Preparing for an aging America

The so-called golden years may gleam and shine for many people, health permitting; but for those who are dealing with multiple chronic health conditions, the golden years may be not only dull, but downright tarnished. Increased life expectancy comes with a price. The older we get, the more likely we are to get sick. Nearly 80 percent of Americans age 65 and older have at least one chronic medical condition such as arthritis, diabetes, hypertension, Alzheimer’s or heart disease, and 20 percent have three or more.

According to a 2008 Institute of Medicine report, “Retooling for an Aging America,” the current health care system doesn’t do a great job meeting the needs of many older people, especially those with multiple chronic illnesses and those over age 85.

The report recommends ways to make the system more efficient and user friendly for geriatric patients, including: training more primary care and geriatric physicians; standardizing team-centered health care among specialists; and finding ways to contain medical costs.

These items are common goals at the U-M Geriatrics Center. Under the direction of Jeffrey Halter, M.D., the Geriatrics Center is training doctors, nurses, social workers and other medical professionals to handle the complex, overlapping medical problems that often accompany aging. At the same time, Geriatrics Center faculty are modeling innovative ways to contain costs while improving the quality of care for elderly patients.

Additionally, the U-M Geriatrics Center recognizes the barely-tapped potential of aging research, which has large-scale significance across all medical specialties. Biomedical and clinical research is beginning to uncover the mechanics of aging, and U-M faculty members are working tirelessly to make sure patients are able to enjoy golden years that do indeed shine.
Dear Friends,

At the University of Michigan Geriatrics Center, our goal is to help older individuals lead healthier and more satisfying lives. We achieve this through our missions to provide exceptional patient care and services, to conduct leading research on aging, and to train physicians and other health care professionals to treat the specific needs of the older population.

This issue of Advisor showcases how these missions work together to create an academic center of excellence at U-M. Geriatrics Center physicians and scientists are focused on endeavors that will have a positive and lasting impact on the quality of life for society’s older population. Researchers are studying the aging process to find ways to extend longevity and eliminate the chronic conditions and illnesses that often accompany aging. Geriatric medicine physicians continually explore new approaches to optimize care for our patients. And our faculty are engaged in the critically important role of training physicians as future geriatricians.

Collectively, these activities have shaped U-M’s leadership role as a premier academic Geriatrics Center. In fact, U-M is consistently recognized as a top-tier program for both geriatric health care and our academic geriatrics program, most recently ranking 4th in the latter category among the nation’s medical schools by US News and World Report.

The Geriatrics Center is committed to tackling the health care issues of our aging society on all fronts. With our concurrent missions to provide exceptional patient care, conduct leading research on aging and training future geriatric physicians, we are working toward our goal of ensuring that our aging society is also a healthy one.

Sincerely,

Jeffrey B. Halter, M.D.
Director, Geriatrics Center and Institute of Gerontology

Calculating costs to ensure fair payment and quality care

As the whole country talks generally about rising health care costs, Brant Fries, Ph.D., calculates and predicts those costs with great accuracy as they relate to skilled nursing facility patients and the aging population. The federal government relies on Dr. Fries and his reliable research tools to help set payments to all the nation’s skilled nursing facilities, so that payments reflect the actual amount of care. As a leading expert in long-term care and a research professor at U-M’s Institute of Gerontology in the Geriatrics Center, Dr. Fries is improving health care through careful planning at a critical time, when a large percentage of the United States population is beyond middle age, but living longer than ever.

A systematic way of analyzing the cost of skilled nursing facility care has always been important, but perhaps never more so than now, when the population is aging at a rapid rate, Fries says. “It is vital that we ensure high-quality provision of care and adequate payment for that care for people in skilled nursing facilities,” he said.

In the 1970s, Dr. Fries originated Resource Utilization Groups, a case-mix classification system for skilled nursing facilities. His newer version, RUG-III, is used for Medicaid payments in more than half of all states and was adopted in 1998 by the Centers for Medicare and Medicaid Services for paying all skilled nursing facilities under Medicare—the latter involving over $30 billion annually. Most recently, Dr. Fries led the data analysis for STRIVE, the Staff Time and Resource Intensity Verification Project, which was launched in 2006 to update the RUG system and reflect changes in the skilled nursing facility population and the care that is provided. The STRIVE data and recommendations help states assess and update their Medicaid payment systems to skilled nursing facilities by quantifying costs that were previously elusive and difficult to predict. These new rules set forth by Dr. Fries will be implemented over the next year (2010-11).
Why is it so difficult for older patients to find the comprehensive care they need? Because there is a limited number of physicians trained in the complexities of geriatric care. The current shortage of geriatricians in the United States is projected to worsen over the next 20 years, as the nation’s aging population is growing rapidly. Americans are living longer with multiple chronic illnesses—but there are fewer geriatrics-trained physicians and health professionals to help manage those illnesses.

The U-M Geriatrics Center is working to help meet demand, through advanced fellowships that provide comprehensive physician training in the management of the complex, long-standing and overlapping medical conditions that elderly patients often present. By offering three distinct fellowship training programs—Geriatric Medicine, Hospice and Palliative Medicine, and Geriatric Psychiatry—the Geriatrics Center is leading the way in educating superbly qualified physician specialists to provide the unique care required for the growing older segment of our society.

The U-M Geriatric Medicine Fellowship, one of the first of its kind in the country, is directed by Robert Hogikyan, M.D., M.P.H. Dr. Hogikyan believes it takes a special person to choose geriatrics, and he is taking special care to find those candidates. “Geriatric Medicine requires an exceptional commitment and clinical acumen in order to provide high quality health care to older adults,” notes Dr. Hogikyan. “The practice of geriatric medicine takes special dedication, and it can be a highly rewarding career for a physician.”

The fellowship program recruits and trains physicians who have completed primary residency training in Internal Medicine or Family Medicine. The physicians then complete at least one and sometimes more years of fellowship training in Geriatric Medicine.

Geriatric Medicine fellows do clinical work in the hospital and skilled nursing facility settings, a hospice residence, in geriatric medicine clinics, and in home care. They work with specialty clinics including geropsychiatry, and neurology for mobility and dementia care. Fellows can opt to pursue advanced training in research during a second or third year. Patient benefits of such geriatric research and care include increased patient and family satisfaction; decreased time as an inpatient in a hospital or skilled nursing facility; improved social functioning; decreased rates of depression and preservation of physical function.

The Hospice and Palliative Medicine Fellowship, directed by Marcos Montagnini, M.D., F.A.C.P., trains physicians to provide comprehensive care to patients with advanced and life-limiting illnesses. Fellows in the Hospice and Palliative Medicine program develop skills on pain management and symptom control at end-of-life, in addition to providing psychosocial and spiritual and bereavement support, in order to optimize the quality of life of patients and their families. “We need to have more physicians prepared to care for patients who have life limiting illness, and to understand the significant needs of their families as well,” Dr. Montagnini said. “We are addressing the lack of adequate physician preparedness for end-
U-M physicians improve quality care while reducing costs

Medicare project results in enhanced care for seniors

The U-M Faculty Group Practice has done something seemingly impossible: improve the quality of health care while dramatically reducing costs. By implementing novel and team-based approaches to care, U-M physicians have greatly enhanced patient outcomes for a number of geriatric and chronic conditions—and at the same time reduced the costs associated with such care. The results were realized as part of the large-scale, multi-year Medicare Physicians Group Practice Demonstration Project, led at U-M by Geriatrics Center Associate Director Caroline Blaum, M.D.

By studying the processes involved in geriatric and chronic-disease care, Blaum and her colleagues have developed new programs and protocols that include closer coordination across disciplines and systemized approaches for follow-up care. These innovations have resulted in millions of dollars in savings to Medicare, which in turn has resulted in shared savings to U-M for use in patient care.

More significant, the new processes and procedures improved the quality of treatment for conditions including chronic heart failure, diabetes, and hypertension. Quality also improved for patients with multiple chronic conditions, which particularly impact older adults.

“We actually added services at no cost to patients or payers,” Dr. Blaum said, adding, “There are plenty of opportunities to squeeze costs out of the system, while also improving quality of care. This is particularly important for aging patients who have many chronic conditions and are among the biggest users of the health care system.”

One of the most successful aspects of U-M’s Medicare Physicians Group Practice Demonstration Project was the implementation of a transitional care program, which created a systemized follow-up plan for geriatric patients who are discharged from the hospital to their homes or skilled nursing facilities. A new sub-acute care service for geriatric care and rehabilitation in skilled nursing facilities provides seamless care from discharge from the hospital.

Other key services involved include: an electronic medical record-based quality program for diabetes; the heart failure telemanagement program; expanded inpatient geriatrics consult service; and emergency medicine consult/referral services.
More than one in four elderly Americans lacked the capacity to make their own medical care decisions at the end of life, according to a study published by University of Michigan researchers in the April 1 New England Journal of Medicine.

Those who had advance directives—including living wills or durable powers of attorney for health care—received the care they wanted most of the time, said lead author, U-M’s Maria Silveira, M.D., M.P.H.

“We’ve all heard about the importance of advance directives, but many of us may think, ‘It won’t happen to me. I’ll be able to direct my own medical care.’ The results of this study show a high probability that our capacity to make those decisions will be compromised or gone entirely,” said coinvestigator Kenneth Langa, M.D., Ph.D., associate director of population studies for the Geriatrics Center and the Institute of Gerontology.

In the NEJM study, cognitive impairment, cerebrovascular disease, and residence in a skilled nursing facility were associated with lost decision-making capacity before death in 76.6% of the study population.

Advance directives document a patient’s wishes for life-sustaining treatment in a living will, as well as their choice of a proxy decision-maker in a durable power of attorney for health care. Advance directives are sanctioned in all 50 states and can be completed for free without the aid of an attorney.

“Our data suggest that living wills and durable powers of attorney for health care may help ensure that older adults receive the type of health care they want at the end of life. But our main hope from this study is that it encourages everyone to talk with their physicians and family about their goals for health care as they age.”

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Dr. Langa’s research underscores the importance of documenting directions regarding medical care.
Although prevalent in older adults, depression is not a normal part of the aging process. It may occur as a reaction to illness; it may begin as bereavement over a loved one; or it may result from biological factors, but it is not a process that people should automatically expect to endure later in life. When it does occur, however, it is treatable.

The Program for Positive Aging is a new initiative led by Helen Kales, M.D., a multidisciplinary researcher who is positioning U-M as a leader in geriatric mental health. The Program for Positive Aging (PPA) combines the expertise of the Department of Psychiatry, U-M Depression Center, the Geriatrics Center and the Institute of Gerontology. The PPA promotes research, training and clinical care opportunities in aging and mental health, with a particular focus on later-life depression. Later-life depression can be difficult to diagnose, because it can be associated with a number of medical illnesses, part of an emotional or physical adjustment, or it may be a response to something else. Older patients may not understand that depression is an actual, treatable medical condition, like their diabetes or high blood pressure. Additionally, half of older adults don’t express sadness as part of their depression. “They are more likely to describe nervousness or lack of pleasure, but they may not describe themselves as sad,” Dr. Kales said.

Dr. Kales has been awarded a five-year, $1.6 million grant from the National Institute of Mental Health that explores and battles through the stigma of depression for geriatric populations. Dr. Kales notes that 40 percent of older patients who are prescribed antidepressants quit or never start taking their medication. “We are testing an intervention that involves assigning a counselor to geriatric primary care patients who are newly started on antidepressants. We hope to learn more about barriers to taking antidepressants adherently. Is there a problem with stigma, side effects, culture, or anxiety? Our counselors will empower, encourage and advocate for them so they are not passive in their own treatment,” she said.

“Untreated depression often leads to premature long-term care placement and may be mistaken for dementia or other conditions,” Dr. Kales added. “Later-life depression (after age 60) is just as treatable as depression found early in life, but it’s often more difficult to sort out and find.” Still, that doesn’t mean we should give up. We should advocate for positive aging in every single case, Dr. Kales says.
More medicines mean a higher probability for problematic drug interactions. Since more than 80 percent of older adults take at least one prescription drug a day, and nearly half take additional over-the-counter medications and supplements, one in 25 could be experiencing major drug interactions. Unintended drug interactions can cause confusing symptoms or harmful consequences.

Geriatrics Center faculty member Tami Remington, Pharm.D., said recent studies show the need for comprehensive management of drug therapies, particularly in seniors who probably take multiple meds for multiple, seemingly unrelated maladies. “To protect themselves from harmful drug interactions, seniors should make sure all current medications are disclosed whenever a new one is introduced. This includes prescription and over-the-counter items,” Dr. Remington said. “Getting all prescription drugs filled at a single pharmacy allows the pharmacist to do a thorough check for drug interactions each time a new one is filled.”

Common, often overlooked interactions include the following:

- **Decongestants** may cause up to a 40 point spike in blood pressure, which can counteract blood pressure medicine and be harmful for people with hypertension.

- **Antihistamines and over-the-counter sleep medicines** tend to cause a general mental slowing. “These chemicals make it difficult to process new information, making memory problems much worse for seniors,” Dr. Remington said.

- **Over-the-counter pain relievers** like ibuprofen, Motrin, Advil, and Aleve (but not Tylenol) could cause a dramatic spike in blood pressure, negating the effect of blood pressure medicines.

- **Blood thinners** like warfarin, marketed as Coumadin and Jantoven, negatively interact with many different drugs that already have blood-thinning properties of their own. “It’s very complex,” Dr. Remington said. “Anybody on warfarin needs a professional, comprehensive look at their full drug regimen to ensure safety.”

Dr. Remington urges seniors on several medications to keep careful inventory of them and to get a professional review regularly.
Rapamycin extends lifespan in mice

An antibiotic called rapamycin has made quite an impact on mice. Its ability to increase their lifespan by approximately 10 percent has scientists wondering if medicines like rapamycin might someday help humans live decades longer.

“It’s no longer irresponsible to say that following these [studies] up could lead to medicines that increase human life span by 10, 20 or 30 percent,” said Richard A. Miller, M.D., Ph.D., Geriatrics Center associate director for research. The work was first published in the July 16, 2009 issue of Nature by Dr. Miller and colleagues at the Jackson Institute and University of Texas, San Antonio. The article has since been cited in hundreds of journals, newspapers and follow-up research. The paper was chosen by Science magazine as one of the 10 key breakthroughs of 2009, and selected by Nature readers as one of the 10 most influential papers of the year.

For many scientists, this is the most exciting part of the research: the possibility that rapamycin doesn’t inhibit a single disease process, but rather inhibits the overall aging mechanism, which extends general healthy living and slows disease progression.

A slower-aging mouse or person would benefit from decreased risk of progressive diabetes, atherosclerosis, arthritis, circulatory system breakdowns and other age-associated issues. Further studies in the Miller laboratory are now underway to see what other signs and symptoms of aging are affected by rapamycin in aging mice.
Reducing calories improves function, impacts aging in cells

We’ve all heard that watching our calories can produce health benefits and help us live longer. But how, exactly, does caloric restriction impact our metabolism? David Lombard, M.D., Ph.D., a scientist at the Geriatrics Center’s Institute of Gerontology, is studying this mystery at the cellular level. His work has contributed insight into how an ultra-low calorie diet improves function of mitochondria, where cells convert food to energy. Dr. Lombard is investigating the mechanisms of that improvement, particularly as it relates to slowing the aging process and delaying the onset of age-related diseases.

With a four-year, $100,000-per-year grant from the Ellison Medical Foundation, Dr. Lombard is studying “Mitochondrial acetylation in calorie restriction and aging.” His research seeks to determine how diet affects the mitochondria’s ability to efficiently generate energy while minimizing cellular damage. “Calorie restriction alters mitochondrial energy metabolism in fundamental ways,” Dr. Lombard said.

“Additionally, low-calorie diets can extend the lifespan of animals, and potentially even people. In our work, we are trying to understand how these changes in mitochondria relate to increased longevity associated with calorie restriction.”

Dr. Lombard emphasizes that these findings are not immediately translatable to humans. “Ultimately, understanding how calorie restriction affects the function of mitochondria might allow the development of agents that induce the health benefits and anti-aging effects of eating a low-calorie diet,” he said.

For this and related work, Dr. Lombard was honored with the Ellison Medical Foundation New Scholar in Aging Award. “I am eager to continue to explore the basis for calorie restriction-induced longevity,” he said. “An understanding of the calorie restriction response at the molecular level will have an enormous positive impact on human health.”
Long-time volunteers also long-sighted

The Geriatrics Center has relied on its group of devoted and active volunteers since the Turner Geriatric Clinic was founded more than 30 years ago. For nearly as many years, Alma Ford Wooll was one of the most energetic and devoted among them. At 92-years-old, Alma has been a shining star among the nearly 150-member volunteer force serving the Geriatrics Center Social Work and Community Programs.

Alma began actively supporting others who were caring for loved ones with Alzheimer’s disease, as she was, in 1980. She co-founded Michigan’s first Alzheimer’s Association chapter in 1981, a year before losing her first husband, Frank Ford, to the disabling disease.

Alma met Alfred C. Wooll, 93, another active volunteer who had suffered the loss of his wife, Gladys, to Alzheimer’s, at an association meeting. They married in 1984 and together have been an important and dedicated force in support of Geriatrics Center community programs for many years. In addition to their work with the Silver Club Memory Loss Programs, they provide peer counseling and lend their expertise through service as members of advisory and fund-raising committees.

In celebration of Alma’s 90th birthday in 2008, Alma and Al initiated a fund to support Geriatric Social Work volunteer services. It is their desire that the Alma Ford Wooll Endowment Fund will grow to ensure continuing support for our essential and invaluable volunteers. To donate to the Alma Ford Wooll Endowment Fund, contact Kathy Fitzgerald at 734-936-2156 or kmfitz@umich.edu, or go to www.med.umich.edu/geriatrics/gift.htm

Alma and Al Wooll have volunteered their support for decades; now they are helping to ensure support for volunteers well into the future.

Memory Loss and the Arts

For more than a decade, Silver Club has been providing enrichment activities and respite care for people with mild and moderate memory loss. Today, 60 individuals are served weekly in one of the Silver Club Programs: Coffeehouse, Mind Works, Memory Keepers and Silver Club all offer day programming to engage their members in meaningful and stimulating activity.

One unique way this is being done is through the arts—music, dance, theatre, poetry, and visual art. Activities go beyond entertainment – art brings the bonus of tapping parts of the brain unaffected by dementia, reviving deeply etched memories. All forms of art can reach and activate parts of the brain that are still full of activity; music stimulates the brain differently than language, and movement and painting activate imagination and memory.

Silver Club staff members and Director Beth Spencer have been working on expanding arts programming for several years. This past year a special grant underwrote the Family Arts Café: a series of dinners and shared art projects for families and their relatives with memory loss. Members of Memory Keepers recently spent an afternoon with specially trained docents at the U-M Museum of Art in a new collaboration, which is scheduled to occur monthly. With additional support, Spencer hopes that more people with memory loss can share the joyful experiences art provides.

Arts programming for seniors with memory loss helps to stimulate the brain while providing meaningful activity.

For information about supporting Silver Club Programs, contact Beth Spencer at 734-998-9352.
Imagine walking into a bakery, expecting to smell fresh bread and pastries—and then smelling nothing at all. You may be disappointed on the outside, but on the inside, there are millions of physiological responses signaling your brain that food may not be available as you originally predicted. Perhaps your body needs to go into slight protective mode, making more efficient use of stored energy, since there may not be an intake of food after all.

“The perception of food availability has something to do with dietary health and the aging process,” says Institute of Gerontology molecular biologist, Scott Pletcher, Ph.D., who showed that yeast-loving fruit flies ate better and lived longer when their sense of smell was removed. His study, published in the April 21 online journal *PLoS Biology*, described female fruit flies who lived 20 percent longer because their olfactory senses—and perhaps their cellular aging processes—were blocked.

Dr. Pletcher stopped flies from smelling carbon dioxide, an odor cue that signals the presence of yeast—their favorite food source. The senseless flies were more resistant to oxidative stress than normal flies. “Eliminating the ability to smell CO2 may deprive flies of information about food availability. This may trick them into thinking there’s no food around, which would induce mild stress and conserve their nutritional supplies. These triggered responses are similar to those promoting survival in a hungry animal,” Dr. Pletcher said. Somewhere in this response, Dr. Pletcher believes cellular damage is protected as the flies became more energy efficient.

It is unclear why the lack of smell had no effect on the males, but Dr. Pletcher reasons that perhaps females are more sensitive to the smell of CO2.

How does this apply to humans? It’s reasonable to think that blocking certain food-related senses may be part of a comprehensive dietary and nutritional strategy that might improve physiology and metabolism, thereby preventing disease and extending lives.
The University of Michigan Geriatrics Center seeks to increase the span of healthy, active life for older adults through interdisciplinary clinical care, education, research and community service.

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