ICER UPDATE
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ERIC News

Epidemiology and Outcomes of Stroke-Related Dysphagia

The probability of surviving a stroke is increasing even though stroke is still the third leading cause of mortality in the United States. There are several significant secondary consequences brought on by a stroke, with dysphagia, or more generally, swallowing difficulty, being among the most common. Available studies suggest that dysphagia occurs in up to half of all stroke patients and, amoung these up to half may asphyxiate by breathing fluid into their lungs. Patients may experience malnourishment as well. Overall, dysphagia appears to be associated with a longer-term elevated risk of death. And although a majority of stroke patients with dysphagia experience gradual improvement in swallowing and many resume a normal oral diet, a substantial portion of affected individuals never achieve complete recovery of their swallowing function.

Ron Horner, PhD

Despite the prominence of stroke-related dysphagia, its epidemiology is not well understood. Information is especially lacking regarding the short- and longer-term impacts on the patient's health-related quality of life and other dimensions of psychological health. There is also a clear lack of definitive knowledge regarding effectiveness of either speech/language pathology or nutrition services on the outcomes assocaited with stroke-related dysphagia.

Dr. Ron Horner and his research team, in order to further develop the current understanding of the natural history of stroke-related swallowing difficulties, with emphasis on the impact on the patient's psychological health, will conduct a two-year study with a $211,000 grant from the National Institute of Neurologic Disorders and Stroke. Beginning this past July, and scheduled to end June of 2001, Dr. Horner and his team have set out to achieve the following objectives:

- To ascertain the incidence of swallowing problems among ischemic stroke patients and to identify the characteristics of stroke patients at high-risk of developing this condition, whether the characteristics are age, race, and sex, stroke severity and location, presence of speech or language deficits; and
- To ascertain the short- and longer-term effects on psychological and physical health associated with swallowing problems, including depression, health-related quality of life, perception of current health state, the incidence of aspiration pneumonia, malnutrition and mortality, and re-hospitalization.

Secondary objectives are to generate preliminary estimates of the practice patterns of diagnosing and clinically managing swallowing problems, the effect on the patients' physical and psychological health outcomes of clinical management involving speech/language pathologists and nutritionists, and the validity and reliability of two new measures of severity and impact on health-related quality of life of dysphagia patients.

This study will be achieved through secondary analysis of data from a prospective cohort of 1,073 stroke patients who were hospitalized at nine VA medical centers throughout the nation. The VA Acute Stroke Study data bank contains medical record data on the acute

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hospitalization and outcome information from telephone-based interviews of patients at one, six, and 12 months post-stroke regarding functional recovery, patient satisfaction, patient preference for current health state, mortality, and readmission to the hospital. The data bank will be further informed with follow-up data obtained by telephone-based interviews of patients regarding dysphagia specific problems.

The impact of this study will be to further develop the current understanding of the epidemiology and outcomes of stroke-related dysphagia. It will also generate information that will be immediately useful to clinicians in counseling the dysphagic stroke patient and their family members about the patient's prognosis. From a health services research perspective, it will generate information regarding the "down stream" use of health services by stroke patients with dysphagia and may identify clinical management practices that have merit for further evaluation.

Biostatistics News

Dr. Lauren McIntyre Leaves Biostatistics Unit; Dr. Steven Grambow to Take Over

Dr. Lauren McIntyre, formerly head of the ICER Biostatistics Unit, has left the Durham VAMC to take a tenure track position in the Department of Agronomy at Purdue University where she plans to continue her research in statistical genetics. Dr. McIntyre was instrumental in developing the Unit and establishing goals to streamline and standardize certain statistical processes in an effort to increase efficiency and simplify procedures. Under her direction, the Unit had grown to a staff of seven. Its members are an integral part of the research process, from the idea inception to reporting of study results, with tasks that include strategic planning, pilot studies, study design, analysis planning, grant writing, data management, tracking, data analysis, and manuscript preparation.

Steven Grambow, PhD

Dr. Grambow, who received his MS and PhD in Statistics from the University of Kentucky and has been a staff member of the Unit since January, 1999, is replacing Dr. McIntyre as head of the Biostatistics Unit. Dr. Grambow plans to continue efforts to further streamline processes within the Unit through the innovative use of current technology. The Biostatistics Unit plans to expand its support activities to include remote data management and analysis support for off-site studies as well as the continuing development of the pilot studies program. Dr. Grambow plans to continue with the spirit established by Dr. McIntyre to continue to look for ways to improve existing procedures as well as find new roles for the Biostatistics Unit in the ICER.

Center News

Stephen McLeod, BSE, MBA, Marketing & Management Information Systems Unit Leader

Stephen J. McLeod, BSE, MBA, joined Health Services Research and Development as the new marketing and management information systems program analyst in May. As head of the new Marketing and Management Information Systems Program Unit, Stephen's goal is to develop and implement three critical areas in HSR&D: 1) a management information system (MIS) that will insure seamless intra-organizational connectivity; 2) a marketing strategy for HSR&D services and products that maximizes use of the Intranet and Internet technology, and; 3) the coordination of MIS and marketing development with the ongoing process of HSR&D strategic development and planning.

Stephen J. McLeod, BSE, MBA

Stephen comes from a long and varied high technology and marketing background, spanning private and public sectors, with national and international responsibilities. After graduating from Duke University in 1969 with a BSE in electrical engineering, he worked in engineering and sales for Westinghouse Electric Corporation from 1969 to 1975. While working for Westinghouse he obtained leave to pursue an MBA from Duke University, graduating in 1975, with a specialty in marketing. He then went to work for IBM, starting in systems engineering and marketing, and progressed through numerous marketing staff and management levels in Greensboro, NC, White Plains, NY, Columbia, SC, Augusta, GA, and Washington, DC. He left IBM in 1988 and began his own company as an independent management consultant, general contractor, and international investor. He is a member of the Institute of Electrical and Electronic Engineers, American Management Association, American Marketing Association, Association of MBA Executives, and the National Black MBA Association. He is currently enrolled in the Executive Master's Program in Health Care

Administration at the University of North Carolina at Chapel Hill.

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MIS Welcomes Scott Cribb, Computer Specialist

Scott Cribb joins the Durham VA's Health Services Research & Development office full-time as a computer specialist. Scott graduated from high school in Myrtle Beach, SC, in 1983, and went on to serve six years in the U.S. Navy from 1985-1991. There he trained for two years in electronics and computers and then served aboard the USS Jouett, a guided missile cruiser. While serving four years of ship duty, Scott attended an additional fourteen months schooling in electronic trouble-shooting and repair. While at sea for deployments totaling two years, including the Persian Gulf War, his department on his ship had less than 1.8% system downtime on the battlegroup's mission critical warfare systems. Since military service he worked two years in copier repair and then received nine months of formal training and certification in Novell Networking. Prior to coming to the VA, he worked almost four years in computer networking at Triangle Technology Group and Micro Computer Rentals.

Scott Cribb

One of Scott's goals is to earn certification in MicroSoft Networks (WindowsNT). His strongest area of interest and ability is in troubleshooting computer problems.

HSR&D News

Tulsky/Steinhauser Study of the Quality of Dying

Dying patients confront complex and unique challenges that threaten their physical, emotional, and spiritual integrity. The Study to Understand Prognosis and Preference for Outcomes and Risks of Treatments documented that many patients die prolonged and painful deaths, receiving unwanted, expensive, and invasive care. Other studies have highlighted patients' emotional suffering at the end of life and physicians' limited responses to this suffering.

Recently, health care providers and the public have targeted considerable resources towards improving the quality of dying through such interventions as hospice care, education of medical personnel, and the promotion of advance directives. With a rapidly growing population of elderly veterans, this issue holds particular salience for the Department of Veterans Affairs (DVA). In 1993, the DVA instructed all VA medical centers to establish hospice programs to improve the quality of care for dying patients. Two years ago, Congress directed the VA to evaluate the quality and efficiency of such programs.

James Tulsky, MD

Despite efforts to improve the experience for dying patients, no well-established standardized tools exist to assess the quality of dying, particularly ones that explicitly acknowledge the variability of patient and family perspectives. As a result, attempts to evaluate the effectiveness of hospice care have suffered. Traditional health service indicators such a number of days in an intensive care unit, use of advance directives, re-hospitalizations and reported severity of pain only loosely correlate with patient and family satisfaction. Currently available quality-of-life instruments do not address the physical, psychosocial, and spiritual needs unique to dying patients and their families.

James Tulsky, MD and Karen Steinhauser, PhD have undertaken two consecutive grants to (1) identify the needs of patients and families at the end of life, and (2) subsequently, develop a clinical instrument designed to assess the experience of dying patients. Their first study, completed this fall, was a two-phase project employing both qualitative and quantitative methods to learn what health care providers (physicians, nurses, social workers, chaplains and hospice volunteers), patients, and recently bereaved family members perceive to be the most important attributes of good care at the end of life. In the qualitative phase, Drs. Tulsky and Steinhauser conducted focus groups and follow-up interviews in which participants identified 70 attributes and six broad themes considered integral to quality end-of-life care. The results confirmed the current literature and added new domains to the understanding of the process of the quality of dying. A manuscript summarizing these findings is under review.

Karen Steinhauser, MD

In a second phase, they translated those attributes generated qualitatively into survey questionnaire items that were distributed to national samples of providers, patients and recently bereaved family members. The results of the survey permit statistically generalizable statements

about what patients, families and providers value at the end of life and form the basis for developing a quality of dying instrument.

In the second study, "Measuring the Quality of Dying," beginning this fall, Drs. Tulsky and Steinhauser, along with Elizabeth Clipp, PhD and Hayden Bosworth, PhD of the Durham VA, and other colleagues, will develop and fully validate a new instrument designed specifically to assess the needs of terminally-ill patients and their families. It will provide clinical staff with information regarding the aspects of care that patients, family and health care professionals identify as most important. Researchers and administrators could use this validated outcome measure to assess the quality and effectiveness of interventions such as palliative care units or hospice programs.

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MD Fellowships

The Center announces and welcomes our four new research fellows, as of July 1999: Cheryl D. Bushnell, MD; Mark A. East, MD; Thomas A. Owens, MD; and William S. Yancey, Jr., MD.

Each year The Center supports healthcare professionals interested in fundamental questions about the structure, process, and effects of healthcare services that can be used to improve the VA medical care system. Programs in two-year medical and one- and two-year pre- and post-doctoral fellowships are offered to promising investigators to develop their applied research, clinical, and/or teaching skills in health services research methods while working closely with one or more VA faculty preceptors. Fellowships are funded through the Department of Veterans Affairs, Office of Academic Affairs, and the Agency for Health Care Policy and Research (AHCPR).

Cheryl D. Bushnell, MD

Dr. Cheryl D. Bushnell began her AHCPR-funded fellowship with Durham's HSR&D Service in July 1999. Her research interest is in the epidemiology and outcomes of stroke patients. Her immediate goals during her Fellowship are increased training in biostatistics, epidemiology, clinical trials design, data analysis, and literature analysis. Dr. Bushnell states that "the fellowship in General Internal Medicine will put me well on my way to fulfilling my future goals in clinical research in stroke and epidemiology." Her goal is to be an academic clinician and researcher in neurology. She will be working with Dr. Larry Goldstein as her mentor.

Dr. Bushnell graduated Cum Laude with a Biology major and a Chemistry minor from Pacific Lutheran University in Tacoma, Washington, in 1987. From 1987 through 1991 she worked in the Seattle and Tacoma VA medical centers, first as a laboratory technician in bone and mineral research and then as a laboratory technician and manager in neurosciences research. She received her MD from the Medical College of Wisconsin in Milwaukee in 1995. She did her internship at the Medical College of Wisconsin in 1995 and her neurology residency at Duke University Medical Center from 1996 through 1999. She is a recent recipient of a Duke Center for Cerebrovascular Disease Fellowship.

Dr. Bushnell's interest in the epidemiology of stroke outcomes began at Duke's Neuro ICU during her first year of neurology residency. She says that, "I organized and completed a retrospective chart review and outcome study of stroke patients who required endotracheal intubation and mechanical ventilation. We analyzed sur-vival and mortality data, and conducted telephone interviews of the survivors, attempting to establish disability and func-tional status." Because for many patients the prognosis for recovery is unclear and often unpredictable, she believes that, "more studies need to be done to understand which patients will be appropriate for aggressive treatment early in the disease, and which ones will not be affected by early treatment, or will only lead to dependence and a poor quality of life." This study was presented at the American Academy of Neurology 50th Annual Meeting and was published in the journal *Neurology*. For this study she received the Pharmacia-Upjohn Research Award for Outstanding Research in the CNS.

Cheryl D. Bushnell, MD

Dr. Bushnell is a co-author of four articles, two of which she is the lead author, with one of these in press. She is also a member of the American Academy of Neurology and the American Heart Association.

Mark A. East, MD

Dr. Mark A. East began his VA-funded fellowship with Durham's HSR&D Service in July 1999. His research interest is in the differences of race and cardiovascular outcomes. He is currently a co-investigator in a study examining patient perspectives and physician cardiac decision making.

Dr. East received a BA in Neuroscience in 1991 from Oberlin College. While there, he participated in neurobiological research with laboratory animals that investigated the effects of stress on spacial learning and memory. In 1991 he went on to the University of North Carolina at Chapel Hill's School of Medicine and received his MD in 1995. It was at UNC, between his second and third year, that Dr. East's interest in racial differences in cardiovascular outcomes grew when he pursued a three-month elective to explore racial differences in the use of

cardiac catheterization. Dr. East did his internship and residency in Internal Medicine at Duke University Medical Center from 1995 through 1998 and was the Assistant Chief Medical Resident for part of 1998. Since 1998 he has been participating in a Cardiology Fellowship at the Duke University Medical Center where he is currently involved in a project examining the effects of local FGF delivered intra-coronary on cardiac ischemia.

Mark A. East, MD

Dr. East has been the recipient of a number of awards and scholarships. He is the sole author of two published articles. He is also a member of the American College of Physicians and the American College of Cardiology.

Thomas A. Owens, MD

Dr. Thomas A. Owens began his Ambulatory Care fellowship with Durham's HSR&D Service in July 1999. One of his areas of research interest is in preventive care practices in both Internal Medicine and Pediatrics through effective resident and medical school education in health promotion and disease prevention. Another is in how medical information systems and the availability of evidence-based medicine tools effect clinical care and outcomes. Dr. Owens states that, "with the rapid advancement of computer-based medical information systems, many physicians have ready access to powerful tools for evidence-based practice in clinical settings." He would like to explore how these tools are being used and how they should be used in an academic and community clinical practice; what their effects will be on resident education, patient care and outcomes; and how physicians should be taught to practice preventive care utilizing these tools. From the start of his VA fellowship Dr. Owens plans to begin a prospective research project evaluating the utility of the 'standard' laboratory and radiographic evaluation of febrile hospital patients on general medical services at Duke and the Durham VA. Specific goals of this project will be to define useful clinical evaluations and laboratory tests for the evaluation of nosocomial fever, and hopefully reduce unnecessary testing. He hopes the project's second phase will allow an intervention using an EBM approach to modify clinical practice. He will be mentoring under Dr. David Simel.

Thomas A. Owens, MD

Dr. Owens received a BS in Chemistry, with a minor in English Literature, graduating Cum Laude in 1991 from the University of Rochester. He went on to receive his MD from State University of New York at Buffalo, graduating Summa Cum Laude in 1995. He did his internship and residency in Internal Medicine and Pediatrics at Duke University Medical Center from 1995 through 1999.

Dr. Owens has co-authored two articles and is the recipient of a number of academic and teaching awards. He is a member of the American College of Physicians and the American Academy of Pediatrics.

William S. Yancy, Jr., MD

Dr. William S. Yancy, Jr. began his Ambulatory Care fellowship with Durham's HSR&D Service in July 1999. He comes with two areas of research interest: preventive medicine and medical education. In the first area Dr. Yancy has a particular interest in diet and exercise, smoking cessation, and the appropriate use of screening tests and their effects on health. In the second area he recently finished a project examining the difference between patient satisfaction with medical care given by residency trainees and care given by attending physicians and establishing learning points for residents on achieving greater patient satisfaction. He will be mentoring with Dr. Eric Westman in the areas of smoking cessation and weight loss diets.

William S. Yancy, Jr., MD

Dr. Yancy received his BA from Duke University in 1991. He attended East Carolina University School of Medicine, receiving his MD in 1995. He did his internship and residency in Internal Medicine at the University of Pittsburgh Medical Center from 1995 through 1998 and was the Chief Medical Resident from 1998 through 1999.

Dr. Yancy is the co-author of one article. He is also a member of the American Medical Association, the American College of Physicians, and the Society of General Internal Medicine.

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Recent Publications

ODDONE EZ, HORNER RD, Sloane R, MCINTYRE L, WARD A, Whittle J, Passman LJ, Kroupa L, Heaney R, Diem S, and Matchar D. "Race, Presenting Symptoms, Use of Carotid Artery Imaging, and Appropriateness of Carotid Endarterectomy" ***Stroke*** *1999, 30:1350-1356, July*

BOSWORTH HB, Schaie KW, Willis SL, and Siegler IC. "Age and Distance to Death in the Seattle Longitudinal Study." ***Research on Aging*** *1999; 21(5):714-29.*

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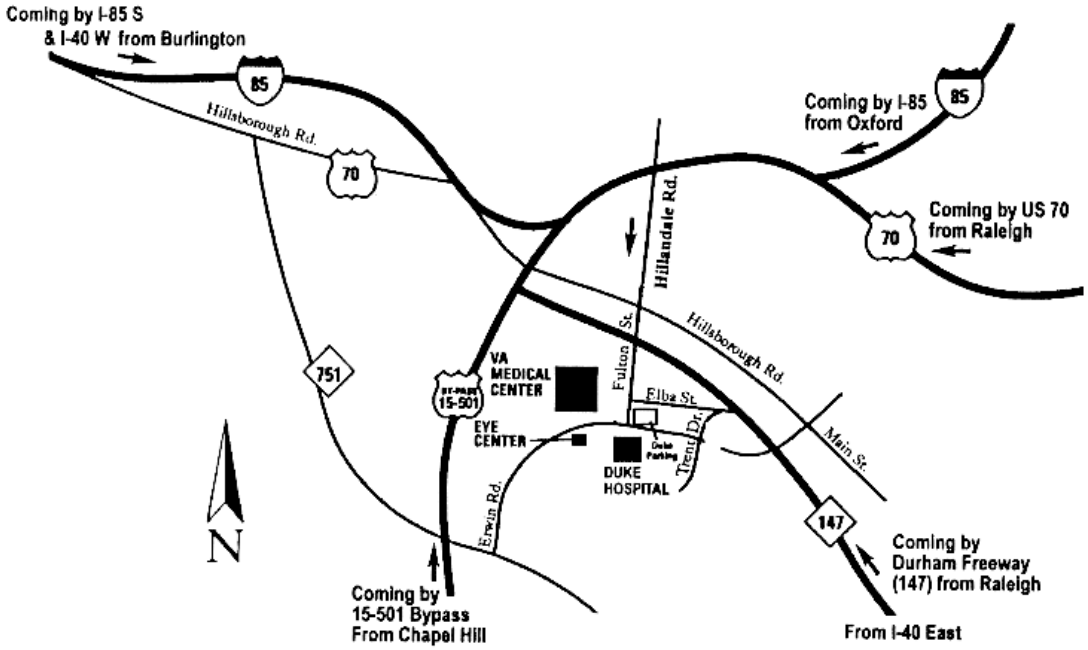
Department of Veterans Affairs

Directions to VA Medical Center - Durham, North Carolina



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The Institute's mission is to provide quality information on issues regarding the organization, financing, and delivery of veterans' health care, and to build the epidemiological capacity of the Veterans Health Administration through the generation, synthesis, and dissemination of epidemiological information. The Institute also has a mission to educate health professionals through a spectrum of training grants in the techniques of health services and epidemiological research.