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### Upcoming Conferences

March 9-12, 2004 **HSR&D National Meeting**, Washington, DC

April 19-21, 2004, Annual Meeting of the **Restoration of (Wheeled) Mobility in SCI Rehabilitation**, Vrije Universiteit, Amsterdam

May 12-15, 2004, **Society of General Internal Medicine (SGIM) 26<sup>th</sup> Annual Meeting**, Chicago, IL

June 6-8, 2004, **Academy for Health Services Research and Health Policy (AHSR)** Annual Meeting, San Diego, CA

July 12 - 14, 2004, **Translating Research Into Practice, hosted by Agency for Healthcare Research & Quality (AHRQ)**, Washington, DC

September 9-12, 2004, **American Congress of Rehabilitation Medicine**, Ponte Vedra Beach, FL

October 7-10, 2004, **American Academy of Physical Medicine & Rehabilitation (AAPM&R) 65<sup>th</sup> Annual Assembly**, Phoenix, AZ

November 6-10, 2004, **American Public Health Association (APHA) Annual Meeting**, Washington, DC

## VA HEALTH CARE ATLAS RELEASED

RORC Assistant Director and Research Health Scientist, Diane Cowper, recently completed the *VA Health Care Atlas, FY-2000*. Geographic Information Systems (GIS) have been used in the health care industry for epidemiological studies, disease tracking, program evaluation, epidemic outbreak investigations, site location and patient distribution analysis, and community needs assessment. VA has electronically captured data for decades and its patient data systems are second to none. The massive amount of data available for analysis, however, can be over-

whelming to the researcher, planner or decision maker who needs to translate these data into usable information. The *VA Health Care Atlas, FY-2000* using current GIS technology, was funded to provide these data to researchers in a comprehensive resource guide. The Atlas contains fourteen chapters. For each chapter, the data sources are identified.

The displayed unit of geography is primarily at the county level, although VISN and State level data are also presented. The study team identified patients in each of several disease cohorts by using a disease classification scheme based on methods from Kaiser Permanente and the Clinical Classifications Software developed by the Agency for Healthcare Research and Quality. Utilization data were extracted from the Medical SAS Datasets (PTF and Visit Files).

Cost data were obtained from the HERC. The research team relied heavily on GIS tools to create the Atlas. The project team performed secondary data extractions, then displayed existing data in a new, more comprehensive and accessible format. The *VA Health Care Atlas, FY-2000* includes: (1) an overview and location of medical facilities in the VA health care system; (2) a profile of VA's enrollee population; (3) an examination of overall VA utilization; (4) a depiction of patterns in health care use across the VA by the QUERI disease cohorts; and (5) an examination of geographic variation in costs.

Geographic Information Systems (GIS) can create, access, integrate, and display geographically relevant information. Moreover, GIS can be used to examine population-level effects of services as reflected in geographic and spatial distribution

of populations and allows predictive modeling. The product from this project will enhance knowledge of VA's enrolled patient population and their health care needs, and, ultimately, provide background information that will improve the formulation of specific research questions to address those needs.

Other members of the Atlas investigative team included researchers from around the country. They were: Wei Yu (Palo Alto), Mark Kuebler (Houston), Joseph Kubal (Hines), and Larry Mannheim (Northwestern University).



### PM&R DIRECTOR VISITS RORC

Dr. Barbara Sigford, National Director of Physical Medicine and Rehabilitation Service in Central Office, met with RORC investigators and staff on January 29-30, 2004. The two day meeting was scheduled for the purpose of information exchange about the programs and direction of PM&R and the mission and goals of the RORC.

## FEATURED INVESTIGATOR

**Dean Reker, RN, Ph.D.** is a Rehabilitation Health Services Researcher at the Kansas City VAMC and an Associate Professor in Health Policy and Management at the University of Kansas Medical School. Dr. Reker has funded research projects on organization of stroke rehabilitation and assessments of different modes of administration of a new stroke outcome measure, the Stroke Impact Scale. He has directed the creation of the Integrated Stroke Outcomes Database at the Rehabilitation Outcomes Research Center (RORC) in Gainesville, Florida and is an experienced data manager who has extensive knowledge about VA national databases such as the National Patient Care Database and the Functional Status Outcomes Database. Dr. Reker is an investigator on the Stroke QUERI, a member of the FSOD steering committee, and has published numerous articles and abstracts on stroke care structures, processes, and outcomes. He has served on a national advisory panel for a current Medicare stroke study, and was a participant in the joint VA/DOD initiative to create a new Clinical Stroke Guideline. Dr. Reker's research interests include: Stroke rehabilitation, the quality of long-term care, the epidemiology of Barrett's esophagus, utilization of lower GI visualization techniques, and utilization of durable medical equipment and rehabilitation. Examples of his recent publications include:



Duncan P, **Reker D**, Horner R, Samsa G, Hoenig H, Hamilton B et al. Performance of a mail administered version of a stroke specific outcome measure, the Stroke Impact Scale. *Clinical Rehabilitation* 2002; 16:493-505.

**Reker D**, Duncan P, Horner R, Hoenig H, Samsa G, Hamilton B et al. Postacute stroke guideline compliance is associated with greater patient satisfaction. *Archives of Physical Medicine and Rehabilitation* 2002; 83(6):750-756.

**Reker D**, Rosen A, Hoenig H, Berlowitz D, Laughlin J, Anderson L et al. The hazards of stroke case selection using administrative data. *Medical Care* 2002; 40(2):96-104.

Duncan P, Studenski S, Richards L, Gollub S, Lai S, **Reker D** et al. Randomized clinical trial of therapeutic exercise in subacute stroke. *Stroke* 2003; 34(9):2173-80.

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## RORC STAFF TO ATTEND HSR&D MEETING

A number of RORC investigators are presenting their research at the HSR&D Annual Meeting in Washington. Dr. **Neale Chumbler** is presenting his work, "Care Coordinated home-telehealth strategy improves functional independence for frail veterans," at the special poster session for VA leadership and a paper on telehome care in a breakout session. Dr. **Bruce Vogel** and his TBI team have a panel session about the work they have been doing on optimal location of TBI specialty units. The papers being presented are: (1) "Location Modeling of Traumatic Brain Injury Treatment Units" (**Côté**); (2) "Using Location-Based Analyses to Identify Gaps in VA TBI Specialty Care" (**Cowper**); (3) "VA Market Share for Traumatic Brain Injury Services and Estimation of Retention Rates" (**Neugaard**); and (4) "Variations in VA Traumatic Brain Injury Treatment Costs" (**Vogel**). **Diane Cowper** is presenting her work on the VA Health Care Atlas. **Soo Yeon Kwon** will showcase her work at the scientific poster session. **Dean Reker** is a panelist at the DSS workshop "The Application of Clinical DSS Data to Research." Also in attendance for the meeting from the RORC are Drs. **Maude Rittman**, **Christopher Johnson**, **Jim Stansbury**, and **Sam Wu**.

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## DR. MAUDE RITTMAN RECEIVES AWARD



**Maude Rittman, PhD, RN**, associate chief of nursing for research and assistant director of career development at the Rehabilitation Outcomes Research Center and associate research professor at the College of Nursing, University of Florida, received the Dorothy M. Smith Nursing Leadership Award for Excellence in Research. The College of Nursing, University of Florida, presents this award to alumni who have made significant contributions to the nursing profession and provided visionary leadership. Dr. Rittman's research focuses on the psychosocial and cultural aspects of stroke recovery and caregiving.

## RESEARCH HIGHLIGHT

### Measuring Health Related Quality of Life in Veterans with Stroke

Dean M. Reker, PhD, Pamela W. Duncan, PhD

Approximately 11,000 veterans annually are hospitalized with a newly acquired incident stroke. Based on American Heart Association ratios of stroke incidence and prevalence, up to 80,000 veterans may be stroke survivors. The assessment of outcomes in stroke survivors is important for clinical practice and research, yet there is no consensus on the best measures of stroke outcome in either clinical practice or research. The most commonly used measures, the Rankin Scale and the Barthel Index, assess only the physical aspect of stroke. The Barthel suffers from high rates of ceiling effect. Generic health status measures (i.e., SF-36) suffer from floor effects and do not characterize limitations in social function. We have developed a new stroke-specific outcome measure, the Stroke Impact Scale (SIS), to capture physical function and other dimensions of health-related quality of life. The validity, reliability, and sensitivity to change of this measure has been established in a small (n=91) non-VA sample.

The specific research questions in this investigation are: 1) Does the SIS have concurrent and discriminate validity in a veteran stroke population when compared to the FIM, Rankin, and the SF-36V? 2) What effect does mode of administration have on response rates, non-response bias, data quality, completeness and instrument reliability, instrument validity, SIS domain scores, and cost of data collection? 3) What factors (patient, proxy, and facility characteristics) differentiate responders and non-responders? 4) How does the internal consistency (Cronbach's alpha) of the mail and phone administered SIS in a VA population compare to the internal consistency of an in-person administered SIS in a non-veteran population? 5) Stratified by mode of administration, will the SIS identify sub-populations of patients that are at risk for high health care utilization (recurrent stroke, readmission, inpatient days, outpatient volume)? 6) Will the SIS scores predict health care costs for the period three months post-stroke through 12 months post-stroke? 7) Are patterns of health care different between responders and nonresponders?

Using ICD-9 discharge codes and a high sensitivity algorithm to capture stroke, we will identify patients discharged with a diagnosis of stroke. Electronic medical record discharge summaries in DHCP will be reviewed to validate the diagnosis of stroke and to capture patient and clinical demographics. At three months post-stroke, patients will be randomly assigned to receive a mailed SIS instrument or SIS via telephone interview. At four months post-stroke, all patients will be called for a telephone survey using the "phone FIM" and the SF-36V. Health care utilization data will be collected on all survey patients for the period three months through 12 months post-stroke. A total of 1,222 patients were screened for a valid stroke diagnosis; 458 individuals were validated and randomized into two administration groups. Response rate for mail was 45%, and 69% for the telephone. Mail non-responders had more severe strokes, more cognitive deficits, and more often were unmarried. No differences were observed between telephone responders and non-responders. Test-retest reliability was good to excellent in the mail group (.77-.99), except participation (.62) and excellent in the telephone mode (.90-.99), except emotion (.68). Concurrent and discriminant validity of SIS when compared to Rankin, SF-36V, and FIM was better in the telephone group. This research supports that telephone mode of survey administration yielded a higher response rate, lower bias, and stronger validity estimates. However, the costs for telephone administration are six times the cost of mail.

Establishing the feasibility and use of the SIS in a veteran population is the first step in quantifying meaningful outcomes for VA stroke patients. Once established, the SIS could be used as a universal, multi-dimension stroke outcome tool to assess patient outcomes and assist in the measurement of provider performance, best practices, cost-effectiveness of stroke interventions, and quality of care. All of these potential enhancements will improve our ability to deliver optimal care to veterans who have stroke-related disabilities and conditions.

*This project was funded by the VA Health Services Research & Development through Grant No. STI 20-029.*

## RORC ASSOCIATE DIRECTOR SOUGHT

The Rehabilitation Outcomes Research Center (RORC) at the North Florida/South Georgia Veterans Health System in Gainesville, Florida is actively seeking an M.D. to serve as its Associate Director. The Associate Director will have administrative, research and clinical responsibilities. Administratively, he/she will attend the internal operational meeting biweekly, and will represent the RORC at different meetings and events on behalf of the Director. The Associate Director can and should be a principle investigator in his/her own right, and is expected to mentor junior researchers at the Center. The Associate Director is also expected to have clinical responsibilities, although the amount of time devoted to patient care is negotiable. A successful candidate will have a Medical Doctorate and clinical research experience in any one of the following areas: health services research, clinical epidemiology, evidence based practice, chronic disease management, geriatrics, neurology, or rehabilitation. Candidates with demonstrated leadership and administrative skills will be given preference. Salary will be determined by the successful candidate's background and experience. If you are interested in applying for this position, please e-mail your resume to Diane Cowper, Assistant Director at: [Diane.Cowper2@med.va.gov](mailto:Diane.Cowper2@med.va.gov) or call her at (352) 376-1611 x 4922. For more information on this and other job opportunities, please visit the RORC Web site at: Web site: <http://www.vard.org/rorc/index.html>.



## RORC MISSION

To enhance access, quality,  
and efficiency of  
rehabilitation services  
through interdisciplinary  
research and  
dissemination activities.

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Amber Larsen, and Kristen Wing

# RECENT RORC PUBLICATIONS

## Select Articles

Atherly A, Kralewski J, **Johnson C**, Brasure M. Developing rural primary health care service areas: an analysis of patient migration patterns. *Health Care Management Review* 2003; 28(2):189-97.

**Boylstein C, Rittman M**. The Importance of Narratives in Stroke Rehabilitation. Implications for practice and policy. *Generations, Journal of the American Society on Aging* 2003; 27(3):49-54.

**Chumbler N**, Grimm J, Cody M, Beck C. Gender, kinship and caregiver burden: the case of community-dwelling memory impaired seniors. *International Journal of Geriatric Psychiatry* 2003; 18(8):722-732.

**Duncan P**, Studenski S, Richards L, Gollub S, Lai S, **Reker D** et al. Randomized clinical trial of therapeutic exercise in subacute stroke. *Stroke* 2003; 34(9):2173-80.

**Duncan P**, Bode R, Lai S, Perera S. Rasch Analysis of a New Stroke-Specific Outcome Scale: The Stroke Impact Scale. *Archives of Physical Medicine and Rehabilitation* 2003; 84(7):950-963.

Foley L, **Faircloth C**. Medicine as discursive resource: legitimation in the work narratives of midwives. *Sociology of Health and Illness* 2003; 25(2):165-184.

Gubrium J, **Rittman M**, Williams C, Young M, **Boylstein C**. Benchmarking as everyday functional assessment in stroke recovery. *Journal of Gerontology B: Psychological Sciences & Social Sciences* 2003; 58(4):S203-S211.

Murdoch M, Hodges J, Hunt C, **Cowper D**, Kressin N, O'Brien N. Gender Differences in Service Connection for PTSD. *Medical Care* 2003; 41(8):950-961.

Lai S, Perera S, **Duncan P**, Bode R. Physical and Social Functioning after stroke: comparison of the Stroke Impact Scale and Short Form-36. *Stroke* 2003; 34:488-493.

Richards K, **Rothi L, Chumbler N**, Moore A, Crosson B, **Nadeau S**. Use of the Zung Self-Rating Depression Scale in a chronic stroke population. *Journal of the International Neuropsychological Society* 2003; 9:275.

**Ried L**, Renner B, Bengston M, Wilcox B, Acholonu W. Weight change after an Atypical Antipsychotic Switch. *The Annals of Pharmacotherapy* 2003; 37(10):1381-1386.

**Stansbury J**, Mathewson-Chapman M, Grant K. Gender schema and prostate cancer: veterans' cultural model of masculinity. *Medical Anthropology* 2003; 22(2):175-204.

## STAFF NEWS

The RORC congratulates Administrative Officer **Ellen Esparolini** and RORC Investigator **Chris Faircloth** on their engagement. An October wedding is planned.

Goodbye and good luck in your new job **Kimberly Reid**. The RORC's very first statistician moved on to explore new opportunities in Kansas City. You'll be missed!

Adios and keep in touch to **Lisa Demanuel** who has taken a job at the Brain Rehabilitation Research Center (BRRC). We will continue to ask your help on all our IRB forms Lisa! Good luck in your new job.

To our ever-expanding research center, we welcome aboard: **Amber Larsen, Kristen Wing, Charlene McCarthy, Sonya Gallagher, Heather Spring, Philip Haley, Xinpeng Wang, Yongsung Joo, Gerben DeJong, and Te-Ericka Patterson**.... Whew!