The Duke University Center for the Study of Aging and Human Development and the Claude D. Pepper Older Americans Independence Center present

Vol. 32 No. 1 **Winter 2012**

# the Center Report

# Center Faculty and Fellows Present Research at GSA Meeting

Thirty-six papers, posters, or symposia were presented by Duke faculty and fellows at the 2011 Annual Scientific Meeting of the Gerontological Society Association held in Boston, MA, on November 18–22, 2011.

I. Akushevich, S. Ukraintseva, J, Arbeev, & A. Yashin presented a paper on **Patterns of Aging-related Diseases Incidence and Recovery in U. S. Elderly.** They concluded that there were significant 5-year declines in acute coronary heart disease (ACHD), stroke, heart failure, prostate and colon cancers, while rates of diabetes and Alzheimer's disease increased. Males had higher rates of ACHD, heart failure, Parkinson's disease, skin melanoma, lung, and colon cancers, while females had higher rates of stroke and asthma.

I. Akushevich, J. Kravchenko, S. Ukraintseva, K. Arbeev, & A. Yashin presented a paper on **Lifestyle Effects on Morbidity and Mortality in US Elderly Population.** They concluded that measuring characteristics representing a spectrum of characteristics of elderly life significantly affect risks in the US elderly.

R. Anderson, S. Hunt, C. Mueller, E. McConnell, R. Porter, & K. Corazzini presented a symposium on **Local Interaction Strategies and RN and LPN Enacted Scopes of Practice**. They concluded that use of Local Interaction Strategies is related to both how nurses understand what their Standard Operating Procedure is as well as to how they enact their SOPs.

C. Bales, R. Granville, S. Rose, S. Aktan, V. Arendt, A. Dathan, L. Piner, W. Kraus presented a poster on **A Multi-Component Weight Loss Intervention for Middle-Aged Adults with Pre-Diabetes**. They concluded that subjects participating in this intervention improved their body weights and composition while increasing physical activity and making beneficial changes in several markers of diet quality.

W. Brydnildson presented a paper on **The Structure of Support: Exploring the Impact of Social Convoys on the**

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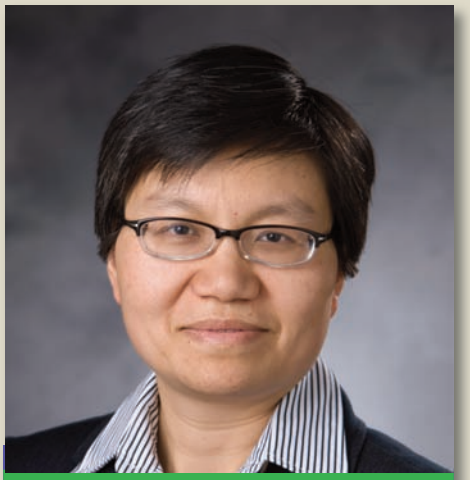
# Improving Oral Health for Older Adults

***by Bei Wu, PhD***

Oral health is a critical but often overlooked component of health and well-being in older adults. Poor oral health can cause pain as well as impairment of important functions such as speaking, chewing, and swallowing. These outcomes can in turn affect other aspects of elders' life including nutrition intake, social interactions, and communication ability. Increasing evidence suggests that oral health problems also appear to be linked to other medical conditions, such as diabetes, cardiovascular disease, and respiratory diseases.

Oral health problems (i.e., missing teeth, dental caries, and periodontal diseases) accumulate throughout the life span, but they occur with increasing frequency in later life. These differences may be partially due to cohort effects; younger cohorts may have higher levels of education and income, which are factors associated with better oral health status. However, many of these differences could be age-related. Genetic and biological factors likely play a major role in deterioration of oral health in elders, but social, psychological, and behavioral factors may also be important determinants. Some major factors related to oral health deterioration in older adults include: 1) poor oral hygiene due to functional and cognitive impairment or other medical conditions; 2) medications taken that may cause dry mouth; 3) declining use of dental care services; and 4) medical illnesses. Data from National Health and Nutrition Surveys (NHANES) show that the prevalence of edentulism among U.S. adults aged 65 and older declined from 34% to 27% between 1988-1994 and 1999-2004. Given that increasing numbers of individuals are retaining their natural teeth, the issue of maintaining healthy teeth in later life is becoming more critical.



Bei Wu, PhD

Maintaining oral health status in older adults needs multiple approaches which should focus on both prevention (use of professional dental care, use of preventive dental care products, oral health education, and improvement of self-care skills) and dental treatment. The use of professional dental care by U.S. elders, which is critical to oral health, has increased steadily and rapidly during the past several decades. The proportion of Americans aged 65 or older who reported at least one dental visit during the preceding year rose from 15% in 1950 to 55% in 2003. Despite this increase, rates of utilization remain lower in elders than in other age groups. Elders are more likely than the general population to have difficulty accessing dental care due to frailty, medical comorbidity, and functional and cognitive impairment.

Many elders report needing dental services and the needs are even higher for racial/ethnic minority elders. Our recent study shows that among respondents to the NHANES 2003-2004

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*the* Center Report

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## Improving Oral Health for Older Adults

survey, 16% of Whites reported needing to have at least one tooth filled or replaced; the corresponding values were 33% for Blacks and 35% for Hispanics. Similarly, 7% of Whites reported needing to have teeth extracted, compared to 19% of Blacks and 20% of Hispanics. More minority elders also reported the need for full or partial dentures and for dental cleanings. Cost is certainly a big concern with regard to dental use. Nonetheless, geriatric dental services also need to improve access and utilization by reducing barriers such as inadequate geriatric training and a lack of portable dental equipment. While most elders with chronic diseases can get dental care from private dental offices, having dentists and dental hygienists provide mobile dental services at an individual's home, institutional care facility, or at a mobile unit would be very helpful to those who cannot easily access a dental clinic. In the meantime, increasing the number of dentists with geriatric training is an important step toward improving the quality of dental care for elders.

Currently, a wide range of dental products is available to help high-risk elders manage oral health problems such as coronal and root decay. These products include high fluoride content (5000ppm) toothpaste, fluoride varnish, and alcohol-free chlorhexidine gluconate mouthrinse, as well as artificial salivas, oral rinses and gels, and flavored mouthwashes to treat dry mouth. Elders with diminished salivation may be instructed to use sugar-free gums, lozenges, candies, or mints for symptomatic relief of dry mouth.

Despite the availability of a broad array of preventive measures for oral diseases, many U.S. elders are not aware of or do not use proven preventive procedures. Many do not realize that most oral diseases can be prevented or controlled by improved oral hygiene and the use of fluoride and other cost-effective measures. Thus, there is a clear need to provide education on the importance of oral health and prevention of oral health problems. It has been shown that generic oral health education has a consistent positive effect on knowledge level and a small positive (although temporary) effect on plaque accumulation and gingivitis. While such programs should be an integral part of interventions to improve oral health in older adults, the development of tailored behavioral interventions deserves further attention.

In conclusion, it is essential for geriatric oral health promotion to encompass not only the treatment of oral diseases and conditions but also to increase the focus on interdisciplinary teamwork in preventing oral diseases and conditions and enhancing oral health status and quality of life in older adults. ■

## Older Men Often Confused About Osteoporosis*

Researchers from the Duke Center for the Study of Aging recently studied 23 older men with osteoporosis to better understand their explanatory models for their disease. The method used was a semi structured interview comprised of two parts. The first covered the five constructs of an Explanatory Model (diagnosis, treatment, cause, nature, and course). The second part was open ended and prompted men to elaborate on how their disease influenced their daily activities and their relationships with others.

They found that many of the men were confused about the definition, prognosis, risk factors, and treatment options for osteoporosis. The men's conception of masculinity (such as not admitting pain) often interfered with proper treatment (such as limiting the amount of weight they handle).

Understanding these explanatory models may help in improving diagnosis and treatment of osteoporosis in older men.

** Adapted from S. Solimeo, T. Weber, and D. Gold, "Older Men's Explanatory Model for Osteoporosis." The Gerontologist, 51, #4, 530-539 (August, 2011).*

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# Center Faculty and Fellows Present Research at GSA Meetings

**Health of U.S. Women and Men**. Conclusion: both structural (such as convoy size) and compositional (such as relationship types) features are important predictors of depression.

R. Cabeza was a coauthor in a symposium on **Age-Related Effects on the Neural Correlates of Autobiographical Memory Retrieval under Varying Levels of Retrieval Support**. They concluded that providing more effective retrieval cues in the form of personal photographs attenuates age-related differences in recollection related activation in the right hippocampus and increases compensatory functional connectivity with the PFC.

A. Chan was a coauthor in a symposium on **Association between Handgrip Strength and Mortality among Elderly in Singapore**. Mortality data is pending. There was a significant difference between the sexes (males were stronger), but no significant difference among ethnic groups.

A. Chan, M. Setia, R. Malhotra, and D. Matcher presented a poster on **Likelihood of Community — Dwelling Elderly to Live with a Child: Does Cognitive Impairment Matter?** They concluded that as cognitive functioning of the elderly deteriorates, the more likely they are to live with their children.

K. Corazzini & L. Landerman were coauthors in a symposium on **Licensed Practical Nurse Scope of Practice — Sensitive Care Outcomes.** They concluded that relying on Licensed Practical Nurses to deliver licenses nursing care in nursing homes could lead to poorer quality for certain outcomes.

L. Gwyther was a coauthor of a poster on **Adapting the REACH II Program Components to Community Contests: Lessons Learned in North Carolina**. Conclusion: There was overall satisfaction with the program, but there were many suggestions for adapting specific components.

L. Gwyther was also a coauthor of a poster on **Program Satisfaction and Stress Reduction among REACH II Caregiver Participants: Findings from North Carolina.** Conclusions: There were moderate to strong trend relationships between baseline risk appraisal, stress, race, and program satisfaction, with White caregivers reporting substantially lower levels of satisfaction as compared to African-American caregivers.

K. Hall, J. Beckham, H. Bosworth, & M. Morey presented a paper on **Exploring the Added Burden of PTSD on Health and Well-Being in Older Adults with Chronic Conditions**. Conclusions: it is important to intervene in this at-risk group, whose functional performance scores indicate they are much older than their chronological age.

D. Henninger, H. Whitson, H. Cohen, and D. Ariely we co-authors of a poster on **Higher Medical Morbidity Burden is Associated with External Locus of Control**. They concluded that medically complex patients tend to exhibit a more external Locus Of Control, which means they perceive little personal control over their circumstances and environment.

S. Hunt, R. Anderson, K. Porter, & K. Corazzini were coauthors of a symposium on **DON Tenure and Understanding Differences in RN versus LPN Scopes of Practice for Nursing Home Care.** They concluded that Directors of Nursing (DON) with longer tenure understood the nuances of RN-LPN communication and practice, but that many were unable to spontaneously verbalize their tacit knowledge of scope limitations. DONs with less tenure may be more engaged in short-term, day to day challenges, and may benefit from resources that offer anonymity.

E. Kim presented a poster on **Public Support, Family Support, and Elders' Life Satisfaction: Evidence from a Natural Experiment**. Conclusions: The Basic Old-Age Pension (BOAP) benefits partially, but not completely, crowded out adult children's financial transfers, causing a net increase in elders' income; but had little impact on other types of family support. This did cause elderly recipients' life satisfaction to increase in the short-term; however this effect disappeared over time.

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# Center Faculty and Fellows Present Research at GSA Meetings

G. Kim & K. Whitfield presented a symposium on **Mental Health Disparities in Ethnically Diverse Populations**. Five experts in the field discussed various topics related to aging and mental health disparities.

M. Kuchibhatla, K. Hayden, & G. Fillenbaum presented a paper on **Conjoint Trajectories of Depression and Self-Rated Health in Community Dwelling Elderly**. They concluded that poor self-rated health status at baseline was associated with increase in depression symptomology over the next 10 years.

A. Kulminski, K. Arbeev, & A. Yashin **were coauthors of a poster on Do Early-Life Aging-Related Phenotypes in Adults Predict Health Traits a Late Ages in Families?** They concluded that mechanisms of heritability of individual traits and associations among diseases and risk factors in long-living populations might be different than in the normal populations.

A. Kulminski presented a poster on **Aging-Related Phenotypes and Inter-Chromosomal Linkage Disequilibrium in the Human Genome**. Kulminski concluded that the interchromosomal linkage disequilibrium can be caused by intrinsic bio-genetic mechanisms which can be associated with favorable or unfavorable epistatic evolution.

M Morey presented a symposium on **Impact of Physical Activity Trajectories on Functional Outcomes for Older Cancer Survivors**. She concluded that at 12 months the intervention group with physical activity had less decline in physical function than the control group and that there were three distinct trajectories of physical activity.

A. Morgan, J. Allaire, and K. Whitfield were co-authors of a poster on **The Effects of Personality and Health on Cognitive Performance in African American Older Adults**. They concluded that it is important to account for individual differences in both personality and health when understanding predictors of late-life cognitive function.

T. Osbye was a co-author of a poster on **Baseline Functional Disability Predicts Dementia Risk Even After Controlling for Cognitive Status**. They concluded that disability increases one's risk for dementia.

T. Osbye was also a coauthor of a paper on **Dementia and the Risk Associated with Medical co-Morbidities: Results from the Cache County Study Linked to Medicare Claims**. Conclusion: Comorbid conditions may accelerate the onset of dementia.

J. Pruvu Bettger was a coauthor of a symposium on **Measuring Social Networks and Health among Older Adults Receiving Long-Term Services and Supports**. They concluded that combining approaches (personal and whole networks) improves the data collection techniques available and allows for the creation of more social network variables.

I. Siegler was a co-author of a poster on **Do Facets of Openness to Experience and Neuroticism Predict Levels of Fatigue among Octogenarians and Centenarians?** They concluded that higher levels on Fantasy, Aesthetics, Impulsiveness, and Vulnerability were associated with higher levels of mental fatigue.

J.Sautter presented a paper on **Trajectories of Social Role Occupancy, Stress, and Satisfaction and their Associations with Depressive Symptoms across the Life Course.** Conclusion: higher levels of role occupancy are associated with better mental health outcomes irrespective of reward and strain associated with those roles.

K. Smith; H. Hanson; T. Ostbye; J. Tschanze; S. Schwartz; C.Corcaran; & M. Norton presented a paper on **Dementia and the Risk Associated with Medical Co-Morbidities: Results from the Cache County Study linked to Medicare Claims.** They concluded that comorbid conditions may accelerate the onset of dementia.

P. Stallard was a co-author of a poster on **Insufficient Help for ADLs Dis-**

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# Center Faculty and Fellows Present Research at GSA Meetings

**abilities and Medicare Expenditures**. They concluded that those with insufficient ADL help had an average half-year Medicare expenses that were $1805 higher than those with sufficient ADL help.

D. Steffens & K. Welsh-Bohmer were co-authors of a paper on "Individual Religious Behaviors Are Inversely Associated with Subsequent Geriatric Depression." They concluded that a number of religious behaviors are associated with reduced risk of subsequent depression among older adults.

D. Steffens was also a coauthor of a poster on **Religion Indicators, Social Support, and their Association with Current and Past Suicidality among Depressed Older Adults.** Conclusions: The immediate benefits of religious activity on current suicidality are specific to church attendance rather than other religious indicators and are partially mediated by subjective social support.

D. Thornlow & R. Anderson presented a paper on **A Pilot Study to Detect Cascade Iatrogenesis in Hospitalized Older Adults**. They concluded that minor events may trigger the cascade toward postoperative respiratory failure. Better surveillance may result in better outcomes

K. Unroe & W. Benson were coauthors of a paper on **Healthy Aging Policy Promotion and Implementation: Tools for Effective Advocacy.** They concluded that the Health & Aging Policy Fellowship program, funded by the Atlantic Philanthropies, provides opportunities for professionals in health and aging to participate directly in the policy arena.

K. Unroe, S. Hunt, C. Mueller, E. McConnell, R. Anderson, K. Porter, & K. Corazzini presented a symposium on **APRN Regulation and Potential for Improved Quality of Care in Long-term Care**. They concluded that variation in permissiveness and restrictiveness in Advance Practice Registered Nurses (APRN) scope of practice provided potential incentives and disincentives to nursing homes to effectively employ and use APRNs in improved quality of care.

K. Whitfield was coauthor of a paper on **The Effects of Personality and Health on Cognitive Performance in African American Older Adults**. Conclusion: It is important to account for individual differences in both personality and health when understanding predictors of lat-life cognitive function.

H. Whitson was a coauthor of a poster on **Trajectories of Musculoskeletal Pain among Older Adults in the Cardiovascular Health Study**. They concluded that musculoskeletal pain in older adults follows a dynamic trajectory, occurring commonly but remitting frequently. It is not an inevitable consequence of getting older, nor a fixed or progressive symptom.

H. Whitson was also a coauthor in a symposium on **Complexity Science and Aging Research: Early Findings and a Promising Future.** The symposium presented an overview of complexity science and explored how it relates to developing ideas and promising avenues for future study in aging research.

T. Wu & A. Chan presented a paper on **Families, Neighborhoods and the Social Network of Older Adults: Evidence from Social Housing in Singapore**. Conclusions: being married and co-residence with grown children and grandchildren matter more for an older adult's sense of companionship; neighbors have a negligible effect on the need for companionship.

A. Yashin, D. Wu, K. Arbeev, & S. Ukraintseva were coauthors of a poster on **How Genes Contribute to Aging Related Changes and Affect Life Span in Humans.** They concluded that similarity in patterns of survival changes in response to radically different factors indicates the presence of important systemic biological mechanisms involved in life span regulation. ■

# Positive Slogans*

A major component of ageism are the negative stereotypes that many people believe. The following positive slogans can be used to combat such negative stereotypes.

- Age is a case of mind over matter. If you don't mind, it don't matter.
- Age is important only for wines and cheese.
- Age is just a number.
- Aged for smoothness and taste.
- Aged to perfection.
- Aging is living.
- The best wines come in old bottles.
- Better over the hill than under it.
- Better 60 than pregnant.
- Being young at heart is better than being young.
- Elders have done it longer.
- Fifty is nifty.
- Gray power.
- Grow old with me, the best is yet to be.
- How dare you think I'd rather be younger?
- If aging improves quality, I'm approaching perfection.
- I'm not over the hill. I'm on a roll.
- I'm not a dirty old man; I'm a sexy senior citizen.
- It's never too late to learn.
- It's not how old you are, but how you are old.
- It's no sin to be 70.
- Old age is better than its alternative.
- Old age is not for sissies.
- Old age is the consummation of life.
- Old wines and violins are the best.
- Older can be bolder.
- Over the hill and loving it.
- Over the hill and off the pill.
- People are like cars: their age is less important than how they've been treated.
- Retired: no boss, no worries, no work.
- Retired: rejuvenated, retreaded, relaxed, and remodeled.
- Senior power.
- Sixty and still sexy.
- The best thing about being a parent is you may get to be a grandparent.
- The first 50 years are just a rehearsal.
- The older the violin, the sweeter the music.
- There may be snow on the roof, but there's fire in the hearth.
- Things of quality have no fear of time.
- When you're over the hill, you pick up speed.
- You can teach an old dog new tricks.
- Youth is a gift of nature; age is a work of art.

**Adapted from Palmore, Branch, & Harris (eds.), THE ENCYCLOPEDIA OF AGEISM. NY: Haworth, 2005.*

## Did You Know?

**Which is the best answer to the following questions?**

1. **Most patients with Alzheimer's Disease**
   a. Act pretty much the same way.
   b. Have confusion and impaired memory.
   c. Wander during the day or at night.
   d. Repeat the same question or action over and over.

2. **Organic brain impairment**
   a. Is easy to distinguish from functional mental illness.
   b. Is difficult to distinguish from functional mental illness.
   c. Tends to be similar to functional mental illness.
   d. Can be reversed with proper therapy.

3. **When talking to an older adult, it is best to**
   a. Avoid looking directly at the patient.
   b. Glance at the patient occasionally.
   c. Ignore the patient's reactions.
   d. Look directly at the patient.

**Answers:**

1. **b.** The only thing that all patients with Alzheimer's Disease have in common is confusion and impaired memory.

2.**b.** The symptoms of organic brain impairment are difficult to distinguish from those of functional mental illness such as affective or anxiety disorders.

3.**d.** When talking to an older patient, it is best of look directly at the patient, both to establish eye contact and to see if the patient is paying attention to you.

*Adapted from *The Facts on Aging Quiz*, 2nd Ed. by Erdman Palmore, NY: Springer Publishing Co., 1998.

# Alumni Honor Cohen

The Duke Medical Alumni Association has honored Harvey J. Cohen, MD with a Distinguished Alumnus Award. Each year the association recognizes several distinguished alumni and faculty during Medical Alumni Weekend. Cohen helped establish Duke's Division of Geriatrics in the 1970's and currently directs the Duke Center for the Study of Aging and Human Development. He is widely regarded as one of the world's leading experts in geriatric oncology. He also established Duke' fellowship program in geriatric medicine. During more than 40 years on the Duke faculty, he has served as chair of the Department of Medicine, founding chief of the Division of Geriatrics, and director of the Durham Veterans Affairs Geriatric Research, Education and Clinical Center. He also directs Duke's Claude C. Pepper Older American Independence Center,

Harvey J. Cohen, MD

Cohen has served as President of the Gerontological Society of America, President of the American Geriatrics Society, President of the International Society of Geriatric Oncology, and he chaired the Board of Scientific Counselors of the National Institute on Aging. He currently serves as chair of the Observational Study Monitoring Board for the National Heart, Lung, and Blood Institute's Women's Health Initiative, and chair of the Cancer in the Elderly Committee for the Cancer and acute Leukemia Group B.

# Hospice Providers Attempt to Reach More African Americans*

National leaders recommend that hospice providers incorporate a commitment to caring for diverse population in their organizational goals, partner with community groups, and use targeted marketing to increase access to hospice for minority groups. The Duke Center researchers did a survey of hospices in North and South Carolina to examine community outreach activities, marketing practices, and admission policies.

They concluded that many hospices are engaged in these outreach activities, but few providers have set specific goals or attempted to measure the success of their efforts. As a result many of their strategies may not be effective. The willingness of hospices to provide the type of care which would be more consistent with the aggressive treatment preferences of African Americans (e.g. artificial nutrition and hydration) and to accommodate nontraditional care models in the home may be more successful than community outreach activities at increasing hospice use among African Americans.

**Adapted from "What are Hospice Providers Doing to Reach African Americans ... and what works?" Abstract by K. Johnson, M. Kuchibhatla, and J. Tulsky of paper presented at the meeting on September 21-24 at San Diego of those awarded a Paul Beeson Career Development Award in Aging Research.*

# Hospice Use Reduces Medical Costs*

Hospice use has been expected to reduce health expenditures since their addition in the early 1900s, but the literature on its ability to do so has been mixed. The contradictory findings may be due to selection bias and the period of cost comparison used.

Accounting for these biases, Duke University researchers from the Sanford Institute of Public Policy and the Duke Department of Medicine found that Hospice use during the last year of life reduced Medicare expenditures by an average of $2309 per hospice user compared to those who did not use Hospice. On average, hospice use reduces Medicare expenditures during most of the last 72 days of life. The saving increased from $10 on the 72nd day prior to death up to more than $750 on the day of death.

The study used a retrospective, case/control method based on 1819 hospice decedents, with 3638 matched controls. The data came from the National Long Term Care Survey.

The maximum reduction in Medicare expenditure per user was about $7000 for decedents with a primary condition of cancer.

**Adapted from D. Taylor, J. Ostermann, C. Van Houten, J. Tulsky, & K. Steinhauser. Social Science & Medicine, 65 (2007) 1466-1478.*

# Coming Events

## February 23–28

38th Annual Meeting of the Association for Gerontology in Higher Education (AGHE) at Arlington, VA. Theme: "Engaging Aging in Higher Eduction." Visit **www.aghe.org/am**.

## March 22–24

The Society for Research in Human Development, 18th Biennial Conference in New Orleans, LA. For more information, visit **homepage.psy.utexas.edu/homepage/grou/SRHD/**.

## March 28–April 1

"Aging in America". Annual Conference of the American Society on Aging. Washington, DC. Visit: **www.aging conference.org**.

## April 19–22

33rd Annual Meeting of the Southern Gerontological Society, Nashville, TN. Contact Lora Gage at 239-541-2011 or **LGage4SGS@aol.com**.

## May 3–5

Annual Geriatrics Society Scientific Meeting. "Patient Safety and Quality — What Geriatrics Has To Offer." Seattle, WA. Visit **www.Americangeriatrics.org/annual_meeting**.

## October 9–12

19th International Congress on Palliative Care, at the Palais des Congrès in Montréal, Canada. Presented by Palliative Care McGill, McGill University. For information visit **www.pal2012.com**.

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