

## GERIATRIC RESEARCH, EDUCATION AND CLINICAL CENTER

### *Annual Report: Fiscal Year 2008*

#### Part II: Accomplishments

**NOTE:** This **GRECC Annual Report** reflects status and accomplishments of **GRECC Core Staff \*** (as defined below) only. The “**Report Year**” is from October 1, 2007-September 30, 2008.

You are welcome to use this report format for your own internal reporting purposes, in which case you may exceed the recommended limits of numbers of responses and their length (“list no more than...” “Describe the three most important...” “limit your response to five lines or fewer”)

**--BUT--**

**Please limit to ten pages or fewer the version SUBMITTED TO VACO.**

\***GRECC Core Staff** is limited to either **Primary Core**, **Affiliate Core**, or **Research Core**:

- **Primary Core** = positions authorized by the original GRECC allocation plus any addition in ceiling from VA Central Office specifically designated for GRECC.
- **Affiliated Core** = Staff who work full- or part-time in direct support of the GRECC’s research, education or clinical activity.
  - May be either “contributed” by the VA Medical Center or
  - May have been acquired through centralized enhancements/awards for programs (e.g., Home-Based Primary Care, Geriatric Evaluation and Management Program, etc.)
  - To be considered Affiliated Core, staff must be organizationally aligned under the GRECC or specifically identified by the Medical Center as “**GRECC-affiliated staff**.”
- **Research Core** = Full-or part-time staff who devote 51% or more of their total time to GRECC research and whose salaries are supported by research funds (either VA or non-VA). Includes all GRECC staff whose salaries are paid from research funds, e.g.:
  - Associate Investigator
  - Assistant Research Scientist
  - Senior Research Career Scientist
  - Research Career Scientist
  - Advanced Research Career Scientist.

**IMPORTANT:** Throughout this report, please **AVOID/MINIMIZE JARGON**. Each response is much more likely to be included in secondary communications derived from the Annual Reports if it can be readily understood by a non-technical readership.

#### 1. GRECC NAME/LOCATION

a. **GRECC Name:** Tennessee Valley GRECC for Prevention, Therapeutics and Quality Improvement  
**Location (facility, VISN):** Tennessee Valley Healthcare System, VISN 9: Mid-South Veterans Healthcare Network

#### 2. CONTACT PERSON (if there are questions about this report)

- a. **Name:** Robert Dittus, MD, MPH
- b. **Position:** GRECC Director
- c. **Phone, e-mail:** 615-340-2354; [robert.dittus@va.gov](mailto:robert.dittus@va.gov)

### 3. GRECC FOCUS AREA(S)

**NOTE:** Please succinctly list your GRECC's Focus Area(s), one per line below. After each focus area listed, please indicate with a check mark (✓) which of the research type(s) suitably describes the work conducted (including planning, implementation, analysis, and dissemination/publication) within that focus during the Report Year. Add additional lines by positioning your cursor at the lower right side of the table and striking the "Tab" key.

GRECC Focus Area	Research Type			
	Basic Biomedical	Applied Clinical	Health Services	Rehabilitation
Disease Prevention	X	X	X	X
Therapeutics		X	X	
Quality and Safety of Care		X	X	X
Critical Illness Associated Cognitive Impairment		X	X	X

### 4. ADMINISTRATION

**a. GRECC Impact on Host VAMC in Report Year:** *list the most important ways in which the GRECC has had specific impact on the host VAMC's research, staff education, program evaluation, or clinical care improvements for elderly veterans (i.e., how the GRECC has "made a difference" in these areas within the entire host VAMC) during the Report Year. Please limit your response to 5 or fewer "ways"; and please limit your description of each of the five "ways" to five lines or fewer.*

- **Expanded TVHS VA Funded Research:** The GRECC Critical Illness Associated Cognitive Impairment Program, led by Drs. Ely and Dittus, received additional VA merit funding for their multi-center study within three VA hospitals (Nashville, Seattle and Salt Lake City). The GRECC Quality and Safety of Care Program, led by Drs. Speroff, Weinger and Dittus has been awarded five new VA grants. GRECC VA funded research increased by 52% this year (increase over \$920,000 this past year).
- **Expanded TVHS Non-VA Funded Research:** Total research funding for GRECC investigators increased this year by 25% (increase of over \$2.7 million to \$13,817,260). The FY09 VERA estimate is \$4.4 million, a 24% increase over last year (increase of \$845,000). We added new investigators to the GRECC this year and have already recruited three new investigators who are beginning at the start of FY09.
- **Improved Clinical Care:** New initiatives this year include: Participatory Music Therapy Program (introduced at Operation Stand Down this year with collaboration between GRECC AD Clinical (Dr. Powers) and TVHS Social Work Service. Homeless elderly veterans participated in musical activities while accessing services, meals, and housing). Peer Review Process Committee (participation in quality and risk management for TVHS). Development of GEM Clinic (Falls Assessment, S-0250 Outpatient GEM effort for TVHS).
- **Expanded Geriatric Physician Education:** The Vanderbilt-Reynolds Geriatric Education Center, led by Drs. Powers and Dittus continues to design and implement new and innovative approaches to geriatric medicine education to medical students, residents, fellows, faculty and practicing physicians. This grant brings to the VA extensive geriatric medicine training to physicians at all levels. Tools of general use to other VAMCs are being developed. We now manage the website for POGOe, the Portal of Geriatric Online Education.
- **Expanded Geriatrics Non-Physician Education:** The GRECC Geriatrics Interdisciplinary Competency-Based Curriculum (GICC), led by Dr. Scott, continues to grow and now receives >\$700,000 annually from OAA to support the training of 35-65 unique associated health professions trainees from 8 disciplines (speech, audiology, chaplaincy, pharmacy, psychology, advanced practice nursing, occupational therapy, social work). Several trainees have been hired by TVHS post completion of training.

**b. GRECC Impact on VISN in the Report Year:** *list the most important ways in which the GRECC has had specific impact on the host VISN's research, staff education, program evaluation, or clinical care improvements for elderly veterans (i.e., how the GRECC has "made a difference" in these areas within the entire host VISN) during the rating period.. Please limit your response to 5 or fewer "ways"; and please limit your description of each of the five "ways" to five lines or fewer.*

- **VA Clinical and Healthcare Data Resource.** Drs. Speroff and Griffin have constructed a VISN 9 database with structured administrative data, clinical text and natural language codification of narrative documentation found in the electronic medical record, to identify surgical complications. The project involves investigators from Memphis, Louisville, Lexington, Huntington and Mountain Home VAs. Future studies among VISN 9 investigators with these data will target personalized medicine, quality improvement and patient safety.
- **Clinical and Translational Science Award (CTSA):** Dr. Dittus, GRECC Director, is Co-PI of this large NIH funded grant to build infrastructure to support clinical and translational research. This past year, the CTSA has established a pilot funding mechanism and research design support “studios and clinics” that are available to all VISN 9 academic partners when conducted in collaboration with faculty at Vanderbilt or Meharry. As part of this effort, Dr. Speroff has provided health services research support this year for researchers at UT-Memphis.
- **VISN 9 PCCT Learning Community:** the GRECC AD/Education continues to work with all of the PCCT Programs in VISN 9 to plan and implement annual conferences and monthly conference calls where together they learn how to develop, implement, and evaluate palliative care programs within their facilities. Several VISN 9 facilities are optimistic about the funding of their applications submitted in response to a recent RFP from VACO to expand and/or develop HPC programs. The Fifth Annual VISN 9 PCCT Conference was hosted by the Lexington PCCT Program with 53 VA and non-VA staff attending.
- **The VISN 9 Ethics Clinical Case Conference** has been held monthly VISN-wide since 2003 with GRECC AD/E&E as conference director. Through its monthly VISN-wide videoconferences and electronic dissemination of the cases with decision support material, this conference reaches over 4000 staff at TVHS and over 600 staff at other VAMCs in VISN 9.
- **VISN-9 GEC Committee**, chaired by Dr. Powers, GRECC Associate Clinical Director, serves as a guide to the VISN Director and Executive Leadership concerning Geriatric matters. Facility collaboration includes: TVHS, LEX, LV, MEM, Mt Home, HTG VA Medical Centers. Major 2008 foci: 1) Development of a VISN 9 Dementia Task Force, 2) Development of a VISN Palliative Care Coordinator Position, 3) Development of a Nursing Home Inspection Coordinator Position.

c. **GRECC Trend-Setting Innovations since October 1, 2003:** *list the most significant GRECC research, education or clinical innovations in the past five years. For each item, provide date or date range, GRECC core staff responsible, and a description. Please limit your response to 5 or fewer innovations; and please limit each of the five innovation descriptions to 5 lines or fewer:*

- **Ely, Dittus. Efficacy and safety of a paired sedation and ventilator weaning protocol for mechanically ventilated patients in intensive care (Awakening and Breathing Controlled trial): a randomized controlled trial. *Lancet* 2008;371 (9607):126-134.** This prospective, multicenter trial incorporated our previous work to allow an innovation standardizing reduction in exposure to sedatives and analgesics among ICU patients. The treatment achieved a 4 day reduction in ICU and hospital stay, a 14% improvement in one year survival, and 33% reduction in coma without safety hazards. This innovation is being adopted across the globe as standard of care.
- **Ely, Dittus. Effect of sedation with dexmedetomidine vs lorazepam on acute brain dysfunction in mechanically ventilated patients: the MENDS randomized controlled trial. *JAMA* 2007; 298 (22):2644-2653.** This randomized controlled trial designed and conducted by our GRECC investigators showed that treatment of ventilated, acutely ill ICU patients with newer sedative drugs (alpha-2 agonists) vs. benzodiazepines resulted in 4 more days alive and free of delirium/coma. These results have been confirmed by Dr. Ely in another study and will inform future international clinical guidelines.
- **Griffin. Computerized definitions showed high positive predictive values for identifying hospitalizations for CHF and selected infections in Medicaid enrollees with rheumatoid arthritis. *Pharmacoepidemiol Drug Saf.* 2008;17:890-5.** The findings of this innovative study suggest that computerized definitions can identify congestive heart failure and selected infections leading to hospitalization in Medicaid patients with rheumatoid arthritis. Such an innovation could have important implications for identification, epidemiological study, and subsequent management of many co-morbidities common to our aging population.

- **Simmons. Prevention of unintentional weight loss in nursing home residents: A controlled trial of feeding assistance. *JAGS* 2008;56:1466-1473.** The purpose of this randomized, controlled intervention trial conducted in community and VA nursing homes was to determine the effects of a feeding assistance intervention on food and fluid intake and body weight among long-stay nursing home residents. Our feeding assistance interventions (e.g., snacks between meals) increased residents' oral intake and body weight vs. control group and were practical to implement in daily nursing home care.
- **Speroff, Weinger, Ely, Dittus. Evidence-based algorithms for diagnosing and treating ventilator-associated pneumonia (VAP). *J Hosp Med.* 2008; 5:409-22.** We constructed evidence-based algorithms for diagnosis and management of VAP. The diagnostic algorithms were built and implemented as part of an interventional quality improvement study for adult ICU patients. They provide evidence-based real-time innovative guidance to clinicians seeking a standardized approach to critical care. A larger study has developed and tested a tool box for reducing ventilator and catheter infections in critical care units.

## 5. RESEARCH

- a. **Key Findings Published in Report Year on projects for which GRECC Core Staff as PI or CO-PI: list five or fewer; for each item provide GRECC Core Staff name(s), journal reference, and description of topic/method/results/clinical significance. Please limit each response to 5 lines or fewer.**

**GRECC Core Investigator(s): Simmons. Prevention of unintentional weight loss in nursing home residents: A controlled trial of feeding assistance. *JAGS* 2008;56:1466-1473.**

The purpose of this randomized, controlled intervention trial was to determine the effects of a feeding assistance intervention on food and fluid intake and body weight among long-stay nursing home residents. Our feeding assistance interventions (e.g., snacks between meals) increased residents' oral intake and body weight vs. control group and were practical to implement in daily NH care.

**GRECC Core Investigator(s): Ely, Dittus. Efficacy and safety of a paired sedation and ventilator weaning protocol for mechanically ventilated patients in intensive care (Awakening and Breathing Controlled trial): a randomized controlled trial. *Lancet* 2008; 371 (9607):126-134, 2008.**

This prospective, multicenter trial incorporated our previous work to allow an innovation standardizing reduction in exposure to sedatives and analgesics among ICU patients. The treatment achieved a 4 day reduction in ICU and hospital stay, a 14% improvement in 1 year survival, and 33% reduction in coma without safety hazards. This innovation is being adopted across the globe as standard care.

**GRECC Core Investigator(s): Ely, Dittus. Effect of sedation with dexmedetomidine vs lorazepam on acute brain dysfunction in mechanically ventilated patients: the MENDS randomized controlled trial. *JAMA* 298 (22):2644-2653, 2007.**

This randomized controlled trial designed and conducted by our GRECC investigators showed that treatment of ventilated, acutely ill ICU patients with newer sedative drugs (alpha-2 agonists) vs. benzodiazepines resulted in 4 more days alive and free of delirium/coma. These results have been shown by Dr. Ely in another study and will inform future international societal guidelines.

**GRECC Core Investigator(s): Roumie, Griffin. Non Aspirin NSAIDs, Cyclo-Oxygenase 2 Inhibitors and the Risk for Stroke. *Stroke* 2008;39:2037.**

Valdecoxib and rofecoxib have been removed from the market due to safety concerns. A retrospective study of 336,906 individuals (aged 50–84 years) enrolled in the Tennessee Medicaid program found, in comparison to non-NSAID use, a 28% increased risk of stroke (HR 1.28) with rofecoxib use, a 41% risk with valdecoxib use. No other NSAID increased the risk of incident stroke.

**GRECC Core Investigator(s): Weinger. A facilitated survey instrument captures significantly more anesthesia patient safety events than does traditional event reporting. *Anesthesiology* 2007;107: 909-922.**

We sought to devise a better way to detect anesthesia-related patient injury through a survey tool called CONES. Of the 183 CONES cases, 55 had at least one NRE (30.4%). Among the 8,303 anesthetics, the QA process captured 159 cases (1.9% incidence). CONES yields a significantly greater incidence of anesthesia-related patient injury than the QA method (7.7% vs. 1.0%).

- b. **Key Findings Published in Report Year on work in which GRECC Core Staff served as CO-Investigators to Non-GRECC PI:** *list five or fewer; for each item provide GRECC Core Staff name(s), journal reference, and description of topic/method/results/clinical significance. Please limit each response to 5 lines or fewer.*

**GRECC Core Investigator(s): Dittus, Speroff, Elasy, Roumie. Using quality improvement methods to improve door-to-balloon time at an academic medical center. *J Invasive Cardiol* 2008; 20(2): 46-52.**

Guidelines for ST-elevation MI target a door to balloon time of 90 minutes. Evidence based strategies were implemented to address bottlenecks and decrease D2B time. Through this quality improvement innovation, we targeted changes that achieved a 44 minute decrease in median time; ECG time decreased by 7 minutes, ECG to cardiac catheterization laboratory time decreased by 18 minutes.

**GRECC Core Investigator(s): Dittus, Speroff, Elasy, Roumie. Effect of short call admission on length of stay and quality of care for acute decompensated heart failure. *Circulation* 2008; 117(20): 2637-44.** This cohort of 218 acute decompensated CHF patients admitted to the Nashville VA Medical Center allowed our study of short vs. long call program created in response to resident work hour restrictions. Patients admitted via short call had an adjusted 44% increase in length of stay compared with long call. Short call patients received diuretics later and fewer total doses than did long call patients.

**GRECC Core Investigator(s): Coffey. EGF receptor-independent action of TGF- protects Naked2 from A07-mediated ubiquitylation and proteasomal degradation. *Proc Natl Acad Sci USA* 105: 13433-13438, 2008.**

We recently reported that Naked2, but not Naked1, interacts with the cytoplasmic tail of TGF-alpha, thereby coating TGF-alpha-containing exocytic vesicles and directing these vesicles to the basolateral corner of polarized epithelial cells. These results identify an EGFR-independent action of TGF-alpha in which it protects Naked2 from proteasomal degradation, thus ensuring its delivery to the basolateral surface of polarized epithelial cells.

**GRECC Core Investigator(s): Coffey. Use of fluorescence-activated vesicle sorting for isolation of Naked2-associated, basolaterally targeted exocytic vesicles for proteomics analysis. *Mol Cell Proteomics* 7: 1651-1667, 2008.**

We have devised a flow-cytometric-based method called FAVS to purify basolaterally targeted exocytic vesicles in sufficient quantity and purity to perform large-scale proteomic analysis. This work has primacy and appeared on the cover of the top tier proteomics journal. FAVS should become widely used as a tool for isolation of cellular organelles for comprehensive proteomic analysis.

**GRECC Core Investigator(s): Ely, Weinger, Dittus, Speroff. Evidence-based algorithms for diagnosing and treating ventilator-associated pneumonia (VAP). *J Hosp Med* 2008; 5:409-22.**

We constructed evidence-based algorithms for diagnoses and management of VAP. The diagnostic algorithms were built and implemented as part of an interventional quality improvement study for infant, pediatric, immunocompromised, and adult ICU patients. They provide evidence-based real-time innovative guidance to clinicians seeking a standardized approach to critical care.

## 6. EDUCATION

**NOTE: DO NOT** list trainee and conference data here—those data are reported in the GRECC Electronic Database. **NOTE:** You may list educational activities here even if they were supported by funds that qualified for inclusion in the ePROMISE (RDIS) database if you wish.

- a. **Innovations in Educational Activities Implemented during the Report Year:** *(list five or fewer. Please limit each item to 5 lines or fewer and include clarification of how each activity is innovative.)*

- **Second-Year Medical School:** Physical Diagnosis Course: Geriatrics Physical Diagnosis was updated in AY 2007-08, with the addition of simulation activities. A lecture was followed by a small group event, the focus of which was on interaction with standardized patients (SPs) and performance of key physical diagnosis tasks with the older adult SPs and their standardized caregivers. Small group teams of students were led by interdisciplinary Geriatric Service Team Members.

- **Case-based geriatrics lectures** were given to residents and fellows in the Orthopedic Surgery, Neurosurgery, Dentistry and Cardiology, Urology, Neurology, General Surgery, Ophthalmology and Gynecology subspecialties. A unique case-teaching methodology has been developed for residents/fellows. Literature consult-enhanced Evidence-Based Specialty Case Presentations pair geriatrics patient cases with synthesized clinical information packets.
- **Evidence-Based Specialty Case Packets** related to Cardiology have also been developed and contributed to the new American College of Cardiology, Geriatric Cardiology web based training program: American College of Cardiology, The Essentials of Cardiovascular Care in Older Adults, ACC curriculum in Geriatric Cardiology (ECCOA), Susan Ziemann and Karen Alexander, 2008.
- **KnowledgeMap** is a tool developed at Vanderbilt by GRECC collaborators and its utilization with geriatric education content is one focus of this past year's work in the Reynolds Center. It indexes (based on concepts, not words) content of text documents, and in particular, curricular documents from medical school classes. We have developed a new POGOe platform based on KnowledgeMap and open-source software which is now fully operational and available to any user.
- **Learning Portfolio** applies the KnowledgeMap concept indexer to clinical notes from our electronic medical record system to determine through automated means if the notes contain "key concepts" related to patient conditions (e.g., whether the appropriate concepts were mentioned in a medical student note evaluating an 80-year-old man with a chief complaint of frequent falls). It also houses and searches medical students' written assignments and is used to automatically analyze the concept-richness of students' work.

b. **Exportable Educational Products First Available for Distribution in Report Year** List five or fewer of the most important products. For each item, limit the response to five lines summarizing content, target audience, format, and product evaluation plan and results. **Include educational products developed in prior years ONLY if this is the first year they have been available for distribution.**

- **Second-Year Medical School: Physical Diagnosis Course:** Geriatrics Physical Diagnosis was updated in AY2007-08, with the addition of simulation activities. A lecture was followed by a small group event, the focus of which was on interaction with standardized patients (SPs) and performance of key physical diagnosis tasks with the older adult SPs and their standardized caregivers. **This project was exported to POGOe.**
- **Evidence-Based Specialty Case Packets** related to cardiology have also been developed and contributed to the new American College of Cardiology Geriatric Cardiology web based training program: American College of Cardiology, The Essentials of Cardiovascular Care in Older Adults, ACC curriculum in Geriatric Cardiology (ECCOA), Susan Ziemann and Karen Alexander, 2008.
- **KnowledgeMap as a Resource for Curricular Documents.** Vanderbilt entered into agreement with The ADGAP/Reynolds Geriatrics Education Coordinating Center at Mount Sinai School of Medicine to develop a new POGOe platform based on KnowledgeMap and open-source software and is now fully operational and available to any user. An Educator's Tool Box was created by GRECC faculty and is displayed on POGOe.
- **Clinical Informatics Consult Service.** Led by Dr. Powers, Evidence-Based Specialty Case Packets have been developed and exported by faculty in GRECC. The impact of a literature consult service on geriatric clinical care and training in falls prevention J of the Medical Library Assoc 96:2, 88-100, 2008) and cardiology (American College of Cardiology, The Essentials of Cardiovascular Care in Older Adults, ACC curriculum in Geriatric Cardiology (ECCOA), Susan Ziemann and Karen Alexander, 2008).
- **A New Model of Nursing In-Service on a GEM Unit.** An interdisciplinary open-discussion (staff-initiated geriatric topic discussions) model for Nursing In-Services on a Geriatric Unit increased staff participation and generated enjoyment and enthusiasm and was rated highly in terms of staff satisfaction and meeting educational needs. Interdisciplinary communication and quality of care were enhanced on the unit following introduction of the model. Exported and published (AZ Geriatrics Soc J 13:14, 2008).

- c. **Educational programs offered by your GRECC during the report year that were evaluated for impact both immediately and at a later time, as described in "FY08 Instructions" for Performance Measure 7.** Describe at least *TWO*, each of which had at least 25 participants: one in which the majority of participants was from your GRECC's host facility; and one in which the majority of participants were from VAs other than your GRECC's host facility. For each, describe the educational intervention briefly and then the evaluations, including in your description of the latter the evaluation methodologies, findings, and conclusions. If the second evaluation has not yet occurred during the report year, describe your plans for it. Limit your description of each intervention and its evaluation to one-half page.
- **5<sup>th</sup> Annual PCCT VISN 9 Conference (at least 51% from VA other than host facility):** GRECC faculty (Scott) serves as the Education Officer for the VISN 9 PCCT Learning Community and oversaw the development, implementation and evaluation of the 5<sup>th</sup> annual conference, which was held August 6-7, 2008 in Lexington, KY. The Department of Veterans Affairs' Employee Education System (EES) AIM (Analysis, Intervention, and Measurement) evaluation model continues to be used by the ADEE (Scott) to evaluate this education program, which she has used since FY 2006. **Program Evaluation:** The effects of the intervention (i.e., the PCCT Conference) are measured with EES's standard measurement process, which consists of a *chain of impact* that examines programs at several "levels" (i.e., 1) Reaction and planned action, 2) Knowledge and skill acquisition, 3) Job Performance, 4) Business Impact, and 5) ROI or Return on Investment). The levels build upon each other, ranging from basic assessment of participants' reactions to a full calculation of return on investment. The degree of the impact also depends on program costs, isolation of the effect of the training program, and intangible benefits. We are measuring Levels 1-4 but not Level 5 (ROI). Levels 1 and 2 were measured immediately at the completion of the conference. **Findings:** Analysis revealed 53 attendees with responses from 34/53=64%; 8/53 were from the GRECC Host VA, 38/53 from VA's other than GRECC Host, 7/53 from other. Reaction to training program (Level 1): Participants reacted favorably to the program with >94% of respondents indicating that they would recommend the program to others, 93% indicated that it was worthwhile. Knowledge and Skill Acquisition (level 2): At the conclusion of the conference, >90% of respondents agreed they had developed new skills and knowledge as a result of their participation and >88% indicated that they had fully accomplished the program purpose/objectives.. A follow-up evaluation will be conducted 4-6 months post-conference which will assess the Application of Training Behaviors (Level 3) and the Impact of Training Behavior (Level 4). **Conclusions will be reported after Levels 3 & 4 have been assessed.**
  - **The TVHS Integrated Ethics Audio-conference was marketed primarily to TVHS staff but VISN 9 staff were invited to participate.** Dr. Melissa Bottrell, Chief of Integrated Ethics at the National Center for Ethics in Health Care gave a 40 minute presentation with 15 minutes of Q&A on *Integrated Ethics: Closing the Gap*. GRECC faculty (Scott) was program director and moderator. The audio-conference was held September 26, 2008 The Department of Veterans Affairs' Employee Education System (EES) AIM (Analysis, Intervention, and Measurement) evaluation model is being used by the ADEE (Scott) to evaluate this education program. **Program Evaluation:** The effects of the intervention (i.e., the presentation with Q&A) are being measured with EES's standard measurement process, which consists of a *chain of impact* that examines programs at several "levels" (i.e., 1) Reaction and planned action, 2) Knowledge and skill acquisition, 3) Job Performance, 4) Business Impact, and 5) ROI or Return on Investment). Levels 1 and 2 were measured immediately at the completion of the conference. **Findings:** Analysis revealed 33 attendees with responses from 17/33=51%; 8/33 were from non-GRECC Host VA's and 25/33 were from the GRECC Host VA. Reaction to training program (Level 1): Participants reacted favorably to the program with >95% of respondents indicating that the content was relevant to their jobs and that they would recommend the program to others; 65% indicated that they plan to change at least one thing in their work as a result of this educational activity. Knowledge and Skill Acquisition (level 2): At the conclusion of the conference >95% of respondents agreed they had developed new skills and knowledge as a result of their participation and that they would recommend this program to a friend or co-worker. A follow-up evaluation will be conducted 4-6 months post-conference which will assess the Application of Training Behaviors (Level 3) and the Impact of Training Behavior (Level 4). **Conclusions will be reported after Levels 3 & 4 have been assessed.**

## 7. CLINICAL INNOVATIONS

**NOTE:** A clinical demonstration program is defined as:

- an ongoing, clinical, cooperative collaboration between the GRECC and host VA medical center;
- that carries out and evaluates assessment strategies, management approaches and/or specialized investigations
- of a targeted or focused group of elderly patients
- with the intention that findings will be disseminated for the advancement of the field.

A clinical demonstration program is comprised of one or more clinical demonstration projects, each of which is defined as

- a set of one or more clinical activities
- integrated and coordinated under a specified protocol
- designed to permit evaluation(s) of processes and/or outcomes.

Evaluation of a clinical demonstration program may be a comprehensive assessment of the activity and/or the clinical outcomes. Alternatively, evaluation may concentrate on a prioritized and feasible set of more focused or specific, project-related questions, e.g., related to improved diagnosis, quality of care, patient satisfaction, drug compliance, functional status, etc. Ongoing and subsequent modifications of the care model may also be evaluated as may be the practicability and outcomes of exporting new clinical models or variations of models to general care settings and/or smaller, more resource-limited VA medical centers or outpatient facilities.

a. **Clinical Demonstration Projects Underway in Report Year:** *list all GRECC Clinical Demonstration Projects underway. For each item, indicate whether New or Ongoing in Report Year. You may include up to five lines of descriptive text for each Project.*

**NOTE:** The number of Projects listed should be equal to the number of Clinical Demonstration Projects you have listed and named in the GRECC Electronic Database.

- **Falls Assessment in a VA GEM Clinic (Powers).** This Clinical Demonstration Project was initiated as a result of the Falls Root Cause Analysis recommendation to develop a Geriatric Evaluation and Management (GEM) Falls Clinic for TVHS. This was also presented at Mt. Home VA by the AD Clinical who served as a GRECC Consultant. Outpatient falls clinic assessment by referral from PCP will be compared to controls by longitudinal routine follow up of GEM discharges.
- **Models to Enhance the LTC Inspection Process for Veteran's Health Care in VISN 9 (Powers).** Planned changes in the LTC inspection process include enhancing the VISN 9 Non-VA LTC survey process by establishing a full-time LTC liaison, 2 full-time VISN lead LTC Inspectors, and 6 full-time facility LTC Points of Contact (POCs) *AND* support the national implementation of contract State Veterans Home inspections. Evaluation of progress toward standardization will be performed compared to 2006.
- **Improving Hypertension Care among Veterans at TVHS (Roumie):** A Hypertension Performance Improvement Committee provides oversight to the continual improvement with interventions designed to address four areas in hypertension (HTN) care within TVHS: 1) inaccurate measuring and recording of patient blood pressure (BP) 2) lack of patient knowledge about BP goals 3) lack of provider knowledge about existing VA/DOD HTN guidelines and 4) lack of provider knowledge about VA performance measure goals.
- **Advanced Recognition, Monitoring, and Management of Delirium (Solberg, Ely, Powers, Dittus):** A nursing protocol incorporating documentation in the Electronic Health Record of reliable and well-validated neurological monitoring instruments (RASS and CAM) was implemented in the medical and surgical intensive care units at the TVHS Nashville VA campus to recognize acute brain dysfunction (delirium and coma) in the earliest stages.
- **Wake Up and Breathe Program (Ely):** The results of our clinical trials were published this year in Lancet demonstrating significant value to our intervention. We are currently piloting the intervention in the Nashville critical care units and developing the systems that will facilitate reliable implementation.
- **Critical Care Infection Reduction (Ely, Dittus, Speroff, Weinger).** We developed and evaluated a critical care tool box to reduce ventilator-associated pneumonias and central venous catheter associated bloodstream infections. We evaluated its use and impact on infections within the 180 hospitals of HCA and have ongoing continual improvement activities at the Nashville VA.

- **Non Pharmacologic Management of Disruptive Behaviors in Dementia (Powers):** GRECC core staff trained TVHS long term care nurses in non-pharmacologic management of behavioral problems in dementia patients on the Geriatric and Extended Care Service Long Term Care Units with the aim to reduce usage of psychotropic drugs.
- **Prevention of Weight Loss in LTC Veterans (Simmons, Powers):** This feeding assistance project developed standardized measurement, monitoring, and needs projection tools for LTC to improve care delivery. The project includes standardized assessment, monitoring, and staffing needs projection tools that can be used by LTC providers to improve feeding assistance care delivery and unintentional weight loss outcomes. The primary objective of this project is to train indigenous LTC staff how to (1) identify residents in need of feeding assistance, (2) effectively monitor daily care delivery; and, (3) utilize existing, non-nursing staff for some mealtime tasks to improve care.

b. **Evaluation of Clinical Demonstration Projects:** *for each GRECC Clinical Demonstration Project listed in 7a above, summarize the evaluation activity. If no evaluation results are available, be explicit as to the focus of the planned evaluation, and when it is anticipated to occur. If the project has been completed during the Report Year, provide key findings and their significance.*

**NOTE:** Do not list patient service use data here. Those data are reported in the GRECC Electronic Database.

- **Falls Assessment in a VA GEM Clinic. (Powers)** This Clinical Demonstration Project was initiated as a result of the Falls RCA recommendation to develop a GEM Falls Clinic for TVHS. This was also presented at Mt. Home VA by the AD Clinical who served as a GRECC Consultant. Outpatient falls clinic assessment by referral from PCP will be compared to controls by longitudinal routine follow up of GEM discharges.
- **Models to Enhance the LTC Inspection Process for Veteran's Health Care in VISN 9. (Powers)** Planned changes in the LTC inspection process include enhancing the VISN 9 Non-VA LTC survey process by establishing a full-time LTC liaison, 2 full-time VISN lead LTC inspectors, and 6 full-time facility LTC POCs AND support the national implementation of contract State Veterans Home inspections. Evaluation of progress toward standardization will be performed compared to 2006.
- **Improving Hypertension Care among Veterans at TVHS (Roumie):** A Hypertension Performance Improvement Committee provides oversight to the continual improvement with interventions designed to improve hypertension control. The committee has a prospective ongoing evaluation component to its efforts. Compared to the initial intervention phase (published in Ann Intern Med), the percent of patients having their hypertension controlled continues to increase (ranges 60-70%) by site.
- **Advanced Recognition, Monitoring, and Management of Delirium (Solberg, Ely, Powers, Dittus):** Quarterly reports will be generated through database retrieval reporting detection of delirium, length of delirium, length of hospitalization, and age of patient. Goal is to detect delirium early and follow patient's delirium after treatment to see if early detection will decrease the length of overall hospital stay. Database is in development with TVHS IRM.
- **Wake Up and Breathe Program (Ely):** The results of our clinical trials were published this year in Lancet demonstrating significant value to our intervention. We are currently piloting the intervention in the Nashville critical care units and developing the systems that will facilitate reliable implementation. Data are being evaluated on a small, pilot group of patients in a continual quality improvement process.
- **Critical Care Infection Reduction (Ely, Dittus, Speroff, Weinger).** We developed and evaluated a critical care tool box to reduce ventilator-associated pneumonias and central venous catheter associated bloodstream infections. We evaluated its use and impact on infections within the 180 hospitals of HCA and have ongoing continual improvement activities at the Nashville VA with data being collected.
- **Non Pharmacologic Management of Disruptive Behaviors in Dementia (Powers):** GRECC core staff trained TVHS long term care nurses in non-pharmacologic management of behavioral problems in dementia patients with findings of reduced use in this population: 1) on nine or more meds by 19%, 2) on psychotropic drugs by 3.8%, and 3) reduced falls by 23%. Federal Practitioner 25:28-30, 39, 2008.

- **Prevention of Weight Loss in LTC Veterans (Simmons, Powers)** The objective of this project is to train indigenous LTC staff how to (1) identify residents in need of feeding assistance, (2) effectively monitor daily care delivery; and, (3) utilize existing, non-nursing staff for some mealtime tasks to improve care.

c. **New Clinical Models developed at your GRECC that were exported in the Report Year** ( list up to five examples, up to two lines each; provide name of new clinical model, name of VA or non-VA facility to which it was exported, and method of export, such as “Falls Clinic protocol sent to XVAMC”):

- **Falls Assessment in a VA GEM Clinic.** This clinical model was exported to the Mt. Home VA through Dr. Powers serving as a GRECC consultant.
- **Wake up and Breathe Protocol.** We exported our GRECC developed and evaluated “Wake up and Breathe” protocol into many hospitals and medical centers worldwide through invited consultations.
- **Sedation Protocol for Critically Ill.** We exported our GRECC developed and evaluated “Alternative Sedation Protocol” using dexmedetomidine into many hospitals worldwide through invited consultations.
- **Crew Resource Management.** We exported our crew resource management program into a Nashville primary care community health center with significant measurable improvements in diabetes care.
- **Delirium Assessment and Monitoring.** We exported our GRECC developed and evaluated methods for delirium measurement to many new hospitals worldwide through our web site and invited consultations.

#### 8. COLLABORATION ACTIVITY

NOTE: Increasingly, VACO is seeking to characterize the GRECCs as not only isolated programs of excellence, but also, as a group, a potent and effective system for investigating issues, demonstrating efficacy, and implementing change. In order to assist the GEC office in building a resource set of examples of GRECCs working in complementary manners to advance their own goals and those of the Department, you are asked to provide up to five (5) examples of collaborative activities you have underway with one or more GRECCs other than your own. If possible, please try to include at least one Clinical Demonstration, one Education, and one Research example. Be sure to specify the GRECC or GRECCs with whom you are collaborating; and a description, limited to 6 or fewer lines, of the collaborative activity.

- **Falls Assessment in a VA GEM Clinic.** This clinical demonstration project will develop a GEM Falls Clinic for TVHS. This was also presented at Mt. Home VA by the AD Clinical who served as a GRECC Consultant. Outpatient falls clinic assessment by referral from PCP will be compared to controls by longitudinal routine follow up of GEM discharges. This project is being done in collaboration with Steven Castle, AD/C West LA GRECC (shared templates and design) and also was presented at the GRECC/MIRECC Implementation Science Conference, Chicago 10/08.
- **Obesity Program.** This Education Project involves our ADEE who has been working with the national ADEE MOVE! Work Group to write an evidence based White Paper and to plan educational programs on exercise, nutrition and weight control in the  $\geq 70$  year old. At least half of all GRECCs are on this Work Group. A manuscript is likely to be submitted for publication during FY 2009.
- **Implementation Science Conference.** This Education Project involves our ADEE who worked with several GRECCs and MIRECCs to plan the successful Implementation Science Conference in Chicago in October 2008.
- **Hospice and Palliative Care.** This Education Project involves our ADEE who has been working with the national AD/EE Palliative Care Work Group to plan educational programs in Hospice Palliative Care. Our ADEE participated in planning, and was a presenter at, the GRECC Symposium at GSA in November 2007. The TN Valley, Bronx, and San Antonio GRECCs are members of this Work Group.
- **Delirium and Cognitive Impairment Among the Critically Ill.** This Research Project is a VA Merit funded project led by our GRECC ADR and GRECC Director with active collaborations with the Salt Lake City GRECC and the Seattle GRECC. This prospective cohort study incorporates our delirium detection and monitoring protocols and long-term cognitive impairment assessment methods.