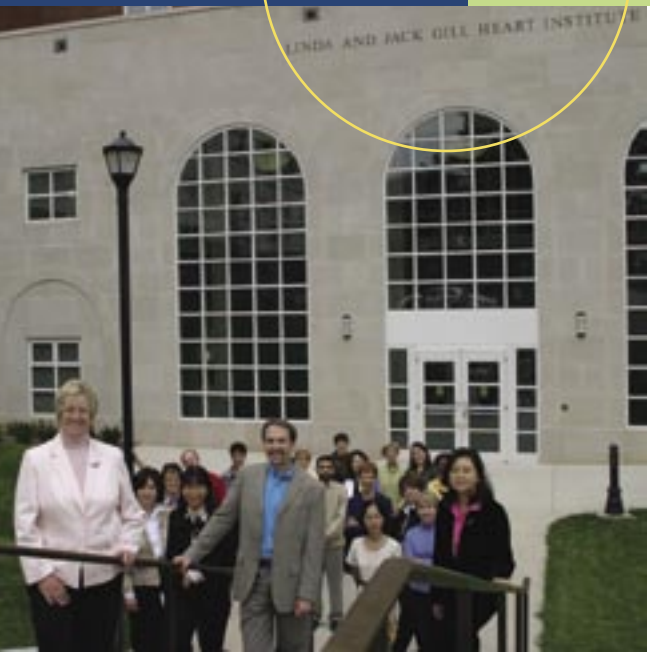
Discoveries

in nursing science: RICH HEART PROGRAM

UK UNIVERSITY OF KENTUCKY
College of Nursing



Debra Moser and Terry Lennie, (left and center, front row) are co-directors of the RICH (Research and Interventions for Cardiovascular Health) Heart Program and the RICH team of the University of Kentucky College of Nursing. This growing team of interdisciplinary researchers has moved cardiovascular research at the College of Nursing to a new level.

Debra Moser – a leader in cardiovascular nursing

Debra K. Moser, D.N.Sc., R.N., F.A.A.N., professor and Linda C. Gill Chair in Nursing, the first endowed chair in the College of Nursing, joined the faculty in 2001. She received her doctorate from the University of California, Los Angeles in 1992.

Moser is conducting studies involving more than 1,500 patients with heart failure or coronary artery disease. Her program of research focuses on testing interventions to improve clinical outcomes such as quality of life, morbidity, and mortality in these patients.

Moser's collaborative research has resulted in clinically useful information for: (1) identifying cardiac patients and family members at high risk for poor physical or psychosocial recovery after acute cardiac events or during adaptation to heart failure; (2) intervening with such patients to decrease poor physical and psychosocial outcomes; and (3) understanding treatment-seeking behavior among patients with symptoms of acute myocardial infarction.

Moser also investigated the effect of anxiety on the development of in-hospital complications in post-acute myocardial infarction patients. She demonstrated that patients with higher anxiety are at greater risk for in-hospital complications, independent of other risk factors, and that perceived control moderates this relationship.

This was the first work to show a direct relationship between anxiety and poor outcomes in patients hospitalized for myocardial infarction. The team also found that health care providers often do not assess anxiety, and that when they do their assessments do not match with patients' own assessments of their anxiety.

In a study funded by the American Association of Critical-Care Nurses, Moser and colleagues are examining potential physiological and behavioral mechanisms linking

anxiety and depression with morbidity and mortality in patients with heart failure.

Using a cognitive behavioral approach, Moser has studied the impact of interventions on physiological and psychological stressors that contribute to poor outcomes in patients with heart failure. She has shown that a biofeedback-relaxation intervention improves quality of life and reduces rehospitalizations in heart failure patients in a small randomized, clinical trial.

Moser was recently awarded a $1.6 million R01 from the National Institute of Nursing Research, National Institutes of Health, to conduct a larger, long-term investigation of this intervention. Over the next five years, 420 patients will be enrolled and randomly assigned to one of three groups: active intervention, attention placebo, or usual care. Each patient will be followed for 12 months. Rehospitalizations, mortality, quality of life, depression, anxiety, perceived control, plasma norepinephrine level, and heart rate variability are the outcomes that will be monitored over time to evaluate the efficacy of the intervention.

Moser says, "Based on our pilot data and our ongoing research, we believe that biobehavioral interventions as adjuncts to drug therapy will result in substantial improvements in heart failure patient outcomes that could not be realized with drug therapy alone."

Moser was awarded the 2004 Excellence in Research Award from the American Association of Critical-Care Nurses in recognition of the important findings from her program of research.

RICH HEART PROGRAM

Lennie honored by HFSA and AHA

Terry A. Lennie, Ph.D., R.N., associate professor of nursing, joined the faculty in 2003. He holds a joint Ph.D. in nursing and psychology from the University of Wisconsin-Madison and completed a two-year postdoctoral fellowship in neurobehavior at the University of Michigan.

"The RICH Heart Program integrates multiple research projects and has moved cardiovascular research at the UK College of Nursing to the next level," says Lennie.

Lennie's program of research focuses on developing interventions to optimize nutritional intake in patients with heart failure. Sodium restriction has been a component of heart failure management for more than 50 years, yet little is known about the effects of sodium restriction on the quality of patients' diets. Lennie measured the food intake of 50 patients with heart failure and compared patients following and not following a low sodium diet in terms of the nutritional quality of their diets.

There was no difference between the diets of the two groups in sodium content. "The nutritional quality of nearly all patient diets was poor, regardless of sodium intake," says Lennie. "This means we need to expand our focus beyond sodium restriction to improving the nutritional quality of patient diets."

Lennie was a finalist for the Heart Failure Society Nursing Research Award in 2003 for his work related to this study.

Healthy adults who eat diets high in saturated fats have increased levels of inflammatory mediators in their blood. This led Lennie to investigate whether this is true in patients with heart failure. Blood levels of inflammatory mediators were compared in patients eating diets high in saturated fats to those with diets low in saturated fats.

Continued on next page

"We were the first to demonstrate that the type of fats patients with heart failure eat may directly affect the amount of circulating inflammatory mediators which, in turn, increases their risk for hospitalizations and death in the subsequent 12-month period," says Lennie.

For this research, Lennie received the 2004 American Heart Association Council of Cardiovascular Nursing Arteriosclerosis/Heart Failure Research Prize.

Lennie's current research stems from recent findings that obese patients with heart failure have better survival than normal weight or underweight patients.

"This has been termed the obesity paradox," says Lennie. "Although obesity is a risk factor for developing heart failure, it seems to convey some positive survival value once someone develops heart failure."

No one knows why this is the case, but Lennie hypothesizes that the extra body fat decreases the negative effects of chronic inflammation and poor nutritional intake that occur with heart failure.

Lennie has also submitted a multi-center, R01 proposal to the National Institutes of Health to study this phenomenon in 300 patients with heart failure.

"So little is known about the role of nutrition in prevention and treatment of heart failure that just about everything we are doing is generating new knowledge that should help improve future management of these patients," says Lennie.

Gift provided cornerstone for cardiovascular research and treatment

Jack and Linda Gill (courtesy of the Lexington Herald-Leader)

Linda Gill, a 1962 University of Kentucky graduate, grew up in Kentucky. She and her husband, Jack, both of Houston, began the charitable Gill Foundation to support higher education and health care.

The Gills made a donation to the University to build a state-of-the-art heart institute. That gift served as the cornerstone for the Linda and Jack Gill Heart Institute, which opened in 1998.

The Linda C. Gill Chair in Nursing, also donated by the Gills, was established to support leadership in the prevention, management, or rehabilitation of people with cardiovascular and/or pulmonary health problems. This endowment provided resources that facilitated the development of the RICH Heart Program.

Team studies biofeedback and cognitive behavioral therapy intervention

2004-2009 "Biobehavioral Intervention in Heart Failure," **Moser, D.K. (PI), Whayne, T., Peden, A.R., Rayens, M.K., Hardesty. P., Osborne, J., Westneat, S.** National Institute of Nursing Research, National Institutes of Health, R01 NR008567-01A1, $1,591,935.

The long-term aim of this program of research is to improve physical and psychological health outcomes of adults with heart failure (HF). The specific aims of the randomized, controlled clinical trial are to test the effects of a biobehavioral intervention – biofeedback-relaxation combined with cognitive behavioral therapy – in HF patients on HF rehospitalizations, cardiac mortality, quality of life, perceived control, anxiety, depression, skin temperature, plasma norepinephrine levels, and heart rate variability.

In addition to testing the impact of the intervention on important clinical outcomes, the investigators will delineate the mechanisms responsible for the intervention effects. Heart failure has been called the most important public health problem facing cardiovascular clinicians and researchers because of its high and increasing incidence, prevalence, morbidity, and mortality.

Despite substantial advances in pharmacologic therapy made in recent years, clinical improvements seen among patients are relatively modest and quality of life often remains poor. Nonpharmacologic therapy has received relatively little attention, yet has the potential to serve as an important adjunct to pharmacologic therapy.

Thomas Whayne, M.D.
UK College of Medicine,
Dept. of Internal Medicine,
Div. of Cardiovascular Medicine,
Co-investigator

Biofeedback-relaxation, a cognitive biobehavioral nonpharmacologic intervention, is effective in conditions with pathophysiology similar to that seen in heart failure and could address the adverse physiological and psychological manifestations of heart failure.

We hypothesize that biofeedback-relaxation training will result in decreased heart failure rehospitalizations or cardiac death, improved quality of life, increased perceived control, decreased anxiety and depression, increased finger and foot temperature, improved heart rate variability, and decreased plasma norepinephrine.

To test these hypotheses, 420 patients with advanced heart failure will be randomized to one of three groups: 1) biofeedback-relaxation (intervention); 2) sham biofeedback-relaxation (placebo control); or 3) usual care control.

Within these groups, patients will be stratified such that each group will include 50 percent taking and 50 percent not taking angiotensin-converting enzyme inhibitors. Data will be collected at baseline, three, and 12 months and will be analyzed using survival analysis and repeated measure ANOVA. Biofeedback-relaxation training for patients with heart failure may have potential long-term clinical benefits and may serve as an important adjunct to phar-

Team members receive SNRS poster awards

The RICH Heart Team brought home awards for two posters presented at the 2004 Southern Nursing Research Society (SNRS) Conference held in Louisville, Kentucky. Ph.D. student Brooke Bentley, Ph.D. candidate Marla De Jong, and their advisor, Debra Moser, received second place in the graduate student poster competition for their poster, "Factors Related to Nonadherence to a Low Sodium Diet in Heart Failure Patients." De Jong and Moser, along with co-authors Kyungeh An and Misook Chung, also received honorable mention for their research poster, "Anxiety Is Not Manifested by Elevated Heart Rate and Blood Pressure in Acutely Ill Cardiac Patients."

Brooke Bentley, Ph.D. student

Marla De Jong, Ph.D. candidate, and Debra Moser

Three of four winners in the 2004 HFSA competition from RICH Heart Program

The Heart Failure Society of America (HFSA) presented Nursing Investigator Awards to Ph.D. candidate Marla De Jong, Ph.D. student Brooke Bentley, and Assistant Professor Misook Chung, Ph.D., in September 2004. These RICH Heart Program Team members presented their research at the Eighth Annual Scientific Meeting of the HFSA in Toronto, Ontario.

De Jong's paper was titled, "Anxiety, Depression, and Functional Status Are the Best Predictors of Health Status in Patients With Heart Failure." Bentley presented qualitative research on, "The Hidden Reason for Patients' Nonadherence to Low Sodium Diet Recommendations." The title of Chung's presentation was, "Women Are More Adherent to Low Sodium Diet Recommendations Than Men."

The HFSA Nursing Investigator Award was established in 2001 as a way to foster research by nurses on topics that improve the management and care of patients with heart failure. Submissions were judged on the basis of scientific merit, originality, relevance to patients with heart failure, and potential for generating further nursing research.

All three abstracts were published in the *Journal of Cardiac Failure*, Volume 10, Number 4, August 2004, supplement issue, S21. Each honoree also received a monetary award from the HFSA.

When time is the enemy

Will an education and counseling intervention encourage people at risk for an acute cardiac event to seek treatment for cardiac symptoms sooner?

A multicenter, international clinical trial is being conducted in several states in the U.S. and in Australia and New Zealand. Kathleen Dracup, D.N.Sc., R.N., dean of the School of Nursing, University of California, San Francisco, is the principal investigator of the project. Debra Moser, D.N.Sc., R.N., F.A.A.N., of the UK College of Nursing, is the principal investigator at the Kentucky site.

The central hypothesis of this study is that a focused education and counseling intervention delivered by a nurse will decrease time of delay in seeking treatment for the signs and symptoms of acute myocardial infarction in patients already identified as having ischemic heart disease.

Close to 5,000 individuals with coronary artery diseased are being randomly assigned to either the intervention or a usual care group. Both groups will be followed for 24 months to determine if the intervention is effective in decreasing delay time and increasing aspirin and EMS use in participants who have an acute cardiac event.

Student receives AHA and HFSA awards

Martha Biddle, M.S.N., A.R.N.P., C.C.N.S., director of cardiovascular nursing at Georgetown Community Hospital, Georgetown, Ky., received her Master of Science in Nursing degree from the University of Kentucky in 2002 and currently is enrolled in the Ph.D. Program in Nursing at UK.

While in the master's program, Biddle received an American Heart Association (AHA) Heart Disease and Stroke Student Scholarship that allowed her to conduct research during a summer, under the mentorship of Debra Moser. Biddle studied barriers to heart failure patients' adherence to a prescribed low sodium diet.

For this research, she received a 2003 Heart Failure Society of America Nursing Research Award.

Biddle's long-standing interest in research to improve cardiac patient outcomes was the impetus for her to return to UK for doctoral study and to work with the RICH Heart Team. She brings a wealth of clinical expertise and insight to the team as a result of the clinical position that she developed while completing the master's program.

Moser serves as editor of cardiovascular journal

With her colleague, Barbara Riegel, Debra Moser shares editing duties for *The Journal of Cardiovascular Nursing.* This peer-reviewed journal is the most prestigious cardiovascular nursing journal in the country and internationally. It is the official journal of the Preventive Cardiovascular Nurses Association and is affiliated with, and endorsed by, the American Heart Association Council on Cardiovascular Nursing.

The primary objectives of the journal are to advance cardiovascular nursing science by publishing the highest quality research reports and to foster expert clinical practice of cardiovascular nurses by emphasizing the latest research findings. Issues address the evidence base delineating the physiological, psychological, and social responses of cardiovascular patients and families in a variety of environments.

How does depression contribute to poor heart failure outcomes?

2003-2006, "Physiological and Behavioral Mechanisms Linking Depression With Increased Morbidity and Mortality in Patients With Heart Failure," **Moser, D.K. (PI), Rayens, M.K., Chung, M., Riegel, B.**, Philips Medical-AACN Outcomes Grant, American Association of Critical-Care Nurses, $100,000.

Despite advances in medical treatment of heart failure (HF), the prognosis of patients with HF remains extremely poor.

Depression is a common problem for HF patients and a risk factor for poor clinical outcomes. Clinicians have been frustrated by the lack of interventions for depression in HF. Failure to understand mechanisms linking depression with poor HF outcomes is the major reason interventions have not yet been tested.

Two explanations have been proposed. First, depression may contribute to poor outcomes by excess activation of the sympathetic nervous system (SNS), resulting in coronary artery vasospasm, platelet aggregation, lowering of the ventricular fibrillation threshold, decreased heart rate variability, and promotion of HF exacerbation. These changes are predictors of increased morbidity and mortality.

Second, depression may contribute to poor outcomes by decreasing adherence, which increases the risk of mortality and rehospitalization in cardiac patients. The purpose of this study is to explore these two potential mechanisms. The specific aim is to determine whether both SNS arousal and nonadherence contribute to the association between depression and poorer HF

Chung honored by HFSA

Misook Chung, Ph.D., R.N., a 2001 graduate of the UK College of Nursing Ph.D. Program, is a research scientist in the RICH Heart Program. She completed a two-year post-doctoral fellowship with Debra Moser funded by the Gill endowment.

After her fellowship, she accepted a position in the UK College of Nursing as an assistant professor. She is the project director for two of Moser's extramurally funded research projects being conducted among patients with heart failure.

Chung was honored in 2004 as a winner in the Heart Failure Society of America (HFSA) Nursing Research Award competition for her research, "Women Are More Adherent to Low Sodium Diet Recommendations Than Men With Heart Failure." Her program of research concentrates on adherence in heart failure patients and the role of spouses and other informal caregivers in heart failure patient outcomes.

New heart failure association founded

In September 2004, the American Association of Heart Failure Nurses announced its official website, www.aahfn.org, and inaugual membership campaign, to unite health care professionals, patients, and families in the advancement of heart failure practice, education, and research. Debra Moser is a founding member and membership chairperson.

Clinical protocols coordinator committed to emergency nursing

In the United States, more than 250,000 people die each year due to delay in seeking care for acute myocardial infarction (AMI). Half of those who experience AMI delay from two to four hours before seeking care. The gold standard for these patients is to receive definitive care in less than an hour.

Patricia K. Howard, Ph.D., R.N., a 2004 graduate of the Ph.D. Program in Nursing at UK, says, "Despite public education, people continue to delay seeking care when they have chest pain. It is important that everyone understand the need to seek emergency care when they experience acute chest pain."

Howard is the clinical protocols coordinator for the RICH Heart Program and project director for the study, "Reducing Prehospital Delay in AMI." She also is president of the national Emergency Nurses Association.

In addition to these roles, Howard coordinates Advanced Cardiac Life Support (ACLS) education for the University of Kentucky Hospital and is co-chair of the Resuscitation Committee. She collaborates with the Department of Emergency Medicine to provide ACLS training for fourth-year medical students. Howard also is the EMS Training Coordinator for the Lexington Fire and Emergency Medical Services.

She serves as project coordinator for the Acute Decompensated Heart Failure National Registry - Emergency Module (ADHERE EM), housed at the University of Kentucky.

"Patients with heart failure are seen frequently in the emergency department and, by participating in this registry, we will be better able to identify factors that may improve care," Howard says.

Ph.D. graduate receives AHA postdoc fellowship

Seongkum Heo, a 2004 graduate of the Ph.D. Program in Nursing at UK, received a two-year American Heart Association (AHA) Postdoctoral Fellowship in the amount of $84,000. During the fellowship, she will continue her work with the RICH Heart Program and with her mentors, Terry Lennie and Debra Moser.

During the AHA postdoctoral fellowship, Heo will investigate, "Body Fat, Nutrition and Outcomes in Patients with Heart Failure." Cardiac cachexia is an independent risk factor for morbidity and mortality in patients with heart failure (HF). In stark contrast, says Heo, obesity appears to be a protective factor in heart failure, as it is associated with a decreased risk of morbidity and mortality. "This is the opposite of our current understanding of the relationships between obesity and HF, and conflicts with the recommendation that these individuals should lose weight," says Heo. "The biobehavioral mechanisms underlying differences in outcomes between these groups of patients are not known."

The purpose of Heo's postdoctoral study is to examine the relationships among body fat and distribution, nutritional intake, and event-free survival in patients with HF. The specific aims are to: (1) determine the relationships of body fat content and distribution with six-month event-free survival in four groups (underweight, normal weight, overweight, and obese) patients with HF of ischemic origin; and (2) determine the effects of nutritional intake on six-month event-free survival.

A total of 50 patients with HF will be recruited. Body fat content and distribution and nutritional intake will be collected using dual energy absorptiometry, anthro-pometrics, bioimpedance analysis, and self-reported food diaries. Event-free survival will be collected using a combination of medical

Continued on next page

record review and hospital administrative database review, and patient and family interviews.

Examination of the interactive effects among body fat content, body fat distribution, and nutritional intake will provide an understanding of the biobehavioral mechanisms underlying improved event-free survival observed in overweight and obese patients with HF. "This will assist with developing new nutrition and body weight guidelines for patients with HF who are overweight and obese," Heo says.

RICH Heart Program team

(All are with the UK College of Nursing unless otherwise noted.)

Principal investigators and co-directors

Debra K. Moser, D.N.Sc., R.N., F.A.A.N.
Terry A. Lennie, Ph.D., R.N.

Faculty Co-investigators

Ann Peden, D.S.N., A.R.N.P.-C.S. – Professor; cognitive behavioral interventions, depression and anxiety in patients with chronic cardiac disease
Mary Kay Rayens, Ph.D. – Associate Professor; biostatistics, research design, and sampling
Thomas Whayne, M.D. – Professor; Director, UK Cardiac Rehabilitation Center, Linda and Jack Gill Heart Institute
Becky Fields, Ph.D., A.R.N.P. – Assistant Professor; aging; cultural aspects of research
Sharon Sheahan, Ph.D., A.R.N.P. – Associate Professor; aging, smoking cessation
Cheryl Hoyt Zambroski, Ph.D., R.N. – Assistant Professor, University of Louisville School of Nursing; palliative care for patients with heart failure

Clinical protocols coordinator

Patti Kunz Howard, Ph.D., R.N.

Research scientist

Misook L. Chung, Ph.D., R.N.

Post-doctoral fellow

Seongkum Heo, Ph.D., R.N.

Interventionist

Mary Schooler, M.S.N., R.N.

Research associates

Teresa Back, M.S.N., R.N.
L. Charles Davis, B.S.N., R.N.
Melissa LeVine, M.S.N., R.N.

Data entry and management

Susan Westneat, M.S.
Kim Robinson

Clinical consultant

Peggy Hardesty, M.S.N., A.R.N.P. – heart failure nurse practitioner, UK Heart Failure Clinic

Editorial assistant

Rebecca Moser –*The Journal of Cardiovascular Nursing*

Research assistants and/or Ph.D. students

Mohannad Abu Ruz, M.S.N., R.N.
Brooke Bentley, M.S.N., A.R.N.P.
Martha Biddle, M.S.N., R.N.
Marla De Jong, M.S.N., R.N.
Eileen Grigutis, M.S.N., A.R.N.P.
Muna Hammash, M.S., R.N.
Lynne Jensen, M.S., A.R.N.P., B.C.
Lynn Kelso, M.S.N., A.C.N.P.
Susan Matthews, M.S.N., A.R.N.P.
Jeri Reeves, M.S.N., F.N.P.
Lynn Roser, M.S.N., R.N.
Jia-rong Wu, M.S., R.N.

RICH Heart Program funding

2004-2009, "Biobehavioral Intervention in Heart Failure", **Moser, D.K. (PI), Whayne, T., Peden, A.R., Rayens, M.K.**, Hardesty. P., Osborne, J., **Westneat, S.** NIH, National Institute of Nursing Research, R01 NR008567-01A1, $1,591,935

2004-2009, "Interdisciplinary Cardiovascular Training Program," Randall, D. (Program Director) et al., (**Moser, D.K.**, co-director Career Development Committee and training faculty member), NIH, National Heart, Lung, and Blood Institute, T32, $1,220,826.

2004-2006, "Reducing Secondhand Tobacco Smoke: Cardiac and Asthma Outcomes," Hahn, E. (PI), **Moser, D.K.**, Burkhart, P., **Rayens, M.K.** Flight Attendant Medical Research Institute Clinical Innovator Award, $216,562.

2003-2005, "Physiological and Behavioral Mechanisms Linking Depression with Increased Morbidity and Mortality in Patients with Heart Failure," **Moser, D.K. (PI), Lennie, T. A., Chung, M., Rayens, M.K.** University of Kentucky, Faculty Research Support Grant, $20,000.

2003-2006, "Physiological and Behavioral Mechanisms Linking Depression with Increased Morbidity and Mortality in Patients with Heart Failure,"

Moser, D.K. (PI), Rayens, M.K., Chung, M., Riegel, B. Philips Medical-AACN Outcomes Grant, American Association of Critical Care Nurses, $100,000.

2000-2005,"Reducing Delay in Acute Myocardial Infarction," Dracup, K. (PI), Doering L., McKinley, S., Meischke, H., **Moser, D.**, Riegel, B., Brecht M.L., Eisenberg, M. (co-investigators), NIH, National Institute of Nursing Research, R01 NR05323, $2,778,548.

2002-2003,"Intervention to Increase Adherence to Dietary Sodium Restriction Prescription," **Biddle, M.**, Student Scholar in Cardiovascular Disease and Stroke, American Heart Association, (**Moser, D.**, sponsor), $2,000.

2004-2006,"Body Fat, Nutrition, and Outcomes in Patients with Heart Failure," Heo, S., American Heart Association Postdoctoral Fellowship, (**Moser, D.** and **Lennie, T.**, sponsors), $84,000.

RICH Program publications, 2004

An, K., **De Jong, M.**, Riegel, B.J., McKinley, S., Garvin, B.J., Doering, L.V., & **Moser, D.K.** (2004). A cross-sectional examination of changes in anxiety early after acute myocardial infarction. *Heart & Lung, 33*, 75-82.

Cherrington, C.C., **Moser, D.K., Lennie, T.A.**, & Kennedy, C.W. (2004). Illness representation after acute myocardial infarction: Impact on in-hospital recovery. *American Journal of Critical Care, 13*, 136-145.

De Jong, M.J., Chung, M.L., Roser, L.P., Jensen, L. A., Kelso, L.A., Dracup, K., McKinley, S., Yamasaki, K., Kim, C.J., Riegel, B., Doering, L. V., An, K., Barnett, M., & **Moser, D.K.** (2004). A five-country comparison of anxiety early after acute myocardial infarction. *European Journal of Cardiovascular Nursing, 3*, 129-134.

De Jong, M.J., Moser, D.K., An, K., & **Chung, M.L.** (2004). Anxiety is not manifested by elevated heart rate and blood pressure in acutely ill cardiac patients. *European Journal of Cardiovascular Nursing, 3*, 247-253.

De Jong, M.J., & Randall D.C. (in press). Heart rate variability analysis in the assessment of autonomic function in heart failure. *Journal of Cardiovascular Nursing*.

Evangelista, L.S., **Moser, D.K.**, Dracup, K., Doering, L.V., & Kobashigawa, J. (2004). Functional status and perceived control influence quality of life in female heart transplant recipients. *Journal of Heart and Lung Transplantation, 23*, 360-367.

Lennie, T. A. (2004). Sex differences in severity of inflammation-induced anorexia and weight loss. *Biological Research for Nursing, 5*, 255-264.

McKinley, S., Dracup, K., **Moser, D.K.**, Ball, C., Yamasaki, K., Kim, C.J., & Barnett, M. (2004). International comparison of factors associated with delay in presentation for AMI treatment. *European Journal of Cardiovascular Nursing, 3*, 225-230.

McSweeney, J., O'Sullivan, P., **Moser, D.**, Clark, L., Green, A., & Knight, D. (2004). Recognizing prodromal symptoms in women at risk for coronary heart disease. *The Female Patient, 29*(8), 10-14.

Moser, D.K., & Dracup, K. (2004). The role of spousal anxiety and depression in patients' psychosocial recovery after a cardiac event. *Psychosomatic Medicine, 66*, 527-532.

Moser, D.K., McKinley, S., Dracup, K., & **Chung, M.L.** (in press). Gender differences in reasons patients delay in seeking treatment for acute myocardial infarction symptoms. *Patient Education & Counseling*.

Riegel, B., Carlson, B., **Moser, D.K.**, Sebern, M., Hicks, F., & Roland, V. (2004). Psychometric testing of the Self-care of Heart Failure Index. *Journal of Cardiac Failure, 10*, 350-360.

Stewart, S., **Moser, D.K.**, & Thompson, D. (Eds.) (2004). *Caring for the heart failure patient.* London: Martin-Dunitz.

Zambroski, C.H., Moser, D.K., Roser, L.P., Heo, S., & **Chung, M.L.** (in press). Patients with heart failure who die in hospice. *American Heart Journal*.

RICH Program presentations, 2004

Bentley, B., **DeJong, M.**, & **Moser, D.K.** (2004, September). Factors related to nonadherence to a low sodium diet in heart failure patients. Annual Scientific Meeting of the Heart Failure Society of America, Toronto, Ontario, Canada. *Finalist in the Nursing Research Award Competition.*

Chung, M.L., Moser, D.K., Lennie, T.A., Wor-

Continued on next page

UK UNIVERSITY OF KENTUCKY
College of Nursing
315 College of Nursing Building
Lexington, KY 40536-0232

Contact Lynne A. Hall, R.N., Dr.P.H., Marcia A. Dake Professor of Nursing Science and Assistant Dean for Research and the Ph.D. Program, (859) 323-6105

rall-Carter, L., & **Bentley, B.** (2004, September). Women are more adherent to low sodium diet recommendations than men. Annual Scientific Meeting of the Heart Failure Society of America, Toronto, Ontario, Canada. *Finalist in the Nursing Research Award Competition.*

DeJong, M., Moser, D.K., & **Chung, M.L.** (2004, September). Anxiety, depression, and functional status are the best predictors of health status in patients with heart failure. Annual Scientific Meeting of the Heart Failure Society of America, Toronto, Ontario, Canada. *Finalist in the Nursing Research Award Competition.*

Lennie, T. A. (2004, September). Optimizing nutritional intake in patients with heart failure. Annual Scientific Meeting of the Heart Failure Society of America. Toronto, Canada.

Lennie, T.A., Moser, D. K., Chung, M., Worrel-Carter, L., & Trupp, R. (2004, September). Relationships among body mass index and serum levels of soluble TNF receptors and B-type natriuretic peptide in patients with heart failure. European Society of Cardiology, Munich, Germany.

Lennie, T. A. (2004, February). Is fatter better? New data about obesity in heart failure. Cardiovascular Nursing Update. University of Kentucky, Chandler Medical Center Continuing Education. Lexington KY.

Moser, D.K. (2004, February). Heart failure guideline update. Second Annual Cardiovascular Update. University of Kentucky, College of Nursing, Lexington, Ky.

Moser, D.K. (2004, August). Evolution of advanced practice nurse managed comprehensive care. European Society of Cardiology, Munich, Germany.

Moser, D.K. (2004, August). CPR – Beyond the patient: Caring for the family. European Society of

Friends and colleagues – I hope you have found the information presented on the exciting work underway in the RICH Heart Program to be of interest. In future issues of *Discoveries*, other programs of faculty research and clinical scholarship will be presented. **– Carolyn A. Williams, R.N., Ph.D., F.A.A.N., Dean, UK College of Nursing**