the development, testing, and implementation of interventions designed to ensure that veterans with PTSD receive appropriate treatment. Specifically, once the results of their studies are known, Drs. Sayer and Spont will develop intervention recommendations, incorporating input from key stakeholders including the Mental Health QUERI, the Office of Seamless Transition, the Northeast Program Evaluation Center, the National Center for PTSD, the Veterans Benefits Administration, the Mental Health Strategic Healthcare Group, and veteran service organizations. These intervention recommendations will be evaluated in a future VA HSR&D implementation study. We anticipate that the proposed interventions will focus on the primary care setting and will leverage the internet and the VA's telemedicine capacity. Dr. Sayer and her team are well-positioned to promote such a strategy as they are already working on a project testing a web-based intervention to improve psychological and functional outcomes among OIF/OEF veterans.

**Project # 3: Evaluating and implementing a proactive tobacco cessation treatment intervention for veterans with co-morbid depression and/or PTSD** (Steven Fu, MD, MSCE). People with psychiatric disorders have considerably higher rates of smoking than do individuals in the general population. It is estimated that nearly half of all cigarettes are consumed by smokers with co-morbid psychiatric disorders. Compared to the general population, veterans have higher prevalence both of smoking and of psychiatric disorders, particularly depression

and/or PTSD. Nevertheless, evidence suggests that smokers with psychiatric disorders are infrequently offered evidence-based smoking cessation treatment during routine care.

Proactive tobacco treatment approaches that provide longitudinal care have the potential to increase treatment utilization and improve long-term smoking cessation rates. In addition, studies suggest that for smokers with co-morbid depression and/or PTSD, mood management interventions which address negative affect and negative emotions may be more effective for smoking cessation than generic counseling interventions. The proposed study will evaluate an intervention that is designed to meet the specific needs of veteran smokers with co-morbid depression and/or PTSD. We will target Vietnam Era and OIF/OEF veterans because these two groups of veterans have high rates of smoking and depression and/or PTSD co-morbidity. Intervention efforts will focus on the primary care setting because the stigma associated with mental health services deters many veterans from seeking mental health care. This approach also capitalizes on recent efforts to integrate mental health care into primary care settings.

The intervention, which we will evaluate in a randomized controlled trial, builds on our previous work and will consist of the following components: 1. proactive outreach methods to offer smoking cessation care, 2. a combination of in-person and telephone care to deliver intensive counseling with special emphasis on mood management, 3. coordination of care to ensure delivery of pharmacotherapy, and 4. longitudinal care.

This study will significantly contribute to the development of evidence-based interventions to eliminate the tobacco-related disparities experienced by individuals with co-morbid psychiatric disorders. In addition, it will complement an ongoing VA Cooperative Studies Program project that is assessing the merits of integrating smoking cessation care into VA PTSD specialty clinics at the Minneapolis VA and other VA facilities. CCDOR has a leadership role in this ongoing cooperative study; Dr. Joseph serves on its executive committee.

### **C. FUTURE RESEARCH ACTIVITIES**

Our planned activities for the next five years include three that are highly synergistic with our post-deployment health research agenda. These are described below.

**Activity # 1: State of the art (SOTA) conference on addressing response bias in survey research** Drs. Partin and Murdoch are in the initial phases of developing a SOTA conference on preventing and controlling response bias in survey research targeting special populations. Prior research suggests that those with mental health and substance abuse diagnoses as well as racial minorities and socio-economically disadvantaged individuals are less likely to respond to surveys. This creates challenges in measuring patterns of underutilization of health services and/or poor health outcomes for these populations. Several of our survey researchers (Drs. Partin, Murdoch, Griffin and Polusny) have been investigating methods for preventing and controlling for response bias. For example, they have studied the effects of the Health Information Portability and Accountability Act (HIPAA) and authorization bias in both general and PTSD populations; the impact of mode effects in surveys of sensitive topics (e.g., military sexual trauma); and the development of innovative survey collection strategies to improve response rates and minimize social desirability biases. This SOTA conference will capitalize on this expertise and the expertise of our local collaborators, Timothy Beebe, PhD, at Mayo Clinic College of Medicine and Michael Davern, PhD, at the University of Minnesota.

Conference objectives are to collate lessons learned, critique existing techniques and methods, and develop recommendations for further advancing the science of preventing and controlling response bias in survey research targeting special populations. Planned topics include: 1. a

literature review and evidence synthesis of response bias correlates and patterns; 2. the impact of HIPAA and other privacy legislation on authorization and participation bias; 3. methods for preventing or minimizing non-response bias, such as techniques for maximizing survey response rates, preventing item non-response, and reducing social desirability response bias; 4. the relevance of item-response theory to health services research; and 5. methods for reducing distress when surveying vulnerable populations. Presented papers will be submitted as a special issue to *Health Services Research* or another appropriate journal. Smaller workshops based on the proceedings will also be offered at national meetings (e.g., VA HSR&D meeting, AcademyHealth). We will seek AHRQ funding for the conference through NIH's R13 Conference and Scientific Meeting support mechanism. In addition, the Health Disparities Program at the University of Minnesota has expressed interest in co-sponsoring this activity.

**Activity # 2: Evidence report on barriers to care for trauma-related disorders** Veterans with trauma-related mental health problems such as PTSD and substance abuse face significant barriers to care. Drs. Sayer and Wilt plan to leverage CCDOR's considerable expertise in systematic reviews to conduct and disseminate a comprehensive review of the literature addressing the following key questions:

1. What are the barriers to obtaining treatment for trauma-related disorders and how do they vary according to patient, provider, and system-level characteristics?
2. What interventions have been used to promote treatment-seeking for trauma-related disorders? Does intervention effectiveness vary according to patient, provider, and system-level characteristics? Are there unintended consequences associated with particular interventions? Because stigma has been identified as a particularly salient barrier to obtaining mental health care among OIF/OEF veterans we will also investigate what interventions have been shown effective in reducing the stigma of having a mental health problem.
3. What are the gaps in evidence and the key research areas that will address these gaps?

At the patient-level, we will look for variations across military status (active duty, veterans, non-veterans), race, gender, and diagnosis (e.g., PTSD, substance use disorder, depression). At the provider level, we will look for variations across discipline (e.g., RN, MSW, PhD, MD) and service in which the provider works (primary care, specialty clinic) as well as provider training, knowledge, beliefs, and attitudes. At the organization-level, we will examine variation by number of providers, patient volume, urban-rural location, services integration (e.g., use of collaborative care models) and setting (e.g., primary care, mental health clinic).

We will convene a multidisciplinary technical expert panel to assist in refining the review's questions, identifying key evidence, reviewing study and outcome measures and reviewing draft evidence tables and documents. External technical panel members might include Patrick Corrigan, PhD, Executive Director, Center for Psychiatric Rehabilitation and noted stigma researcher; Ronald Kessler, MD, Professor, Health Care Policy, Harvard Medical School and renowned barriers-to-care expert; and Robert Rosenheck, MD (qualifications listed in Section VI.E). Funding for this activity will be sought from either the Department of Defense or through the QUERI Rapid Response Project mechanism.

The full evidence report, executive summary and a power point presentation summarizing the results will be disseminated to the Mental Health Strategic Healthcare Group, the National Centers for PTSD, the DoD Deployment Health Clinical Center at Walter Reed Army Hospital, the Office of Mental Health Disaster Response/Post Deployment Activities, the Northeast Program Evaluation Center, and the Mental Health QUERI, among other stakeholder groups. Dr. Sayer's position as Director of the PT/BRI QUERI will greatly facilitate dissemination.

Locally, this report will be used to inform research projects aimed at improving care access and delivery of effective treatments to veterans with mental illness and/or other adjustment issues post-deployment.

**Activity #3: Seminar series on novel approaches to the analysis of observational studies** The CCDOR methods group, headed by senior statistician Dr. Nelson, is developing a 2007 Society for General Internal Medicine (SGIM) pre-course entitled *Novel Approaches to the Analysis of Observational Studies* to review and introduce researchers to several advanced statistical methodologies for addressing common sources of bias in the analysis of observational studies. Observational and quasi-experimental studies examining the association between an explanatory measure and an outcome are complicated by the need to consider a host of potential confounding measures. When there are large numbers of potential confounding measures, conventional regression methods suffer from dimensionality problems and related difficulties in identifying suitable regression functions without introducing additional bias. Statistical inference is more easily and, potentially, more accurately conducted if the number of confounders can be reduced.

The course will review biases that arise in analyzing large observational data sets and review traditional methods for reducing the dimension, or number, of confounding measures including stratification and principal components. CCDOR investigators will discuss novel applications of sliced inverse regression and related methods for dimension reduction and use of propensities and conditional density ratios in these settings. The leaders of the pre-course have played a central role in developing and extending several of these approaches. The targeted audience is individuals actively engaged in the statistical analysis of large observational studies. In addition to the planned presentation at SGIM, we will offer the course at VA HSR&D, American Public Health Association, and AcademyHealth annual meetings over the next several years.

The course leaders (Drs. Nelson and Noorbaloochi) will apply the theory behind these novel approaches to develop an easily utilized diagnostic methodology for hierarchical generalized linear regression models which are frequently used in health services research. Currently there are no easily applied, readily interpretable diagnostic methods for these models. A grant proposal to support this work will be submitted to VA HSR&D in June of 2007 and we anticipate that this work will lead to future national presentations and workshops to disseminate its practical applications.

#### **IV. QUALITY OF RESEARCH AND KEY IMPACTS**

In addition to garnering significant national media attention and publication in top-tier journals, the work of CCDOR investigators has had a demonstrable impact on patient care and system improvements within VA and nationally.

##### **A. PUBLICATIONS AND PRESS**

During the past five years we published an average of 80 papers per year in peer-reviewed journals, with several in prestigious journals, including *New England Journal of Medicine*, *JAMA*, *Annals of Internal Medicine*, and *Medical Care*. Our research has been cited in the *New York Times*, *Wall Street Journal*, *Washington Post*, *National Public Radio* and other high profile media sources and in VA R&D *Impacts*. Several of our investigators have been asked to present their research to Institute of Medicine panels (e.g., in the areas of racial disparities and PTSD) and to NIH consensus conferences.

##### **B. IMPACT ON PATIENT CARE AND SYSTEM IMPROVEMENTS**

Some notable examples from the last five years:

PTSD Drs. Murdoch and Sayer were invited to present their research to the Institute of Medicine (IOM) as part of the IOM's charge to "review compensation practices for PTSD" and "review compensation in the context of strategies used to support recovery and return to function." This invitation represented recognition of the importance of Drs. Murdoch and Sayer's VA HSR&D funded research examining PTSD disability claimants using a patient-centered approach. In addition, Drs. Murdoch, Sayer, and Polusny received special contribution awards for the chapters they wrote for a VA Employee Education System independent study course on military sexual trauma, targeted to primary care providers.

Substance Abuse Through a VA HSR&D funded IIR and a subsequent implementation project funded by the VA's Public Health Strategic Health Care Group, Dr. Joseph and her team demonstrated the efficacy and feasibility of telephone quit-lines for smoking cessation in veterans. This work will likely have a major impact on the way smoking cessation services are organized and delivered within VA in the next several years.

Through a VA HSR&D Service Directed Project, Dr. Willenbring (former CCDOR investigator and now Director of the Division of Treatment and Recovery Research at the National Institute on Alcohol Abuse and Alcoholism) and Dr. Hagedorn developed a toolkit for the implementation of evidence-based practice in VA opioid agonist therapy (OAT) clinics. The toolkit was distributed to 30 VA OAT clinics. Follow-up evaluation indicates that 14 of 30 clinics made practice changes as a result of using the toolkit.

Abdominal Aortic Aneurysm (AAA) Dr. Lederle chaired the Aneurysm Detection and Management Study, a VA-Cooperative Studies randomized trial at 16 VA medical centers that found no improvement in survival from repairing asymptomatic AAA smaller than 5.5 cm in diameter. The trial results, reported in *The New England Journal of Medicine*, led to a reversal of the vascular society guidelines and are expected to reduce the number of elective AAA repair procedures by about 20%. Dr. Lederle also served as principal content consultant for the U.S. Preventive Services Task Force's systematic review on AAA screening which relied heavily on VA data and led to the recommendation for one-time screening for men aged 65-75 years who have ever smoked. This in turn led to a new law directing Medicare to cover AAA screening.

Prostate Cancer The award winning patient education pamphlet, "The PSA Test for Prostate Cancer: Is it Right for Me?", developed by Dr. Partin and her colleagues for a VA HSR&D funded study has been widely used in clinical practices throughout VA and was selected for inclusion on the National Cancer Institute's Cancer Control PLANET – a peer reviewed, research-tested intervention programs website.

Colon Cancer Best practices from the C4 initiative (described in Section III.A) are currently being disseminated through VISN-level collaboratives and through an Office of Quality and Performance-sponsored intranet website, initially developed by Dr. Powell. This website consolidates strategies, tools and examples from the C4 initiative to help facilities track screening and follow-up for colorectal cancer. C4 also led to a VA wide directive mandating that diagnostic colonoscopies be performed within 60 days of a positive screening test.

Systematic Reviews Several of the systematic reviews and evidence reports produced under the auspices of our Evidence-based Practice Center have influenced clinical guidelines (e.g., the American College of Physicians, American Thoracic Society, US Preventive Services Task Force and VA Guideline Recommendations regarding Diagnosis and Management of COPD); VA formulary decisions (e.g., VISN-23 Pharmacy Formulary Policy for Urological Medications);

and national policy (e.g., Medicare coverage of treatment options for clinically localized prostate cancer). Several of Dr. Wilt's Cochrane Reviews evaluating treatment options for a wide-range of benign and malignant urological conditions have been used by the National Institute of Clinical Excellence as evidence reports to guide policy decisions in the United Kingdom.

### **C. ANTICIPATED FUTURE IMPACTS IN OUR FOCUS AREA**

Examples of the products and impacts our work will have over the next five years include:

- Registries and databases for identifying and tracking outcomes among OIF/OEF veterans. This is vital for future research and quality improvement efforts and the development of such tools is of high priority to important stakeholder groups and leaders within and outside the VA, including Congress. Work to develop such a registry specifically for veterans with combat injuries is already underway by our PT/BRI QUERI.
- New strategies to enhance continuity of care and treatment adherence for PTSD patients. These will likely lead to modifications of clinical guidelines for PTSD.
- New strategies and interventions to improve outcomes among family members caring for severely combat injured veterans.
- First-ever information on whether in-theater mental health services (e.g. psychologists embedded in active duty units) improve post deployment mental health outcomes and reduce health care utilization.
- New models of care for substance use/tobacco disorders in stigmatized populations
- New strategies and approaches to more effective research collaboration between VA and the Department of Defense.

### **V. COLLABORATION AND SERVICE**

CCDOR investigators provide service and collaborate widely at the local, regional and national levels both within and outside of VA.

Local and regional collaboration and service Locally we have collaborated with a number of VISN 23 clinicians and clinical managers on quality improvement research projects funded by the VISN. These have included projects investigating the utility of self-monitoring of blood glucose in people with Type 2 diabetes; a chronic disease collaborative evaluating new models of care for diabetes, chronic lung disease, and heart failure; a randomized trial of a self-management intervention for chronic lung disease; and two VISN-wide population surveys focusing on functional status and quality of life. For many of these projects, CCDOR has donated investigator and data manager time. In addition, there are always one or more CCDOR investigators serving on the Minneapolis VAMC Human Studies subcommittee and the Research and Development committee.

National collaboration At the national level all of our investigators collaborate extensively with colleagues at other institutions and other VA HSR&D Centers. Some notable examples include polytrauma/blast-related injuries needs-assessment projects with the Richmond, Tampa and Palo Alto Polytrauma Rehabilitation Centers; collaborative activities and projects with the National Centers for PTSD and the Compensation and Pension Evaluation Program as well as individual PTSD researchers in Boston, Nashville, and West Haven, CT; smoking intervention studies with Greater LA and Seattle; health literacy projects with Durham, Portland, and Greater LA; and several colorectal cancer implementation projects with Durham.

National research service Currently three CCDOR investigators serve on VA HSR&D's grant review panel (SMRB) and one investigator just completed a three year term on VA's career development review panel. Our investigators have been active participants in annual VA

HSR&D and AcademyHealth meetings. Dr. Nelson is a member of the VA Statistical Association Executive Committee; Dr. Lederle serves on the national VA Field Research Advisory Committee; and Drs Ensrud and Murdoch were among a small group of VA investigators invited to participate in the 2004 conference, *VA Women's Health Research Agenda: Setting Evidence-Based Research Priorities for Improving the Health and Care of Women Veterans*. Numerous CCDOR investigators have served on various NIH study sections.

Service to other national VA offices Through our involvement with the C4 project described in Section III.A, we have established close ties with the Office of Quality and Performance (OQP) and VHA Advanced Clinic Access (ACA). Dr. Powell is leading the effort to evaluate the effectiveness of the C4 project. As the national implications become apparent, he will continue to work closely with OQP to establish national policies regarding colorectal cancer (CRC) diagnosis and treatment and to provide the field with tools and strategies to improve CRC quality of care. Dr. Powell has also been involved in ACA's effort to refocus their organizational identity as their mission has expanded beyond issues of access to encompass all forms of efficiency and effectiveness. In 2005, Dr. Powell facilitated a planning session on this issue for ACA leadership. In appreciation of his outstanding service, Dr. Powell recently received a special contribution award from OQP.

Our investigators have also contributed to other national performance measure efforts including traumatic brain injury (Dr. Sayer is a member of the TBI clinical reminder workgroup and Dr. Friedemann-Sanchez is chairing the national PT/BRI caregiver workgroup); tobacco (Dr. Fu is a member of the National Tobacco Clinical Reminders Workgroup); pain and palliative care (Dr. Burgess chairs a subgroup of the VA National Pain Management Coordinating Committee's Research Working Group focusing on racial/ethnic disparities); bone density testing for osteoporosis (Dr. Ensrud); and cancer care quality (Dr. Wilt).

Anticipated future collaboration in our focus area Through various ongoing projects, CCDOR researchers have developed collaborations with the National Center for PTSD, the Northeast Evaluation Program, the Rehabilitation Program Office in Central Office, the War Related Injuries and Illnesses Study Centers, and the Defense and Veterans Brain Injury Center. These collaborations ensure that our research activities in post-deployment health are complementary and synergistic with those of other Centers, as well as facilitate the dissemination of new findings and initiatives. We are also developing new relationships with investigators and leaders within the Department of Defense and the National Guard and anticipate shared projects related to PTSD, post-deployment readjustment, and polytrauma. Finally we anticipate further strengthening our ties with the Mental Health and Substance Use QUERIs and the mental health strategic health care group.

## **VI. FACILITIES AND CAPACITY**

### **A. TRAINING AND CAPACITY BUILDING (GOAL 4)**

Committed to preparing the next generation of researchers, CCDOR sponsors a variety of training programs. To foster growth in our priority area of post-deployment health, our postdoctoral and clinical fellowship recruitment efforts will prioritize candidates with interests and expertise that are synergistic with this area of emphasis. The recent commitment from our facility to support a full-time rotating clinical position for promising career development candidates (see Section VI.F) will provide another opportunity to expand our research capacity.

Health services internship program For the past three years, CCDOR has sponsored an internship for masters-level students from the University of Minnesota's Division of Health Policy and Management. The internship gives students hands-on research experience and a chance

to work closely with a mentor who has similar content or methodologic interests. The program has helped build our health services research capacity. For example, one previous intern studied the effects of non-response bias during her internship; her work resulted in a publication in the *Journal of Clinical Epidemiology*. She subsequently accepted a position in our statistical and data management group. Our current intern is working on a project examining the impact of PTSD service connection on subsequent substance use.

Health services post-doctoral training program In 2002 CCDOR was awarded a post- doctoral fellowship in HSR&D through the Office of Academic Affiliations, formalizing our commitment to training PhD health services researchers. We have successfully recruited 1-3 outstanding candidates to this program every year. We specifically seek fellows who have complementary expertise in our key content or methods areas. For example, Greta Friedemann-Sanchez, PhD, an applied anthropologist, came to our Center for health services research training. After finishing her fellowship she became a core investigator contributing qualitative research expertise to CCDOR and developing her own research agenda in the area of family caregivers for PT/BRI patients. Similarly, current fellow Kathleen Carlson, PhD, an injury epidemiologist, is now building on this background by working within the PT/BRI QUERI. Our newest fellow, Shannon Kehle, will begin her fellowship this summer. She will receive her PhD in clinical psychology from Rutgers later this year and will work with Dr. Polusny on identifying mental health risk and resiliency factors among OIF/OEF veterans.

Physician health services research fellowship In 2005 we were awarded a VA physician fellowship training grant in health services research. Having had difficulty recruiting physician fellows to our general internal medicine research fellowship over the past several years, we are in the process of completely revamping this program. First, we have placed the program under new leadership. Dr. Steven Fu, CCDOR core investigator, will head the program with Dr. Craig Roth, an experienced clinician-educator with expertise in patient-doctor communication. Second, we will partner more closely with the University of Minnesota to become the leading edge of a University-wide fellowship program. The new executive director of the office of clinical research at the Academic Health Center, Dr. Jasjit S. Ahluwalia, who also chairs our steering committee, is committed to supporting a thriving fellowship program. The Department of Medicine has committed funds to support our VA fellow tuition and travel expenses (see letter from Dr. Ahluwalia). Finally, we will implement a more innovative and aggressive recruitment plan. For example, we will specifically target our recruitment efforts to residents in psychiatry and physical medicine who may be attracted by our research focus in post- deployment mental and physical health. We are also in the process of working with the Division of Health Policy and Management to develop co-recruitment strategies.

Junior physician faculty clinical research training Closely affiliated with CCDOR is the VA Center for Epidemiological and Clinical Research (CECR), which is one of only 2 VA Clinical Research Centers of Excellence nationwide and the only one affiliated with a VA HSR&D Center of Excellence. Funded in 2004 and directed by Dr. Lederle, CECR's mission is to increase clinical research capacity in the VA through a program of junior faculty development, which includes formal training, mentoring, and access to research support. We currently have 5 clinical scholars who represent a variety of clinical specialties, including psychiatry, rheumatology, gastroenterology, cardiology, and nephrology. The presence of this closely affiliated training program enables both Centers to leverage resources and training opportunities. The funding of the CECR was an important milestone in our FY03 strategic goal of strengthening the link between clinical and health services research.

VA HSR&D career development Over the past five years three CCDOR investigators have received the prestigious VA HSR&D Career Development awards. Dr. Griffin received her award in 2003 and is currently a funded core investigator in CCDOR. Dr. Fu began his award in 2003 with a 2 year renewal in 2006. He has published numerous articles on smoking cessation, is leading a funded study on racial disparities in tobacco treatment, and has written an IIR which just received a fundable score this month. Dr. Burgess began her award in 2006 and has submitted her first IIR on the impact of quality improvement initiatives and organizational factors on racial disparities in pain management. Dr. Friedemann-Sanchez currently has a career development application in the area of family care-giving for PT/BRI patients under review. With the new revolving career development position supported by our facility (see Section VI.F), we believe that we will be able to substantially increase our cadre of physician career development awardees over the next five years.

Other professional development activities We will continue to identify strategies to maximize the productivity of our Center investigators and to support professional development opportunities for personnel at all levels. For example, we have sponsored seminars on emerging research methodologies, study groups on qualitative methods and implementation science, and interdisciplinary journal clubs. We have an active visiting professor program in collaboration with the University; these distinguished lecturers all spend one to two hours at the Minneapolis VA in informal roundtable discussions with CCDOR investigators. Recent lecturers have included implementation guru, Jeremy Grimshaw; *JAMA* editor, Drummond Rennie; and quality of care expert, Robert H. Brook. We also have an active locally initiated project (LIP) program to which CCDOR investigators and trainees may apply for pilot project funding through a rigorous internal review process. Seventeen LIPs have been funded in the past five years.

#### **B, C, D. ORGANIZATIONAL CHART, CORE STAFF LIST AND TABLE**

The organizational chart and the table of staff are included after Section VII. Below we list our core investigators.

- Hanna E. Bloomfield, MD, MPH, Director of CCDOR, Chief of General Internal Medicine at the Minneapolis VAMC and Professor of Medicine, is interested in preventive cardiology with an emphasis on the epidemiology and management of lipid disorders. Her work, which has been cited over 2000 times, includes clinical trials, outcomes studies, and translation of evidence into clinical practice.
- Melissa Partin, PhD, Associate Director of CCDOR and Assistant Professor of Medicine is a behavioral scientist with experience developing and evaluating interventions to promote best practices in cancer prevention and control. She has been principal investigator on 6 federally funded grants (4 VA HSR&D), and received the H. Winter Griffith Award for Excellence in Patient Education Materials for a patient decision aid on prostate cancer screening decision she developed.
- Diana Burgess, PhD, Assistant Professor of Medicine, is a VA HSR career development awardee who focuses on understanding and ameliorating ethnic/racial disparities in healthcare in the area of cancer and chronic pain, through studies that focus on provider, patient, and system-level determinants.
- Kristine Ensrud, MD, MPH, Professor of Medicine and Epidemiology and Director of the University of Minnesota's Epidemiology Clinical Research Center, studies the epidemiology and prevention of chronic disease with a focus on osteoporosis prevention and treatment. She is one of the lead investigators of the most internationally renowned bone research group which has published over 350 papers. She currently has over \$9.2 million in NIH funding.

- Greta Friedemann-Sanchez, PhD, Assistant Professor of Medicine, is interested in the sociocultural determinants of health outcomes, particularly the associations between informal care giving, caregiver outcomes and outcomes of traumatic brain injury patients with polytrauma. She has expertise in qualitative methods.
- Steven Fu, MD, MSCE, Assistant Professor of Medicine, is a VA HSR career development awardee whose research is focused on identifying best practices for improving the delivery and utilization of tobacco dependence treatments among diverse populations. Dr. Fu is past Chair of the Research and Development Committee for the Minneapolis VA Medical Center and Director of CCDOR's physician fellowship program.
- Joan Griffin, PhD, Assistant Professor of Medicine, and former VA career development awardee, uses mixed methods to study social determinants of health, including health literacy, disparities between social groups, and the impact of stress/coping and work/family conflict on informal caregivers who provide care to cancer and polytrauma patients. She directs the post-doctoral fellowship and health services intern programs.
- Hildi Hagedorn, PhD, Assistant Professor of Psychiatry and Implementation Research Coordinator of the Substance Use Disorders QUERI, is interested in the implementation of evidence-based treatments for substance use disorders.
- Yvonne Jonk, PhD, health economist and adjunct Assistant Professor in the Division of Health Policy and Management, specializes in cost effectiveness analyses, the impact of health care reform policies, and the demand for VA and Medicare services.
- Anne Joseph, MD, MPH, Professor of Medicine, is ending her 26 year tenure in VA in the spring of 2007, to assume the position of Director of Applied Clinical Research at the University of Minnesota. An internationally renowned smoking cessation expert, she will continue to collaborate closely on tobacco-related intervention studies with colleagues and mentees in CCDOR.
- Frank Lederle, MD, Professor of Medicine and Director of the Center for Epidemiologic and Clinical Research, is interested in optimizing diagnostic and therapeutic strategies in primary care with a particular emphasis on abdominal aortic aneurysm. His research, which has been cited over 1000 times, primarily involves multi-center randomized trials. He has chaired 4 VA Cooperative studies and represents VA Cooperative Study Chairs on the VA Office of Research and Development's Field Research Advisory Committee.
- Maureen Murdoch, MD, MPH, Associate Professor of Medicine, is interested in the impact of military-related trauma on subsequent health and adjustment and how disability benefits might influence later health outcomes. Dr. Murdoch has been continuously funded through the VA HSR&D IIR mechanism since 1997 and her work has been featured in both the national and international press.
- David Nelson, PhD, CCDOR senior statistician, Assistant Professor of Medicine, and Adjunct Assistant Professor of Biostatistics, provides statistical support for Center projects and conducts research focusing on stepwise Bayesian methods for statistical inference and methods for reducing bias in statistical inference for observational studies. Dr. Nelson also leads the CCDOR methodology group.
- Kristin Nichol, MD, MPH, MBA, Professor of Medicine and Chief, Primary Care Service Line, Minneapolis VA, is an international expert in the field of vaccine preventable diseases. Her work has had a major impact on flu shot policy in VA and nationally. She is experienced in the design, conduct and analysis of many different types of research studies, and has published 3 first author reports in the *New England Journal of Medicine*.
- Siamak Noorbaloochi, PhD, statistician and Assistant Professor of Medicine, provides statistical support for Center projects, and conducts his own research in Bayesian inference, survival and longitudinal methodology.

- Melissa Polusny, PhD, Assistant Professor of Psychiatry, focuses on identifying risk and resilience factors associated with mental health outcomes in OIF/OEF veterans, with a special emphasis on military-related PTSD.
- Adam Powell, PhD, MBA, Assistant Professor of Medicine, focuses on the application of theories of social influence to understand how healthcare system change affects provider behavior and quality of care.
- Thomas Rector, PharmD, PhD, Professor of Medicine, has a special interest in patient evaluations of treatments for heart failure and studies of pharmaceutical outcomes. His *Living with Heart Failure* questionnaire has become the standard instrument for measuring quality of life in heart failure.
- Nina Sayer, PhD, Assistant Professor of Medicine and Psychology and Director of the PT/BRI QUERI Center, focuses on identifying opportunities for intervention to improve the health, well-being and functioning of veterans with post-deployment health concerns, including PTSD and polytrauma.
- Michele Spont, PhD, Assistant Professor of Psychiatry and Psychology, studies factors that impact treatment participation and adherence, with a primary focus on patients with trauma-related disorders and chronic disability.
- Erin Warshaw, MD, MS, Associate Professor of Dermatology is interested in epidemiology, outcomes research, economic evaluations, quality of life studies, clinical trials and teledermatology.
- Timothy Wilt, MD, MPH, Professor of Medicine, co-Director of the AHRQ-funded Minnesota Evidence Based Practice Center, and international editor of the Cochrane Review Group on Prostate Diseases and Urologic Malignancies, conducts clinical trials and systematic reviews to evaluate outcomes and treatment of common urological conditions.

Of note, 13 of these core investigators are currently involved in our primary focus area of post-deployment health, either as principal or collaborating investigator. In addition the following affiliate investigators located at the Minneapolis VA are also active in post-deployment health research: Paul Arbisi, PhD, whose work focuses on objective psychological assessment in PTSD populations; Chris Erbes, PhD, whose research examines risk and resilience factors and interventions for combat deployed soldiers and their families; and Joseph Westermeyer, MD, PhD, a senior trauma researcher who chairs the mental health study section of the VA HSR&D national Investigator Initiated Research (IIR) review board and provides mentorship and support to core investigators Drs. Spont, Polusny, and Hagedorn. Other affiliated investigators include Howard Fink MD, MPH (outcomes in osteoporosis), James Hodges PhD (hierarchical modeling), Areef Ishani MD, MPH (care models for diabetes), Kathy Rice MD (COPD self management), and Brent Taylor PhD (quality of care in prostate cancer).

#### **E. STEERING COMMITTEE** (see also Appendix 3)

CCDOR has had an active steering committee since its inception in 1998. In order to better align this committee with our areas of research focus we convened a new committee last year, chaired by Dr. Jasjit S. Ahluwalia, the Executive Director of the Office for Clinical Research at the University of Minnesota. Two new members are nationally prominent in post-deployment health (Drs. Speroff and Rosenheck). The committee's purpose is threefold: 1) to provide the Center leadership with advice on major strategic and operational issues; 2) to serve as a forum in which key Center collaborators can strengthen working relationships; and 3) to provide broad perspective on emerging trends, opportunities and challenges, both within VA and nationally.

The current committee consists of 12 members, four of whom are ex-officio: the Center's director and associate director, the Chief of the Primary Care Service Line, and the Associate Chief of Staff for Research. The others include:

- Jasjit S. Ahluwalia, MD, MPH, MS, Executive Director of the Office for Clinical Research at the University of Minnesota's Academic Health Center and Professor of Medicine. Dr. Ahluwalia is an expert in health care disparities and tobacco research.
- Jinnet Fowles, PhD, Senior Vice President, Health Services and Clinical Research at the Park Nicollet Institute, conducts research to understand the responses of consumers, patients, and physicians to financial incentives and information about quality.
- Paula Lantz, PhD, a social epidemiologist, is Professor and Chair of the Department of Health Management and Policy and Research and Director of the Robert Wood Johnson Foundation Scholars in Health Policy Research at the University of Michigan. Dr. Lantz's areas of research interest are women's and child health, cancer screening, and social inequalities in health.
- Robert Petzel, MD, Network Director of the VA Midwest Health Care Network (VISN 23), has responsibility for executive leadership, strategic planning and budget for eight medical centers and 35 community based outpatient clinics. Dr. Petzel is interested in data based performance management.
- Robert Rosenheck, MD, is Professor of Psychiatry and Public Health at Yale University and Director of the Division of Mental Health Services and Outcomes Research Northeast Program Evaluation Center at the West Haven VA, which also serves as the Evaluation Division of the National Centers for PTSD. His areas of research expertise include cost-effectiveness, outcome measurement, systems change, and managed care.
- Gary Rosenthal, MD, is Professor of Medicine and Health Management and Policy and Director, Division of General Internal Medicine at the University of Iowa. He also directs the HSR&D Center of Excellence at the Iowa City VA. His research focuses on organizational interventions to improve health care quality and patient safety.
- Theodore Speroff, PhD, is Research Associate Professor of Medicine and Preventive Medicine at Vanderbilt University and Director of the Targeted Research Enhancement Program at the Nashville VA Medical Center. His areas of interest are PTSD, continuous quality improvement, patient preferences and clinical decision analysis.
- Douglas R. Wholey, PhD, MBA, Professor of Health Policy and Management at the University of Minnesota, studies managed care markets, managed care organizations, social service and health networks, and information systems. His current research examines social networks in medical clinics and team management in assertive community treatment teams.

#### **F. ADDITIONAL ORGANIZATIONAL/OPERATIONAL DETAILS**

Local scientific review procedures In order to ensure that our grant proposals are of the highest possible quality, we have developed and implemented a rigorous internal scientific review process. All ideas for proposals are initially presented to the director or associate director, who determines whether the project is scientifically meritorious and whether it fits with the Center's priorities. Appropriate projects are assigned a team of data analysts and statisticians and are presented to the entire investigator group at an informal research conference.

All grant proposals to VA HSR&D must be submitted for internal review one month prior to the proposal due date. The full proposal is reviewed by two investigators; the abstract is reviewed by an additional two investigators; and the analysis section is reviewed by a statistician. None of these reviewers is part of the project team. If there is no suitable internal reviewer, CCDOR arranges for an external review. Reviewers are provided with written instructions and a checklist

to help ensure complete reviews. A similar review process, while not required, is available for submissions to other funding agencies. A recent informal survey indicated that investigators believe that this review process helps them prepare more competitive proposals.

Mechanisms for Center program evaluation and quality assurance For Center program evaluation and quality assurance we rely on feedback from our steering committee and from the leadership of the VA HSR&D service in Central Office. In addition we have well developed internal mechanisms for quality assurance and a culture that supports ongoing self-evaluation. Our Resources and Planning Committee with representation from all CCDOR staff groups, meets bi-weekly to review budget, space, personnel and broader strategic issues. In addition, the director, associate director and administrative officer meet weekly to review operational issues. The entire CCDOR staff meets monthly as do the core investigators. All staff members undergo an annual performance evaluation, including self-evaluation that is customized for each staff group. In 2002 we underwent an intensive formal organizational assessment by an external consultant to help us identify opportunities for improving our organizational systems and culture. We will likely undertake another such evaluation some time in the next five years. Finally, our strongly developed administrative and data systems infrastructure assures compliance, efficiency and fiscal responsibility (see Section VII.B).

Career paths for non-clinician professional staff All of our PhD investigators and biostatisticians have faculty appointments at the University of Minnesota and are eligible for academic promotion according to the criteria used for tenure-track University-based faculty. Assistant Professor level investigators are hired at the GS13 grade level and receive mentoring from an established CCDOR investigator. As an indication of the value we place on mentoring, CCDOR supports protected time for mentors. New investigators are expected to achieve 80-100% funding within 2-3 years. The anticipated career path involves a grade increase to the GS14 and 15 levels at the time of promotion to Associate and Full Professor, respectively. Our most accomplished investigators will be expected to apply for VA HSR&D Research Career Scientist (Associate Professor level) and Senior Research Career Scientist (Full Professor level) awards.

Nature of affiliation with academic partner The Minneapolis VAMC is an academic affiliate of the University of Minnesota, a leading research institution with more than \$200 million in annual NIH funding. Reflecting the geographical distance between the two institutions—the University is a 20 minute drive from the VA—almost all the academic physicians at the Minneapolis VAMC have traditionally been fulltime VA employees. This “VA-centricity” is especially strong among the physician investigators in CCDOR (all of whom are fulltime VA) and has had a major influence on our research agenda and on the outlook of our non-clinical colleagues.

Reflecting our strong clinical orientation, all CCDOR investigators have their primary academic appointment in the Departments of Medicine or Psychiatry at the Medical School. Many also have secondary or adjunct appointments in their disciplinary departments (e.g., Epidemiology, Health Policy and Management, Psychology). Academic promotion is based on the same criteria used for tenure-track University-based faculty.

Collaborative research activity with the University has flourished since our founding in 1998. The departments with which we primarily interact are: the Department of Medicine in the Medical School, the Division of Health Policy and Management and the Division of Epidemiology in the School of Public Health, the new Office of Clinical Research within the Academic Health Center, and the Trans-disciplinary Tobacco Use Research Center. Some examples of major recent collaborative activities include: the University of Minnesota Evidence-based Practice Center funded in 2003 by AHRQ (see Section III.A), the internship program with the Division of Health

Policy and Management (see Section VI.A), co-sponsorship of the annual Minnesota Health Services Research Conference and of the Annual Health Organizational Research Association Conference, and the Physician Health Services Research Fellowship Program (see Section VI.A). In addition, CCDOR faculty members serve as mentors, faculty advisors, and these advisors to clinical trainees and junior faculty in the Medical School and to pre-doctoral students in the School of Public Health.

Key University collaborators who are actively involved in various specific research initiatives at CCDOR include: Jasjit Ahluwalia, MD (tobacco, disparities); Tim Beebe, PhD (survey methods); Jon Christianson, PhD (organizational behavior); Bryan Dowd, PhD (health economics); Patricia Frazier, PhD (PTSD); Roger Feldman, PhD (health economics); Dorothy Hatsukami, PhD (tobacco); Robert Kane, MD (outcomes); Marshall McBean, MD (Medicare data and utilization); Glen Meeden, PhD (statistics); John Schousboe, MD (cost-effectiveness, osteoporosis); Michelle van Ryn, PhD (disparities); and Doug Wholey, PhD (management). Biographical sketches for these collaborators are included immediately preceding Appendix 1 and their support letters may be found in Appendix 4.

Commitment of the medical facility The Minneapolis VA Medical Center and VISN 23 continue to be strongly supportive of CCDOR. Facility and VISN leadership have committed the following resources, as indicated in the letters from hospital director Mr. Kleinglass (Appendix 7) and VISN director Dr. Petzel (Appendix 8).

- *Space and resources to accommodate Center growth over next five years.* As detailed in Section VII.B, thanks to recent facility commitments of additional space, remodeling, and new furniture, and our current space will likely be able to accommodate our growth for the next three to five years. However, if we outgrow this space the facility has assured us that it will make more space available.
- *A minimum of 5.5 research protected FTEE for CCDOR physician salary.* This represents a financial contribution of about \$1.2 million per year. Currently these 5.5 FTEE are divided among seven CCDOR physician-investigators and include .8 FTE of protected research time for CCDOR director, Dr. Bloomfield.
- *Resources to develop a career development track for promising young physician HSR investigators.* The facility will commit one physician FTE that includes 80% protected time for three years for CCDOR to recruit a new junior investigator to develop a competitive career development proposal. This will be a standing position into which new physicians may be successively recruited.
- *\$260,000 in support for CCDOR administrative infrastructure.* This direct financial contribution is in addition to physical infrastructure support (e.g., utilities), IT support, and other administrative and research support detailed below in Section VII.C.

## **VII. FACILITIES AND OTHER RESOURCES**

### **A. LIST OF COMMUNITY INSTITUTIONS**

The community institutions with which we collaborate include the University of Minnesota (Section VI.F), Mayo Clinic College of Medicine, the HealthPartners Research Foundation, and the Park Nicollet Institute. The latter are research arms of two of the largest healthcare organizations in the Twin Cities, with whom we are affiliated through shared projects and/or participation on steering committees or board of directors.

### **B. SPACE AND INFRASTRUCTURE (GOAL 5)**

Space CCDOR occupies 11,000 square feet of centrally located space at the Minneapolis VA Medical Center, a 440-bed teaching hospital. We recently undertook a major remodeling project

that functionally increased our space by 40%. We can now accommodate 23 staff in single office rooms and 63 staff in shared space. Currently about 70% of our space is occupied, leaving substantial room for growth over the next five years.

Our space includes a high speed Local Area Network (LAN), workstations for each staff member, fully equipped conference rooms, copying and fax machines and high speed network laser printers. CCDOR has seven servers which are housed, maintained and backed up daily by the medical center's Information Resource Management (IRM) Service. The servers provide secure data storage, intranet web access, and terminal services to run applications.

The statistics and data management team is led by Co-directors Susan Aumer, PhD, and Barbara Clothier, MS, and includes 2.3 FTEE PhD statisticians, 3 masters-levels statisticians, and 8 computer specialists who offer support in the following areas: statistical analysis and study design; database design and development; administrative data extraction; scannable forms technology; design, development and implementation of custom applications and web sites; project management; and technical writing. In addition CCDOR employs a full time System Administrator who works with IRM to plan, design and maintain the network, servers and desktop infrastructure and assure full compliance with all VA data security requirements.

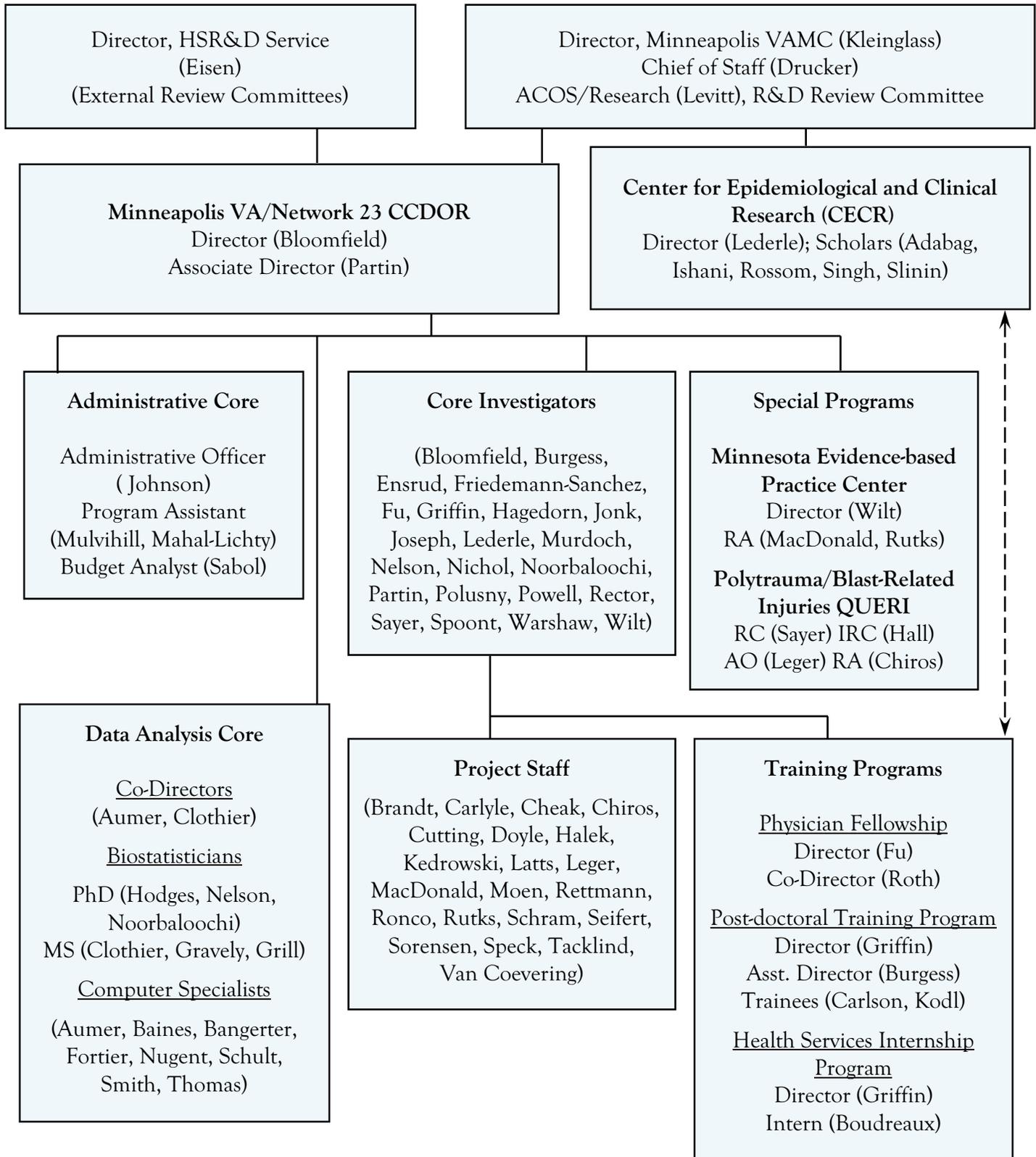
Administrative Infrastructure CCDOR has developed a strong administrative infrastructure under the leadership of our administrative officer, Jill Johnson, BA, who has been with the Center for over 3 years and who directs an administrative staff of 3 FTEE, including a fulltime budget analyst. Processes and structures in place to facilitate the work of the Center include: a detailed set of timelines and guidelines for grant preparation including a handbook for junior investigators; a rigorous system of internal scientific review (Section VI.F); a system for review and funding of locally-initiated pilot projects; systems for managing the core and project budgets; a committee structure to facilitate center governance; a center-wide communications system, including an intranet site; a detailed operations manual for project staff; standardized management reports; and written policies and procedures for a wide variety of personnel matters including an automated system for customizing and producing performance appraisals.

Survey Laboratory Over the next five years we will explore the feasibility of adding a survey lab to the CCDOR infrastructure. In the past we have met the majority of our survey administration needs by contracting with professional survey labs at local Universities but growing concerns over data privacy have made it difficult to continue these arrangements. Increasingly our investigators have been turning to in-house administration of small scale surveys and our expertise in this area is expanding. Managing our own survey lab would create unique opportunities to advance our research agenda in the area of response bias. However, making the transition to providing state-of-the-art support for large-scale surveys would require a large investment of resources and hence must be carefully evaluated from a cost-benefit perspective.

### **C. VA INSTITUTIONAL AND OTHER SECTOR SUPPORT**

Our medical center has a large, fully computerized medical library staffed with full-time librarians; a state-of-the-art medical media department with a staff of eight, including graphic designers, web developers and photographers, who support the production of research posters, surveys, and brochures; space for private subject interviews; a responsive and collaborative Information Resource Management department; a supportive Research Office; and contracting, purchasing, human resources, and travel departments with whom we have excellent working relationships. Through the University of Minnesota we have access to full library and internet services, grant writing seminars, grant editing services, and tuition support for our physician fellows to obtain masters degrees at the School of Public Health.

**Minneapolis VA/Veterans Integrated Service Network 23  
Center for Chronic Disease Outcomes Research (CCDOR)  
Organization Chart**



**Table 1: CCDOR Core Investigators**

<b>Core Investigators</b>	<b>Academic Field</b>	<b>Research Interests</b>	<i>yrs. teaching</i>	<i>yrs. clinical</i>	<i>yrs. research</i>	<b>FTE</b>
<b>H.E. BLOOMFIELD</b> MD, MPH; GS 15 ; Director	Internal Medicine	Lipids; Implementation; Clinical Trials; Outcomes Research	24	24	19	0.75
* <b>D. BURGESS</b> PhD; GS 13	Social Psychology	Health Disparities; Pain Treatment; Cancer Treatment	3	--	12	1.0
<b>K. ENSRUD</b> MD, MPH; GS 15	Internal Medicine	Epidemiology of Age-Related Conditions; Osteoporosis	19	19	16	0.75
** <b>G. FRIEDEMANN-SANCHEZ</b> PhD; GS 13	Anthropology; Economics	Informal Caregivers; Polytrauma; Gender & Health	3	--	8	1.0
** <b>S. FU</b> MD, MSCE; GS 15	Internal Medicine	Tobacco Cessation; Underserved Populations; Health Disparities	8	8	6	0.75
** <b>J. GRIFFIN</b> PhD; GS 13	Public Health	Health Literacy; Stress/Coping; Polytrauma Caregivers	5	--	11	0.8
** <b>H. HAGEDORN</b> PhD;GS 13;SUD QUERI Implementation Research Coordinator	Clinical Psychology	Substance Abuse; Mental Health	3	7	7	1.0
* <b>Y. JONK</b> PhD; GS 13; Health Economist	Health Economics	Healthcare Access; Econometrics; Cost Analysis	11	--	16	1.0
<b>F. LEDERLE</b> MD; GS 15	Internal Medicine	Abdominal Aortic Aneurysm; Clinical Trials	25	25	22	0.75
** <b>M. MURDOCH</b> MD, MPH; GS 15	Internal Medicine	PTSD; Disability & Recovery; Military Trauma	17	17	13	0.75
* <b>D. NELSON</b> PhD; GS 13; Statistician	Statistics	Dimension & Bias Reduction; Bayesian Sampling	5	--	13	1.0
<b>K. NICHOL</b> MD, MPH, MBA; GS 15	Internal Medicine	Vaccine Preventable Disease; Systems Interventions	24	24	19	0.25
* <b>S. NOORBALOOCHI</b> PhD; GS 13; Statistician	Statistics	Dimension & Bias Reduction; Bayesian Sampling	22	--	29	1.0
* <b>M. PARTIN</b> PhD; GS 13; Assoc. Director	Sociology; Epidemiology	Promotion of Best Practices in Cancer Prevention & Control	5	--	18	1.0
** <b>M. POLUSNY</b> PhD; GS 13	Clinical Psychology	PTSD; OEF/OIF-Related Health Needs; Risk/Resilience	9	6	14	0.75
<b>A. POWELL</b> PhD, MBA; GS 12	Social Psychology	Provider Behavior; Quality Improvement	2	--	6	1.0
<b>T. RECTOR</b> PharmD, PhD; GS 13	Pharmacology; Epidemiology	Pharmaceutical Outcomes; Patient-centered Care	16	--	28	1.0
** <b>N.A. SAYER</b> PhD; GS 13	Clinical Psychology	Post-deployment Health; PTSD; Polytrauma	12	12	15	1.0
** <b>M. SPOONT</b> PhD; GS 13	Clinical Psychology	PTSD; Health Behaviors & Beliefs	17	16	22	0.7
<b>E. WARSHAW</b> MD, MS; GS 15	Dermatology	Outcomes Research; Tele dermatology	11	11	6	0.5
<b>T. WILT</b> MD, MPH; GS 15	Internal Medicine	Systematic Reviews; Urologic Diseases; Clinical Trials	21	21	19	0.75

\*\* Principal investigator on post-deployment health project(s)

\* Collaborator on post-deployment health project(s)

## Appendix 2: CCDOR Current Achievements

Grant #	Title	Investigator	Role	Source	Funding*	Period
<b>Ongoing, Funded through VA HSR&amp;D</b>						
HFP 98-001	HSR&D CoE: Center for Chronic Diseases Outcomes Research	Bloomfield	Director	HSR&D	\$6,682,058	1998-08
CAN 01-133	Colorectal Cancer QUERI Initiative	Partin	Director	HSR&D	\$1,709,559	2001-06
PLY 05-184	Polytrauma and Blast-related Injuries QUERI	Sayer	Director	HSR&D	\$1,440,000	2005-09
IIR 04-042	Assessing and Addressing Patient Colorectal Cancer Screening Barriers	Partin	PI	HSR&D	\$761,673	2005-08
DHI 05-111	Barriers and Facilitators to PTSD Treatment Seeking	Sayer	PI	HSR&D	\$362,117	2006-07
RCD 02-171-2	Population-Based Strategies to Ameliorate Tobacco Health Disparities (Career Development Transition Award)	Fu	PI	HSR&D	\$347,142	2006-08
IIR 03-295	Use of Telehealth in-Home Messaging to Improve GI Endoscopy Completion Rates	Griffin	PI	HSR&D	\$836,889	2006-08
IIR 05-243	Carvedilol or Controlled-Release Metoprolol for Heart Failure	Rector	PI	HSR&D	\$196,336	2006-08
IIR 04-212	Relationship of General, Behavioral and Emotional Health among Veterans Receiving VA Health Care	Westermeyer	PI	HSR&D	\$365,975	2006-08
MRP 04-412	Understanding and Ameliorating Racial/Ethnic Disparities in Healthcare (Career Development Award)	Burgess	PI	HSR&D	\$347,475	2006-09
IIR 03-120	Effectiveness of Contingency Management in VA Addictions Treatment	Hagedorn	PI	HSR&D	\$656,188	2006-09
IAC 06-266	Participation in PTSD Treatment: Who Starts, Who Stays, Who Drops Out?	Spoont	PI	HSR&D	\$844,800	2007-10
GWI 04-352	Sexual Assault Prevalence Among Male, PTSD-Disabled Gulf War Veterans	Murdoch, Polusny	Co-PIs	HSR&D	\$525,326	2006-09
MNT 03-215	Expanding and Testing VA Collaborative Care Models for Depression	Markon	Co-Inv.	HSR&D	\$290,197	2004-07
IMV 04-066	Implementing Evidence-based Treatment of Hypertension	Ishani	Co-Inv.	HSR&D	\$278,000	2004-08
SDR 03-289	Evaluating Quality of Care for Acute Coronary Syndromes in VHA	McFalls	Co-Inv.	HSR&D	\$153,093	2004-08
RRP 06-189	CRC Screening Preferences and Endoscopy Demand in the VA	Powell	Co-Inv.	HSR&D	\$9,943	2006-07
CRT 05-338	Colorectal Cancer Care Collaborative (C4), Phase II	Powell	Co-Inv.	HSR&D	\$50,000	2006-08
MNT 05-152	HIV Translating Initiatives for Depression into Effective Solutions	Hagedorn	Co-Inv.	HSR&D	\$8,226	2006-09
IIR 04-427	Impact of Health Status on Colorectal Cancer Screening in Older Adults	Partin	Co-Inv.	HSR&D	\$30,460	2006-09
CRS 02-164	Colorectal Cancer Care Outcomes Research and Quality Surveillance Data System	Morrison	Site-PI	HSR&D	\$1,278,177	2003-08
IIR 04-420	Military Sexual Trauma Effects on PTSD and Health Behavior: A Longitudinal Study of Marines	Murdoch	Consult.	HSR&D	\$0	2006-09
SUB 98-000	QUERI on Substance Use Disorders	Hagedorn	Impl. Res. Coord.	HSR&D	\$666,856	1998-10
TPP 02-152	Training Programs for Fellows (post Ph.D.s)	Griffin	Director	HSR&D	\$56,000	2002-12
TPR 06-097	Post Resident Training Program	Fu, Wilt	Co-Directors	HSR&D	\$7,000	2006-09

## Appendix 2: CCDOR Current Achievements, Continued

Grant #	Title	Investigator	Role	Source	Funding*	Period
<b>Ongoing, Other Funding Source</b>						
WB1XWH-07-2-0033	Longitudinal Risk and Resilience Factors Predicting Psychiatric Disruption, Mental Health Service Utilization, & Military Retention in OIF National Guard Troops	Polusny	PI	Dept of Defense	\$787,176	2007-11
3662-9227-06	National Guard Service Personnel Predeployment Study	Polusny	PI	MMF	\$12,000	2006-07
RC-2004-0017	Tobacco Treatment Among Racial/Ethnic Minority Smokers	Fu	PI	MPAAT	\$466,943	2004-07
P-50-DA13333-06	Longitudinal Care for Smoking Cessation	Joseph	PI	NCI	\$898,000	2004-09
XVA 67-003	Tobacco Use Demonstration Project	Joseph	PI	VHA	\$450,000	2003-07
HLO86684-01	A Randomized Trial of Internet Access to Nicotine Patches	Joseph	Co-PI	NCI	\$2,300,000	2007-10
98-161F-94	Treatment Preferences and Health Outcomes in Men with Localized Prostate Cancer: A Prospective Cohort Study	Wilt	PI	AHRQ	\$203,184	1998-08
290-02-0009 (Task Order)	Carbohydrate and Lipid Disorders in Spinal Cord Injury Patients, Report/Technology Assessment	Wilt	PI	AHRQ	\$300,000	2006-08
290-02-0009	Minnesota Evidence-based Practice Center	Wilt	Co-Director	AHRQ	varies	2002-07
R01 DK063300	Systematic Reviews in Urologic Diseases	Wilt	PI	NIDDK	\$1,370,170	2005-09
CSP 407	Prostate Cancer Intervention vs Observation Trial (PIVOT)	Wilt	PI	CSP	\$2,500,000	1993-09
MF101	Chinese Herbs for Menopausal Symptoms (CHIMES)	Ensrud	PI	Bionovo	\$420,159	2005-07
1U10EY362 6	Incidence of Late Macular Degeneration in Older Women	Ensrud	PI	NEI	\$381,194	2002-07
5R01HL070 847-01A1	Outcomes of Sleep Disorders in Older Men (MrOS Sleep)	Ensrud	PI	NHLBI	\$1,317,368	2003-08
BAA NHLBI WH-06-09	Biochemical Antecedents of Fracture in Minority Women	Ensrud	PI	NHLBI	\$144,652	2007-09
5RO1AG05394	Fractures in Older Women (Study of Osteoporotic Fractures)	Ensrud	PI	NIA	\$2,206,592	1996-09
R01 AG18037	Health Decline in Aged Caregivers: An Epi Study	Ensrud	PI	NIA	\$461,631	2005-10
R01 AG02 6720-01	Change in Sleep and Cognition in Older Women (SOF Sleep Cognition)	Ensrud	PI	NIA	\$1,479,922	2006-11
UO1AR45614	Osteoporotic Fractures in Men (MrOS)	Ensrud	PI	NIAMS	\$1,479,922	1999-12
R01 AR05 2000	Hip OA Phenotypes in Men: Genes and Environment	Ensrud	PI	NIAMS	\$228,134	2005-10
CSP 498	Open versus Endovascular Repair (OVER) Trial for Abdominal Aortic Aneurysms	Lederle	PI	CSP	\$7,250,000	2001-11
CRCOE 03-013	Minneapolis Center for Epidemiologic and Clinical Research (CECR)	Lederle	Director	CSR&D	\$2,000,000	2004-09
No # assigned	Statins, $\beta$ -blockers, or ACE inhibitors for AAA progression?	Lederle	PI	CSR&D	\$308,200	2007-10
CSP 499a	Active Health Cohort Study	Wilt	Site-PI	CSP	\$60,000	2001-07
CA37429	Selenium/VitaminE Prostate Cancer Chemo-Presentation Trial (SELECT)	Wilt	Site-PI	NCI	\$980,000	2001-15
50000C-III	Respiratory Ancillary Study to SELECT	Wilt	Site-PI	NCI	\$80,000	2004-09
50000B	Prevention of Cataract & Age Related Macular Degeneration w/VitaminE and Selenium (SEE)	Wilt	Site-PI	NCI	\$80,000	2004-15

## Appendix 2: CCDOR Current Achievements, Continued

Grant #	Title	Investigator	Role	Source	Funding*	Period
<b>Ongoing, Other Funding Source, continued</b>						
R01HL0811 95	The Enigma of Placebo Adherence and Health Outcomes	Bloomfield	Co-Inv.	NHLBI	\$35,000	2006-10
RC-2005-0039	Treatment of Tobacco Use in Patients With Peripheral Arterial Disease	Joseph	Co-Inv.	MPAAT	NA	2005-08
R01CA106807	Indoor Tanning Use, DNA Repair and Risk of Melanoma	Warshaw	Co-Inv.	NCI	\$936,000	2005-09
H4Z-MCGJAD	Effect of Arvoxisene on Vertebral Fracture Incidence & on Invasive Breast Cancer Incidence in Post Menopausal Women	Ensrud	Co-Inv.	Eli Lilly	\$1,544,455	2004-10
R01DK069514	Intensive Glycemic Control and Skeletal Health	Ensrud	Co-Inv.	MMF	\$54,804	2005-10
R21CA108666	A Novel Decision Aid for Prostate Cancer Screening	Partin	Consult.	NCI	\$14,232	2005-07
1 K12 HD052187	Multidisciplinary Clinical Research Career Development Program (Roadmap K12 Award)	Lederle	Consult.	NIH	\$8,831	2005-10
<b>Recently Completed, Funded through VA HSR&amp;D</b>						
MRC 05-331	Lung Cancer Facility Survey	Powell	PI	HSR&D	\$20,000	2006
IIR 01-072	Evaluation of Store-Forward Teledermatology for Skin Neoplasms	Warshaw	PI	HSR&D	\$649,896	2002-06
IIR 01-188	Does PTSD Service connection Affect Disease Course and Functioning?	Murdoch	PI	HSR&D	\$893,286	2003-06
IIR 01-164	VA Eligibility Reform and the Demand for VA Services by Elderly Veterans	Jonk	PI	HSR&D	\$620,839	2003-06
RCD 01-171	Improving Tobacco Treatment and Outcomes for Minority Veterans (Research Career Development Award)	Fu	PI	HSR&D	\$476,840	2003-06
CRI 03-153	Determining the Prevalence of Health Literacy Among Veterans	Griffin	PI	HSR&D	\$618,331	2004-06
IIR 03-005	Extending Propensity Scores for Observational Studies	Nelson	PI	HSR&D	\$195,337	2004-06
SUB 04-393	Liver Health Initiative (Substance Use Disorders QUERI LIP)	Hagedorn	PI	HSR&D	\$19,522	2005-06
RRP 06-149	Rapid Needs Assessment of VA Polytrauma Rehabilitation Centers	Friedemann-S.	PI	HSR&D	\$44,420	2006-06
RRP 06-150	Variations Across VA Polytrauma Rehabilitation Centers	Sayer	PI	HSR&D	\$49,454	2006-06
LIP 67-031	Survey to Assess Differential Colorectal Cancer Screening Behavior Reporting Patterns and Attitudes by Race and Gender	Friedemann-S., Partin	Co-PIs	HSR&D	\$21,370	2006-06
LIP 67-029	Impact of Encounter Quality on Racial/Ethnic Disparities in CABG: Test of a Social-Cognitive Model	Burgess	PI	HSR&D	\$5,000	2005-07
<b>Recently Completed, Other Funding Source</b>						
290-02-0009 EPC TO #4	Spirometry for Case Finding in Obstructive Pulmonary Disease	Wilt	PI	AHRQ	\$235,000	2004-06
290-02-009 EPC TO#6	Comparison of Therapies for Clinically Localized Prostate Cancer	Wilt	PI	AHRQ	\$300,000	2005-06
290-02-0009 EPC TO#5	Endovascular Repair for Abdominal Aortic Aneurysms: Evidence Report/Technology Assessment #1	Wilt	PI	AHRQ	\$260,000	2005-06
PC-SI-04-01	Lung Disease Self-Management Care Program	Rice	PI	VISN 23	\$23,194	2004-06
XVA 67-005	Development of an Automated Strategy to Identify Tobacco Users	Joseph	PI	VISN 23	\$10,000	2004-06
A2181002	Postmenopausal Evaluation and Risk-reduction with Lasofoxifene	Ensrud	Co-PI	Pfizer	\$1,359,918	2001-06

## Appendix 2: CCDOR Current Achievements, Continued

Grant #	Title	Investigator	Role	Source	Funding*	Period
<b>Recently Completed, Other Funding Source</b>						
3348-A	Self-Monitoring of Blood Glucose: Relationships to Glycemic Control and Frequency of Severe Hypoglycemic Events	Neil, Bloomfield	Co-PIs	VISN 23	\$34,000	2004-06
T1-T2 Prostate	5 Alpha Reductase Inhibitors for Prevention of Prostate Cancer	Wilt	PI	Am. Urol. Assn.	\$10,000	2005-06
H3S MCGGIO	Raloxifene for Use for the Heart (RUTH)	Ensrud	PI	Eli Lilly	\$886,820	1998-06
A218103010 11	Comparison of Raloxifene & Lasofoxifene (CORAL)	Ensrud	PI	Pfizer	\$638,736	2003-06
A5771001	Effects of PF-217,763 on BMD, Bone Biomarkers, and Calcium Metabolism in Postmenopausal Women (ROSE)	Ensrud	Co-PI	Pfizer	\$295,542	2004-06
XNV 67-021	Evaluation of Spread of Fungus Amongst Family Members	Warshaw	Site-PI	Novartis	\$30,000	2005-05
XNV 67-019	Clinical Trial of an Investigational Medication for Actinic Keratoses	Warshaw	Site-PI	TEVA	\$30,000	2005-08
<b>Submitted</b>						
IIR 07-142	How do veterans value potential outcomes of guideline recommended care?	Rector	PI	HSR&D	\$471,000	2 yrs
IAA 07-071	The effect of quality improvement and organizational factors on racial disparities in pain management	Burgess	PI	HSR&D	\$365,200	2 yrs
IAD 07-108	Who does a better job caring for veterans, VHA or Medicare?	Jonk	PI	HSR&D	\$748,600	3 yrs
DHI 07-150	Soldier to Civilian: RCT of an Internet-Based Intervention for New Veterans	Sayer	PI	HSR&D	\$899,900	3 yrs
IIR 05-303-3	Proactive Tobacco Treatment for Diverse Veteran Smokers	Fu	PI	HSR&D	\$899,200	3.5 yrs
IIR 07-140	Effects of Performance Measurement on Healthcare Systems	Bloomfield, Powell	Co-PIs	HSR&D	\$302,700	2 yrs
1-R21-CA 127844-01	Patient Race and Providers' Decisions Regarding Treatment for Cancer Pain	Burgess	Co-Inv.	NCI	\$421,055	2 yrs
<b>Planned 2007 Submissions</b>						
SDR 07-044	Understanding and Meeting the Needs of Informal Caregivers to Improve Outcomes for Traumatic Brain Injury Patients with Polytrauma	Griffin, Friedemann-S.	Co-PIs	HSR&D	---	3 yrs
RRP	Trajectory of VHA Health Care Resources, Functional Outcomes, and Veterans Benefits Administration Disability Benefits for Blast Related Mild Traumatic Brain Injury Patients	Jonk	Co-PI	HSR&D	---	3 yrs
IIR	Economic Consequences of the War in Iraq: A Case Study of Returning MN National Guard Troops	Jonk	PI	HSR&D	---	3 yrs
NA	Effectiveness of the Minnesota Army National Guard Pilot Reintegration Program	Polusny	PI	MN Army Nat'l Guard	---	1 yr
IIR	New Diagnostic Methods for Hierarchical Generalized Linear Models	Nelson; Noorbaloochi	Co-PIs	HSR&D	---	3 yrs
IIR	Logistic Regression Models for Observational Data with Monotone Selection Bias	Noorbaloochi	PI	HSR&D	---	2 yrs

## Appendix 2: CCDOR Current Achievements, Continued

Grant #	Title	Investigator	Role	Source	Funding*	Period
<b>Planned 2007 Submissions, <i>continued</i></b>						
RO1	Bias Reduction in Longitudinal Observational Data with Informative Scheduling	Noorbaloochi	PI	NIH	---	2 yrs
RO1	Aspects of Spirituality and the Impact on Addiction Treatment Outcomes	Hagedorn	Co-PI	NIAAA	---	3 yrs
IIR	Clinical and Economic Outcomes for Store and Forward Teledermatology	Warshaw	PI	HSR&D	---	3-4 yrs

\* Total funding for award period

### Abbreviations Key

AHRQ: Agency for Healthcare Research and Quality

Am. Urol. Assn.: American Urological Association

CSP: VA Cooperative Studies Program

CSR&D: VA Clinical Science Research and Development

Dept of Defense: Department of Defense

Eli Lilly: Eli Lilly and Company

HSR&D: VA Health Services Research and Development

Impl. Res. Coord.: Implementation Research Coordinator

MMF: Minnesota Medical Foundation

MN Army Nat'l Guard: Minnesota Army National Guard

MPAAT: Minnesota Partnership for Action Against Tobacco

NCI: National Cancer Institute

NEI: National Eye Institute

NHLBI: National Heart, Lung, and Blood Institute

NIA: National Institute on Aging

NIAAA: National Institute on Alcohol Abuse and Alcoholism

NIAMS: National Institute of Arthritis and Musculoskeletal and Skin Diseases

NIDDK: National Institute of Diabetes and Digestive and Kidney Diseases

NIH: National Institutes of Health

Novartis: Novartis Pharmaceuticals

Pfizer: Pfizer Pharmaceutical Company

TEVA: Teva Pharmaceutical Industries, Ltd.

VHA: Veterans Health Administration

VISN 23: Veterans Integrated Service Network 23

## APPENDIX 5: BLANK (CCDOR HAS NO MoUs)

## APPENDIX 6: SELECTED CCDOR PUBLICATIONS IN AREAS OF STRENGTH, 2001-2006

### Postdeployment health

- Fu S, Ma G, Siu P, Tu X, Metlay J. Acculturation and cigarette smoking in urban Chinese Americans. **Journal of General Internal Medicine** 2001; 16: 132-133.
- Murdoch M, Hodges J, Cowper D, Fortier L, vanRyn M. Racial disparities in VA service connection for posttraumatic stress disorder disability. **Medical Care** 2002; 41: 536-549.
- Murdoch M, Hodges J, Hunt C, et al. Gender differences in service connection for PTSD. **Medical Care** 2003; 41: 950-961.
- Spont M, Sayer N, Thuras P, Erbes C, Winston E. Adaptation of dialectical behavioral therapy to a VA Medical Center. **Psychiatric Services** 2003; 54: 627-629.
- Murdoch M, Polusny MA, Hodges J, O'Brien N. Prevalence of in-service and post-service sexual assault among combat and non-combat veterans applying for Department of Veterans Affairs posttraumatic stress disorder disability benefits. **Military Medicine** 2004; 169: 392-395.
- Sayer NA, Spont M, Nelson D. Veterans seeking disability benefits for post-traumatic stress disorder: who applies and the self-reported meaning of disability compensation. **Social Science & Medicine** 2004; 58: 2133-2143.
- Joseph AM, Arikian NJ, An LC, Nugent SM, Sloan RJ, Pieper CF. Results of a randomized controlled trial of intervention to implement smoking guidelines in VA medical centers: increased use of medications without cessation benefit. **Medical Care** 2004;42:1100-10
- Sayer NA, Spont M, Nelson DB. Disability compensation for PTSD and use of VA mental health care. **Psychiatric Services** 2004; 55: 587-587.
- Willenbring ML, Hagedorn HJ, Postier AC, Kenny M. Variations in evidence-based clinical practices in nine United States Veterans Administration opioid agonist therapy clinics. **Drug and Alcohol Dependence** 2004; 75: 97-106.
- Halek K, Murdoch M, Fortier L. Spontaneous reports of emotional upset and health care utilization among veterans with posttraumatic stress disorder after receiving a potentially upsetting survey. **American Journal of Orthopsychiatry** 2005; 75: 142-151.
- Jonk YC, Sherman SE, Fu SS, Hamlett-Berry KW, Geraci MC, Joseph AM. National trends in the provision of smoking cessation aids within the Veterans Health Administration. **American Journal of Managed Care** 2005; 11: 77-85.
- Murdoch M, Hodges J, Cowper D, Sayer N. Regional variation and other correlates of Department of Veterans Affairs Disability Awards for patients with posttraumatic stress disorder. **Medical Care** 2005; 43: 112-121.
- Murdoch M, van Ryn M, Hodges J, Cowper D. Mitigating effect of Department of Veterans Affairs disability benefits for post-traumatic stress disorder on low income. **Military Medicine** 2005; 170:137-140.
- Spont M, Sayer N, Nelson DB. PTSD and treatment adherence: the role of health beliefs. **Journal of Nervous and Mental Disease** 2005; 193: 515-522.
- Sayer NA, Spont M, Nelson DB. Post-traumatic stress disorder claims from the viewpoint of veterans service officers. **Military Medicine** 2005; 170: 867-870.
- Fu SS, Partin MR, Snyder A, et al. Promoting repeat tobacco dependence treatment: are relapsed smokers interested? **American Journal of Managed Care** 2006; 12: 235-243.
- Murdoch M, Bradley A, Mather SH, et al. Women and war. What physicians should know. **Journal of General Internal Medicine** 2006; 21 Suppl 3: S5-S10.
- Murdoch M, Polusny MA, Hodges J, Cowper D. The association between in-service sexual harassment and post-traumatic stress disorder among Department of Veterans Affairs disability applicants. **Military Medicine** 2006; 171: 166-173.
- Partin MR, An LC, Nelson DB, Fu SS, Snyder A, Nugent S, Willenbring ML, Joseph AJ. Randomized controlled trial of an intervention designed to promote recycling among relapsed smokers. **American Journal of Preventive Medicine** 2006; 31:293-299.

### Clinical Research

- Lederle F, Wilson SE, Johnson GR, et al. Immediate repair compared with surveillance of small abdominal aortic aneurysms. **N Engl J Med** 2001; 346: 1437-1444.
- Nichol K, Zimmerman R. Generalist and medical subspecialty physicians' knowledge, attitudes and practices regarding influenza and pneumococcal vaccinations for elderly and other high-risk patients: A nation-wide survey. **Archives of Internal Medicine** 2001;161:2702-08.
- Lederle F, Johnson G, Wilson S, et al. Rupture rate of large abdominal aortic aneurysms in patients refusing or unfit for elective repair. **JAMA** 2002; 287: 2968-2972.
- Lederle FA. Ultrasound screening for abdominal aortic aneurysm. **Annals of Internal Medicine** 2003; 139: 516-522.
- Rubins (Bloomfield), Nelson D, Noorbaloochi S, Nugent S. Effectiveness of lipid-lowering medications in outpatients with coronary heart disease in the Department of Veterans Affairs System. **American Journal of Cardiology** 2003; 92: 1177-1182
- Nichol KL, Nordin J, Mulooley J. Influenza vaccination and reduction in hospitalizations for cardiac disease and stroke among the elderly. **N Engl J Med** 2003; 348: 1322-1332.
- Schousboe JT, Nyman JA, Kane RL, Ensrud KE. Cost-effectiveness of alendronate therapy for osteopenic postmenopausal women. **Annals of Internal Medicine** 2005; 142: 734-741.

### Methods

- Partin M, Malone M, Winnett M. The impact of survey non-response bias on conclusions drawn from a mammography intervention trial. **Journal of Clinical Epidemiology** 2003; 56: 1-7.
- Nelson DB, Meeden G. Noninformative nonparametric quantile estimation for simple random samples. **Journal of Statistical Planning and Inference** 2006; 136: 53-67.
- Baines A, Partin MR, Davern M, Rockwood T. Mixed mode administration reduced bias and enhanced post-stratification adjustments in a health behavior survey. **Journal of Clinical Epidemiology** 2007, in press.

### Novel Interventions & Implementation

- Partin MR, Nelson D, Radosevich D et al. Randomized trial examining the effect of two prostate cancer screening educational interventions on patient knowledge, preferences, and behaviors. **Journal of General Internal Medicine** 2004; 19: 835-842.
- Partin MR, Caplan L, Slater J. Randomized, controlled trial of a repeat mammography intervention: effect of adherence definitions on results **Preventive Medicine** 2005; 41:734-740.
- Bloomfield HE, Nelson DB, van Ryn M, et al. A trial of education, prompts, and opinion leaders to improve prescription of lipid modifying therapy by primary care physicians for patients with ischemic heart disease. **Quality & Safety in Health Care** 2005;14:258-263.
- Hagedorn H, Hogan M, Smith JL, et al. Lessons learned about implementing research evidence into clinical practice. Experiences from VA QUERI. **Journal of General Internal Medicine** 2006; 21 Suppl 2: S21-S24.

### Disparities

- van Ryn M, Fu S. Paved with good intentions: The provider contribution to disparities in care. **American Journal of Public Health** 2003; 93: 248-255.
- Burgess DJ, Fu SS, van Ryn M. Why do providers contribute to disparities and what can be done about it? **Journal of General Internal Medicine** 2004; 19: 1154-1159.
- Fu SS, Sherman SE, Yano EM, van Ryn M, Lanto AB, Joseph AM. Ethnic disparities in the use of nicotine replacement therapy for smoking cessation in an equal access health care system. **American Journal of Health Promotion** 2005; 20:108-116.
- Burgess DJ, van Ryn M, Crowley-Matoka M, Malat J. Understanding the provider contribution to race/ethnicity disparities in pain treatment: insights from dual process models of stereotyping. **Pain Medicine** 2006; 7: 119-134



## DEPARTMENT OF VETERANS AFFAIRS

**Date:** March 5, 2007

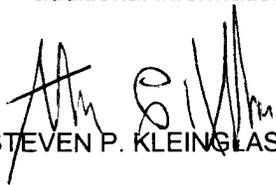
**From:** Director, VAMC Minneapolis

In Reply Refer To:

**•Subj:** VA HSR&D Center of Excellence in Minneapolis, the Center for Chronic Disease Outcomes Research (CCDOR)

**To:** Director, HSR&D (124)

1. It gives me great pleasure to write this letter of endorsement for Dr. Bloomfield's application for continued funding for the Center for Chronic Disease Outcomes Research (CCDOR). We are extremely proud of CCDOR's successes over the past several years and I am strongly committed to continuing my support for this Center.
2. Since its initial funding in the spring of 1998, CCDOR has blossomed into a vibrant research center with a strong research portfolio, excellent leadership, and an enthusiastic group of investigators. CCDOR's large cadre of full-time VA clinician-investigators assures that its research questions are relevant to patient care and "VA-centric". Research from this Center in colorectal cancer screening, osteoporosis, abdominal aortic aneurysm, PTSD and other areas has had major impact on clinical practice and policy within and outside of VA. CCDOR has been generous with its expertise, collaborating on facility and VISN-level clinical care initiatives.
3. I am pleased to see that CCDOR has identified post deployment health as its major area of focus for the next 5 years. We urgently need to understand how to provide care for this new generation of veterans who come to the VA with both different injuries and problems as well as different expectations from previous generations. The large group of CCDOR investigators that has already begun to explore some of these issues is well positioned to move this work forward.
4. VISN director Dr. Randy Petzel and I have committed to the following resource package.
  - *Space and resources to accommodate center growth over next 5 years.* The Center currently occupies excellent centrally-located space in the hospital's main building with room for expansion. We recently supported remodeling of this space.
  - *A minimum of 5.5 research protected FTEE for CCDOR physician salary.* This includes 0.8 FTE of protected research time for CCDOR director, Dr. Bloomfield.
  - *Resources to develop a career development track* for promising young physician HSR investigators. The facility will commit one physician FTE that includes 80% protected time for three years for CCDOR to recruit a new junior investigator to develop a competitive career development proposal. This will be a standing position into which new physicians may be successively recruited.
  - *\$260,000 in support for CCDOR administrative infrastructure.* This direct financial contribution is in addition to physical infrastructure support, IT support, and other administrative and research support
5. It has been our pleasure to host CCDOR and we look forward to continuing to support its research efforts over the next five years. Please feel free to contact me with any questions or if there is any additional information you require. Thank you.

  
STEVEN P. KLEINGLASS



**DEPARTMENT OF VETERANS AFFAIRS**  
**VA Midwest Health Care Network**  
**Veterans Integrated Service Network (VISN 23)**

[www.visn23.med.va.gov](http://www.visn23.med.va.gov)

Minneapolis Office:  
Second Floor  
5445 Minnehaha Avenue  
Minneapolis, MN 55417  
Phone: (612) 725-1968  
FAX: (612) 727-5967

Lincoln Office:  
Building 5  
600 South 70<sup>th</sup> Street  
Lincoln, NE 68510  
Phone: (402) 484-3200/01  
FAX: (402) 484-3232

**Date:** March 6, 2007  
**From:** Network Director, VISN 23  
**Subj:** VA HSR&D Center of Excellence in Minneapolis, the Center for Chronic Disease Outcomes Research (CCDOR)  
**To:** Director, HSR&D (124)

1. I am writing to express my enthusiastic support for Dr. Bloomfield's application seeking continued funding of the VA HSR&D Center of Excellence in Minneapolis, the Center for Chronic Disease Outcomes Research (CCDOR).
2. I have been a strong supporter of this Center since its founding in 1998. The Center's growth has exceeded everyone's expectations and I have continued my active support for the past 9 years. A strong health services research enterprise is critical to VISN 23's mission to provide outstanding healthcare to our veterans. I am delighted by CCDOR's obvious success in such areas as colorectal cancer screening, PTSD, tobacco and substance use disorders, and polytrauma/blast related injuries. I am particularly pleased that they have chosen post deployment health as their growth area for the next 5 years. This is clearly a critical area for VA and an area in which CCDOR is well positioned to play a major leadership role in defining and executing a meaningful research agenda.
3. We have been extremely pleased with the collaborations that have evolved between CCDOR, the VISN office, and a variety of clinicians and managers throughout the VISN. These efforts have included projects assessing new chronic care models for COPD, CHF, and diabetes that we are piloting in VISN 23. Input into program design and evaluation from CCDOR researchers has been critical.
4. Believing as I do that supporting CCDOR must be a partnership between ORD and VISN 23, the Minneapolis facility director and I have committed the following resources to CCDOR, as described in the application:
  - *Space and resources to accommodate center growth over next 5 years.*
  - *A minimum of 5.5 research protected FTEE for CCDOR physician salary.* This includes 0.8 FTE of protected research time for CCDOR director, Dr. Bloomfield.
  - *Resources to develop a career development track* for promising young physician HSR investigators. The facility will commit one physician FTE that includes 80% protected time for three years for CCDOR to recruit a new junior investigator to develop a competitive career development proposal. This will be a standing position into which new physicians may be successively recruited.
  - *\$260,000 in support for CCDOR administrative infrastructure.* This direct financial contribution is in addition to physical infrastructure support, IT support, and other administrative and research support.
5. I am extremely proud of the contributions that CCDOR has made to improving veterans' health care in the past and excited by their plans for the next 5 years. If I can provide any more information as you evaluate this application, please feel free to contact me.

  
ROBERT A. PETZEL, MD