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INNOVATIONS AND IDEAS

Discovery Sparks Hope for Parkinson's Treatment

The possibility of a new treatment for Parkinson's disease has emerged, according to U.S. researchers claiming a key finding. They said they recently discovered a glitch in cell function that can lead to the disease. In healthy cells, damaged proteins are digested and recycled in a process called autophagy. Researchers "have found in Parkinson's there are problems in removing abnormal proteins," according to Ana Maria Cuervo, cell biologist at the Albert Einstein College of Medicine of Yeshiva University.

Cuervo and her team are hopeful that new drugs to aid in the process of cleaning up abnormal proteins in cells will be available in five years time, though they say these drugs will not be a cure for the disease. *Source: Mcknightsonline.com Daily Update*

Robotic Cure for Aging Society?

What ails this prosperous nation could be treated with babies and immigrants. Yet many young women here do not want children, and the Japanese will not tolerate a lot of immigrants. So government and industry are marching into the depopulated future with the help of robots -- some with wheels, some with legs, and some that you can wear like an overcoat with muscles.

A small army of these machines, which has attracted huge and appreciative crowds, is on display this winter at the Great Robot Exhibition in Tokyo's National Museum of Nature and Science. The Japanese are delighted by robots that look human. Hondo's ASIMO can dance and serve tea. Toyota has a humanoid robot that plays "Pomp and Circumstance" on the violin -- rather robotically.

But engineers say it's the "service robots," which can't dance a lick and don't look remotely human, that can bail out Japan, which has the world's largest proportion of residents over 65 and smallest proportion of children under 15. One such gizmo, on display at the show, can spoon-feed the elderly. Others are being designed to hoist them onto a toilet and phone a nurse when they won't take their pills. Toyota, the world's largest car company, announced last month that service robots would soon become one of its core businesses. The government heavily subsidizes development of these machines. Other cheerleaders for robots include universities and much of the news media.

Not everyone, though, is cheering. There are critics who describe the robot cure for an aging society as little more than high-tech quackery. They say that robots are a politically expedient palliative that allows politicians and corporate leaders to avoid wrenchingly difficult social issues, such as Japan's deep-seated aversion to immigration, its chronic shortage of affordable day care

and Japanese women's increasing rejection of motherhood. "Robots can be useful, but they cannot come close to overcoming the problem of population decline," said Hidenori Sakanaka, former head of the Tokyo Immigration Bureau. "The government would do much better spending its money to recruit, educate and nurture immigrants," he said.

The scale of the coming demographic disaster, assuming present trends continue, is without precedent, according to Sakanaka and many other analysts. Population shrinkage began here three years ago and is gathering pace. Within 50 years, the population, now 127 million will fall by a third, the government projects. Within a century, two-thirds of the population will be gone. That would leave Japan, now the world's second-largest economy, with about 42 million people. The workforce would shrink even faster, thanks to the dearth of children under 15, whose numbers have been falling for 26 consecutive years and now reflect a record-low 13.6 percent of the population. Within 20 years, the workforce will fall by 10 percent. It estimates that within 30 years, Japan will have just two workers for each retiree; within 50 years, two retirees for every three workers. Pension and health care systems will be at risk of collapse.

Robots can help make all this more affordable and less disruptive, said Masakatsu G. Fujie, a professor of mechanical engineering at Waseda University in Tokyo. In a recent lecture to foreign journalists, he said service robots could help reduce government spending on health care, take over many dreary service jobs and prop up Japan's "societal vitality." Still, if Japan is to have any chance of holding on to its status as a major economic power, it needs human beings by the millions, and it needs to start importing them soon, according to Sakanaka. He argues that Japan has no rational alternative but to open its doors to at least 10 million new immigrants over the next five decades. This is a tall order. Among highly developed countries, Japan has always ranked near the bottom in the percentage of foreign-born residents. In the United States, about 12 percent are foreign-born; in Japan, just 1.6 percent.

Highly restrictive and aggressively enforced immigration laws have broad support from the Japanese public, which blames immigrants for crime, impolite behavior and untidiness. Sakanaka's immigration proposal, at least for the time being, has no serious backing among major political leaders. But the country ranks first in robot use. Forty percent of the world's robots are at work here, mostly in industrial jobs. The government prefers spending money on robot development rather than on immigrants, Sakanaka said, because robots do not have a political downside. "Politicians avoid the immigration issue because it doesn't lead to a vote," he said. "They should be thinking about Japan's future, but they are not."

Kathy Matsui, Japan strategist for Goldman Sachs, says robot promotion is a crowd-pleasing way for government and business to dance away from the core causes of Japan's low birthrate. "Robots are simply not going to be able to do anything to deal with the problems of work and family," Matsui said. "Robots cannot raise kids." And for all their potential, tending to an aging society with robots will not be easy. Designers say the machines -- mostly still in development and years away from entering the market -- must work safely, be affordable and make a profit for manufacturers. Industrial robots overcame many of these hurdles in the 1980s, and Japan's Ministry of Economy, Trade and Industry expects it to happen again with robots in the home.

"The ignition may be the dramatic decrease in the labor force," said Hideto Akiba, director of the ministry's industrial machine division. A principal reason for the low birthrate in Japan is the increasing refusal of young women to marry. Government figures show that the percentage of women 25 to 29 who stay single has more than doubled since 1980, to 54 percent from 24 percent. If Japanese women do marry and have children, they drop out of the workforce at far higher rates than women in other wealthy countries. The primary reason is because they cannot find affordable day care, according to Matsui and many others. Matsui said affordable child care and relaxed immigration rules that allowed working mothers to hire foreign-born nannies would almost certainly keep more women in the workforce -- and could help raise the birthrate.

Asked why government and industry here are so taken with robots, Matsui said: "They are a nice excuse not to address the issue of immigration. They do not cause crime. They are not foreign people. And the Japanese are good at making robots." At Toyota, robot-builders say it is not their job to answer big-picture questions. They focus, instead, on how to make machines that help elderly people live comfortably and are safe, affordable and profitable. In the next 10 to 20 years, Toyota contends, the most useful of these robots will be smart, highly mobile, wheelchair-like devices that bear little resemblance to robots in the movies. "We are not focused on making robots that look like people," said Masashi Yamashta, general manager of Toyota's Partner Robot development division. "We aim to take the elderly outside with these machines."

The two-wheel "mobility robot" that Toyota introduced in Tokyo last month can carry a person over uneven ground or can act as a porter, following its owner with groceries or some other load. If the machines work well and are affordable, it is "realistic" that a partner robot will someday be in every home in Japan, Yamashta said. "Are you going to let strangers into your home?" he asked. "Or do you have robots?" In Japan, the preference seems to be for machines.

Source: The Washington Post, January 7, 2008

Is Dementia Special Care Really Special?

Dementia is the most common diagnosis in nursing home populations, and nearly 90% of persons with dementia will have at least one nursing home stay during their lifetime. For residents with dementia, a number of nursing homes have developed special units or programs that address specific ways to maximize functioning and reduce behavioral symptoms. Dementia special care units (SCUs) proliferated during the 1980s as awareness about Alzheimer's disease increased. As of 2004, nearly 20% of all long-term care facilities reported a dementia SCU, nearly three times the number of rehabilitation units, the next most common type of specialized unit.

The majority of nursing homes with SCUs report higher staffing ratios, specialized staff training, and enhanced programs for their units. Other reports suggest that residence on a SCU requires extra cost that is almost always passed onto the resident. Despite the seemingly greater investment in care and availability of resources, studies designed to examine functional outcomes, such as behavior and cognitive decline, general have shown no overall benefits. Studies focused on how care is provided have shown some differences, but these have often been inconsistent. Problems in study design make findings difficult to interpret and limit knowledge of the true SCU "effects."

The purpose of this study was to quantify differences in care provided to nursing home residents with dementia living on special care units compare to those who are living on general long-term care units. MDS and propensity score methods were used to control for confounding effects of resident and nursing home factors.

The sample included all nursing homes that reported having a SCU on the OSCAR survey (n=2,973 homes). Both MDS and OSCAR data were used in order to establish concordance with reporting, an important consideration as all data are self-reported. SCU and non-SCU residents (i.e., general care units) were compared on process measures of care. Regardless of the differences among SCUs, it is assumed that the goal is consistent – better care for people with dementia, a central component of which is staff training and support. Clinical process measures studies included feeding tube use, physical restraint use, psychotropic medication use, and incontinence care.

Feeding tubes were infrequently used, but were more common among non-SCU residents (1.1% for SCU residents and 6.1% for non-SCU residents). There was little difference in the percentage of residents physically restrained (about 12% overall). Fewer SCU residents were reported to have had bed rails in up position (21.9% vs. 36.6% for non-SCU residents). The use of

psychotropic drugs was common in both groups, but more so in SCU residents (50.6% vs. 36.4% for non-SCU residents). SCU residents were less like to use only pads or briefs for incontinence care (33.7% vs. 49.3% for non-SCU residents). SCU residents were more likely to have a toileting schedule (52.1% vs. 38.5% for non-SCU residents).

In this study, differences in care provision were found between SCU and non-SCU residents even after controlling for resident and nursing home characteristics. It can be postulated that the more infrequent use of uncomfortable or distressing procedures positively benefits SCU residents. The higher use of psychotropic drugs among SCU residents needs further investigation as atypical antipsychotics pose substantial safety issues for those with dementia.

Source: Gruneir A., Lapane, K., and colleagues. Journal of the American Geriatrics Society, December, 2007.

INSTITUTE 2020

2007 LSN Member Occupancy Survey Report

The 2007 LSN Member Occupancy Survey Report was conducted in the Fall of 2007. A total of 291 member organizations participated in the survey, representing over 60% of those that received a survey. Of those participating, 139 (48%) provide more than one level of care and 152 (52%) provide one level of care (i.e., freestanding nursing home, supportive living, or subsidized independent living).

For participating long-term care and senior living communities, the following table shows average occupancy rates by level of care for Illinois.

Level of Care	Average Occupancy Rate
Skilled Nursing Care	81.55%
Intermediate Care	82.24%
Skilled and Intermediate Care Combined	81.62%
Sheltered Care	65.41%
Market Rate Assisted Living	86.69%
Supportive Living	82.80%
Market Rate Independent Living	89.22%
Subsidized Independent Living	95.43%

Participating long-term care and senior living communities provide care and services for 38,313 residents (capacity for 45,031 residents) for an overall occupancy rate of 85.08%.

A total of 38 respondents reported annual gross revenues for home and community based programs. Eleven of these respondents represent freestanding agencies with total annual gross revenues of \$39,664,813. Twenty-seven of the respondents represent home and community based programs that are part of a multi-service organization with total annual gross revenues of \$70,121,593.

Respondents also had the opportunity to provide data on specialized services, dementia care, rehabilitation services, specialized medical care, and payment sources on a voluntary basis. These results are reported according to type of organization and by region.

Click here to access a full copy of the [2007 LSN Member Occupancy Survey Report](http://www.lsn.org/pdf/2007_LSN_Member_Occupancy_Report.pdf).
(http://www.lsn.org/pdf/2007_LSN_Member_Occupancy_Report.pdf)

Initial Findings – Measuring the Impact of BEST CARE

The BEST CARE Program (Building Empowered Staff Teams and Creating Affirmative Relationships for Excellence) focuses on three key components to stabilize the long-term care workforce and empower staff to become partners with residents creating a person-centered culture of care in nursing home communities.

Since February of 2007, over 260 nursing managers, directors of nursing, administrators, HR directors, educators, and CNAs have attended BEST CARE workshops across the state. As a follow up to the workshop, participants then have the opportunity to participate in a web course where they gain access to additional resources and further their knowledge about the core components of BEST CARE.

BEST CARE focuses on key components supporting workforce culture transformation in licensed long-term care communities.

The Goals of **BEST CARE** are to:

- Increase staff satisfaction and feelings of empowerment and work effectiveness
- Decrease turnover rates of all staff
- Support a culture of person-centered relationships between staff, residents, and each other
- Encourage staff involvement in creating and implementing culture change practices within LTC organizations
- Provide LTC organizations with information about new employees and the performance of care teams

Part I targets three key components supporting workforce culture transformation: (1) A Framework of Person-Directed Care; (2) A Peer Mentorship Program; and (3) Primary/Consistent Assignments.

Key to measuring success of the program is an evaluation component. Participants complete a “baseline” evaluation at the workshop and then approximately eight months afterwards. The evaluation examines several key components impacting job retention including work empowerment, job satisfaction, and perceptions of the organizational culture. We are just starting to collect the initial “post-workshop” data and have some exciting results to share.

Work Empowerment

Significant improvements have been measured in the following dimensions of work empowerment:

- Staff-manager communication
- Job recognition
- Co-worker relationships

Job Satisfaction

Results are supporting the benefits of BEST CARE on building relationships among staff, managers, residents, and their families. Additionally, participants report a significant benefit related to growth opportunities as a result of the program.

Organizational Culture

Participants report growth in a “person-centered” approach to caring, the core of culture change as a result of the BEST CARE program. Teamwork is being fostered, further benefiting quality care.

Participating nursing homes that successfully complete Part I of BEST CARE will be invited to participate in Part II, "Communication Skills for Building Relationships," an additional one-day workshop and web course targeting enhancing communication skills of staff that is currently under development. More information about BEST CARE Part II will be coming in the next few months.

THE LATEST IN AGING RESEARCH

Fitness Level, Not Body Fat, Stronger Predictor of Longevity

Higher levels of cardio respiratory fitness are stronger indicators of longevity than body-fat levels for adults over age 60, according to a new study. "It may be possible to reduce all-cause death rates among older adults, including those who are obese, by promoting regular physical activity, such as brisk walking for 30 minutes or more on most days of the week," write University of South Carolina researchers in today's edition of the *Journal of the American Medical Association*.

Investigators studied more than 2,600 adults who took part in the Aerobics Center Longitudinal Study over a 22-year span ending in 2001. They found that of the 450 deaths occurring during follow-up periods, most were likely to involve individuals with lower fitness levels and more cardiovascular risks than survivors. There were no significant differences in adiposity (body fat) levels among survivors and non-survivors, they said. *Source: McKnightsonline.com Daily Update*

Disruptive Behavior Predicts Alzheimer's Disease

Disruptive behavioral symptoms (DBS) such as agitation, verbal and physical aggression, and wandering are well-recognized symptoms in Alzheimer disease (AD), with reported frequencies ranging from 6% to 57%, depending on symptom definition and the stage of illness examined. For example, in a population-based study, 40% of demented patients manifested symptoms of agitation/aggression; 18%, disinhibition; and 34%, irritability. The presence of such features in AD is not only a source of caregiver distress and financial burden (because of the need for medication treatment, hospitalizations, and nursing home placement) but also potentially associated with important disease outcomes.

Reports examining the association between DBSs and various disease outcomes have been conflicting. Some studies have reported an association between agitation and aggression and faster cognitive decline; between wandering and purposeless, inappropriate activities, or aggressive behavior and functional decline; between agitation and aggression and increased risk of institutionalization; and between agitation and wandering and increased mortality risk. However, other reports failed to detect significant associations between disruptive behavior and cognition, function, institutionalization, or mortality.

To investigate these issues, researchers analyzed data from a large, multicenter cohort of patients with probable AD who were followed up from the early stages of the disease for up to 14 years, using semiannual standardized assessments of DBSs in a time-dependent fashion as predictors of important disease outcomes.

Neurologic and mental status examinations were conducted at study entry and at 6-month intervals thereafter. The cognitive function measure used for the analysis was the Columbia MMSE (a 57-point modification and expansion of the original Folstein MMSE). Functional capacity was assessed using parts I and II of the Blessed Dementia Rating Scale.

Overall, 497 patients with AD, approximately half from each Predictors Study cohort, were included in the study. Most of the patients were recruited from the 3 centers in the United States, and patients were at relatively early stages of AD. The mean \pm SD estimated duration of illness at the time of recruitment was 4.1 ± 2.3 years. The patients were, on average, well educated and in good general health. Patients were followed up from 0.1 to 14.0 years, during which time there were 3438 visit-assessments of DBSs (average, 6.9, or ≤ 25 per patient). During the follow-up

period for each patient, missed visits were rare; fewer than 18% of patients missed more than 1 semiannual visit and fewer than 9% missed more than 2. Follow-up was complete for 94% of the cohort, whereas only 6% of the cohort ($n = 27$) had missing follow-up information for the year before the most updated data entry.

Most of the patients developed DBSs at some point during follow-up (cumulative prevalence, 83%). Throughout the follow-up period, patients with AD manifested, on average, more than 2 DBSs (mean \pm SD, 2.3 ± 1.5). Agitation/restlessness was the most common (manifested by approximately 3 of every 4 patients), followed by verbal outbursts and sundowning (manifested by approximately 1 of every 2 patients), whereas wandering and physical threats/violence were the least common (still noted in approximately 1 of every 3 patients). Overall, the presence of DBSs tended to increase over time; generalized estimating equation models indicated that the DBS sum increased by 0.07 for every year of follow-up ($P < .001$).

The presence of DBSs was associated with increased risk of cognitive decline, functional decline, and institutionalization in the unadjusted and adjusted models. The presence of these symptoms was associated with an approximately 1.5 times higher risk of reaching the stated outcomes. Overall, 179 patients (38%) were actually placed in a nursing home, a retirement home, or an assisted living facility.

Disruptive behavioral symptoms were extremely common in this study; more than 80% of patients with AD manifested them at some point during follow-up. More importantly, DBSs predicted cognitive and functional decline and were associated with a higher risk of institutionalization, even after adjusting for multiple potential confounders. Although our data should provide power to detect mortality prediction effects similar in magnitude to the ones detected for the other outcomes (HR as small as 1.45 according to calculations using baseline DBS), we detected no association between disruptive behavior and mortality.

This is one of the largest studies of its kind examining the issue of disruptive behavior in AD, supplying enough power for detection and more precise calculation of effects of interest and ability to control potential confounders. Prognosis is a standard part of a medical evaluation, and knowledge of prognostic indicators is important information to practitioners, patients, and families. These data provide a basis for expanding our understanding of disruptive behavior as a predictor in the course of AD. The underlying pathophysiological substrate of the associations between such neuropsychiatric features and clinical outcomes remains to be explored.

Source: Scarmeas, N. and colleagues, Disruptive Behavior as a Predictor of Alzheimer's Disease, Archives of Neurology, Vol. 64, No. 12, 2007.

Mental Health Overlooked in Care of Elderly Patients

Depression and other mental illnesses are common among the elderly, and when they get treatment, it usually comes from their primary care doctors. But a new study suggests that those doctors may devote too little time to talking about those ailments.

When researchers reviewed videotapes of 385 appointments with elderly patients in three separate areas, they found the median time spent discussing mental health was just two minutes. The [study](http://www.blackwell-synergy.com/doi/abs/10.1111/j.1532-5415.2007.01467.x) (<http://www.blackwell-synergy.com/doi/abs/10.1111/j.1532-5415.2007.01467.x>), which appeared in the December 2007 issue of The Journal of the American Geriatrics Society, was led by Ming Tai-Seale of the School of Rural Public Health at Texas A&M University.

More than half the patients whose survey responses suggested they were depressed never spoke with their doctors at all about their emotional state. The subject came up in about a fifth of the visits over all.

But even when patients let their doctors know about their problems, the study found, the responses were often ineffective or worse.

Source: Journal of the American Geriatrics Society, Volume 55 Issue 12 Page 1903-1911, December 2007

Fear of Falling in Community-Dwelling Elders

It has been suggested that fear of falling is a predictor of future falls because it leads to activity avoidance. The study of avoidance as a direct predictor of falls, however, has only received limited attention. The purpose of this investigation is to examine the role of activity avoidance in falls and pain in a longitudinal fashion and to determine whether measures of activity avoidance predict falls and pain over and above measures of fear of falling and fear of pain.

Approximately one quarter of persons 65 to 74 years of age living in the community report at least one fall per year. This number increases to approximately one third of community-dwelling seniors 75 years of age or older. Falls represent one of the leading causes of hospitalization for persons older than 65 years of age.

A variety of physical (e.g., poor vision, central nervous system problems) and psychological (e.g., fear of falling) risk factors for falling have been reported. Physical risk factors for falls include changes in the vestibular, somatosensory, and visual systems of seniors. A psychological risk factor for falls is fear of falling. Fear of pain also may be an important factor in falling, but this hypothesis has not been investigated extensively. The available empirical evidence demonstrates that fear of pain is one of the most potent predictors of disability as well as cognitive impairment, orthopedic diagnosis, cardiovascular diagnosis, and depression.

Between 25% and 33% of individuals who fall acknowledge avoidance of activity because of fear of falling. There is also some evidence that falls as well as fear of falling can lead people to restrict activity beyond the level warranted by physical injuries resulting from the fall itself. People with high fear of falling experience greater declines in activities of daily living (ADL) over time. Self-imposed activity restriction could precipitate balance deterioration.

It is only very recently that investigations of the construct of fear of pain have begun to focus on seniors. Our assumption was that as a result of perceptions relating to physical capabilities, elderly persons are more likely to become cautious or fearful about the consequences of injuring themselves or the perceived impact of disease onset. If so, elderly people could become mired in a vicious fear–avoidance cycle at the time of injury or disease onset and thus have poorer adaptations to illness and rehabilitation outcomes. Likewise, it is plausible that as a result of their vigilance to potential catastrophe and deconditioning, these same individuals may be paradoxically more prone to falls and pain.

Consistent with prior research, these findings support the distinctiveness of fear of pain and fear of falling because only the latter was found to be a predictor of falls. Of interest, fear of pain and pain-related avoidance were not predictors of future pain. Moreover, in contrast to what might be expected from the fear–avoidance model of pain, fear of pain was not a predictor of future pain-related avoidance.

These findings challenge existing conceptualizations of the role of activity avoidance in the prediction of pain and falls, at least when it comes to community-dwelling older adults. As such, it would be important for future work to replicate results.

Source: Hadjistavropoulos T., Martin R., and colleagues. Journal of Aging and Health 2007: 19: 965-984.

High Blood Pressure Heightens Alzheimer's, Researchers Say

Although it is not the root of Alzheimer's disease, high blood pressure appears to exacerbate the condition, researchers say. High blood pressure lessened the flow of blood in the brains of adults with Alzheimer's, heightening the disease's effects, according to University of Pittsburgh investigators.

"This study demonstrates that good vascular health is also good for the brain," noted report co-author Oscar Lopez, M.D., a professor of neurology and psychiatry. "Even in people with Alzheimer's disease, it is important to detect and aggressively treat hypertension and also to focus on disease prevention."

Researchers used a newer, non-invasive form of magnetic resonance imaging to study blood flow in the brain in 68 older adults. Six subgroups were studied: those with no impairment, mild impairment and Alzheimer's, and each of those subgroups with and without high blood pressure.

Blood flow in the brain was the least among Alzheimer's patients with high blood pressure. Blood flow was less in the non-impaired group with high blood pressure than the non-impaired group without dementia or high blood pressure. While hypertension has long been known to put people at greater risk for stroke and heart attack, only recently has evidence grown suggesting that cardiovascular fitness also affects brain health.

Source: *McKnightsonline.com Daily Update*

Who Pays for Those Who Need Assistance?

Caregivers of people 50 years or older spend about 10% of their own income on the person, found a telephone survey of 1,000 people who cared for a relative or friend with chronic conditions. The average amount spent on caregiving was US \$5,531 a year, out of an annual median income of \$43,026. Among the caregivers, 22% had an annual income less than \$25,000 a year. The respondents were an average age of 56 years.

Caregiving expenses included household goods, food and meals (42%), travel and transportation (40%), medical co-pays and medications (31%), medical equipment and supplies (22%) and clothing (21%).

"We knew that the costs associated with caregiving needed a closer look, but to find that more than half of the caregivers are spending more than 10% of their income on average sheds new light on the incredible financial burden of those we're relying on to care for our aging population," said Gail Hunt, president of the National Alliance for Caregiving. "The study points to a Catch-22 for these caregivers. By spending today, they risk being unable to meet their own needs tomorrow."

Over half (69%) of the women consulted in a separate AARP telephone survey of 629 women, ages 45 years or older, have spoken with their parents about their ability to live independently as they get older. However, only 40% have begun planning with their parents for assistance they may need. Most of the women (68%) believed their parents were financially prepared to pay for assistance, although past AARP research has shown that people underestimate these costs and assume Medicare will help cover them, which is not accurate.

Sources: *Evercare (November 19, 2007)*

(http://www.evercarehealthplans.com/pdf/Evercare_Cost_Study_11-19.pdf) and AARP (November 2007) (http://www.aarp.org/research/housing-mobility/inliving/boomer_women.html)

Few Cancer Services Provided to Nursing Home Residents

Elderly nursing home residents receive relatively few cancer care services, including screening, surgical treatment, or hospice care, according to a study in the *Journal of the National Cancer Institute* (<http://jnci.oxfordjournals.org/cgi/content/abstract/djm271v1>). Researchers assessed the cancer care received by elderly nursing home residents who were insured by Medicaid. Using data from the Michigan Tumor Registry and Medicare records, they identified 1,907 nursing home residents diagnosed with cancer. They analyzed the patient data by cancer stage at diagnosis, type of cancer, survival time, and whether the patient received surgery or hospice care, as well as other variables.

Sixty-two percent of the nursing home residents with cancer had late- or unstaged disease when they were diagnosed, and almost half died within three months of diagnosis. Among patients with late-stage cancer, only 28% received hospice care. Patients 71 to 75 years of age were three times more likely to have surgery than patients 86 years and older.

"An aging population, coupled with trends in cancer diagnosis and treatment, will shift more cancer care ... to nursing homes and make investigations into the care of nursing home cancer patients particularly relevant. At present, nursing homes may be unequipped to recognize and care for their residents with cancer," write the authors.

An accompanying editorial describes the essential components of cancer care, which include treatment, follow-up care, and palliative care. It also discusses the importance of further studies on the cancer care needs of this unique population of elderly nursing home residents. "Optimal palliative care will often require multidisciplinary approaches and treatment plans made in accordance with the wishes of, and in partnership with, the patient and family, with a goal of decreasing morbidity and a focus on quality of life," write the editorialists.

Source: Nursing Homes/LTCM eNewsletter

Does More Health Care Improve Older Adult's Health?

Conventional wisdom suggests that people will experience improvements in health status if they receive more health services. Those who contend that medical care has delivered considerable gains to population health cite many factors, such as the development of vaccines for infectious diseases and improvements in medical care as being responsible for mortality rate reductions in the 20th century.

In contrast, some researchers note that most of the gains in population health in the 19th and 20th centuries were a result of improvements in living conditions, nutrition, and public health with medical care contributing relatively little. However, from 1950 to 1996, the average life expectancy in the U.S. rose by an additional 7.6 years, most of which may be attributable to improvements in medical care. Medical care has been responsible for considerable improvements in quality of life since 1950 and has the greatest potential to continue to improve population health status.

This research study assessed the association of health care services use by older adults living in the community with subsequent physical health indicators. This is a significant policy issue given that the elderly population is growing rapidly and consumes a disproportionate share of the nation's health care resources. There is extremely limited research assessing the effects of medical care on physical health using longitudinal data derived from a population-based sample.

This study is unique in that the researchers approached the problem by using longitudinal data from 1995 to 2000 on a national sample, adjusting for baseline health status which may influence health care service utilization.

Findings of the study indicated that more use of health care is not necessarily associated with better health among older Americans. With the exception of outpatient surgery, more hospitalizations, physician visits, and prescription drug use are all correlated with slightly worse health status in terms of self-rated health and activities of daily living limitations. One explanation of these negative results is that more health care use is a proxy of poor health at the baseline. Consequently, the effects of medical care are confounded by poor health at the baseline.

The pressing issue is why there are no consistently positive associations of health care with subsequent health status. An explanation may be related to the quality of care delivered in the U.S. If all services used were appropriate and delivered skillfully, we would expect to see improvements in subsequent health status. Recent research has shown that a considerable

proportion of care delivered is not the recommended process, based on current professional knowledge, although there may be a greater proportion of appropriate care delivered to the elderly population through Medicare than to the general population.

The Institute of Medicine's findings of deficiencies in the overuse of ineffective care and the underuse of effective care within the U.S. health care system also seem to support this explanation. If many people are using inappropriate or ineffective services, it would help explain why we find no improvements in the health status as a result of health services used.

This study reinforces the urgency for improving the quality of health care in the U.S. The adoption of evidence-based effective interventions should be a priority.

Source: Golberstein E., Liang J., and colleagues. Journal of Aging and Health 2007; 19: 888-906.

Older Adults with Mild Memory Impairment and Response to Memory Training

In otherwise healthy older adults, memory is a vital cognitive skill for maintaining independent functioning. Many older adults living in the community may already exhibit some impairment of their ability to form new memories, a process called declarative memory. The multisite Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study followed over 2800 community-dwelling older adults who were at risk for loss of independence. Participants averaged 74 years of age and 14 years of education, 76% were women, 74% were white, and 26% were black. While all participants were screened for any obvious signs of cognitive decline or dementia, roughly 200 who showed signs of mild declarative memory impairment during baseline testing were included in the study.

The participants received training in 1 of 3 areas of cognitive function important for independent living: (1) memory, focused on task performance requiring learning and remembering new information; (2) reasoning, emphasizing pattern detection and inductive skills; or (3) speed of processing, addressing the speed of visual and manual responses to prompts. Only the memory training component involved the participant's declarative memory ability. Training was conducted in 10 hour-long sessions over 5-6 weeks.

Compared with a control group that received no training, participants with normal memory ability at baseline who received the memory training showed significant improvement in memory tasks. However, among subjects with memory impairment, those in the memory training group showed no benefit, while those who received reasoning or speed-of-processing training showed gains comparable to those of the normal-memory participants.

Previously published results from the ACTIVE study have shown that training older adults in specific cognitive skills improves performance in the targeted areas. These results indicate that older adults with mild memory impairment may not respond well to memory training, although they may benefit from other forms of cognitive training that do not require memorization or the declarative memory process.

Source: Unverzagt FW, Kasten L, Johnson KE, et al. Effect of Memory Impairment on Training Outcomes in ACTIVE. Journal of the International Neuropsychological Society. 2007;13:953-960.

WHAT'S UP WITH BOOMERS

Using TV and the Internet to Tap into the Boomers

The Baby Boomers--those born between 1946 and 1964--comprise a market of 76 million people. And unlike the younger generations who are saving to buy houses and cars and struggling to raise a family, Boomers have a fat wallet of disposable income (some experts have approximated

that Boomers have nearly a trillion dollars of spending power). Knowing this, no company can ignore the sheer size of the market, nor the wealth or voice that they have. That's why smart marketers are rethinking their ad campaigns and targeting this profitable niche.

So what's the best way to reach this market? TV and Internet, for sure. While television is still the most effective medium for reaching Boomers, the online options are growing fast. Following are some guidelines for using each effectively.

Boomers were the first generation to grow up with TV, so it makes sense that they still prefer this medium as they age. In fact, on average, Boomers watch 22 minutes more TV per day than younger people, according to Nielsen Media Research. And since TV viewership increases with age, as the Boomers mature, their TV viewing time will continue to rise. What does this mean for marketers?

Boomers tend to watch programs that center around life stages. For older Boomers, shows like "CSI" and "Dancing with the Stars" are favorites. Older Boomers also prefer news programs and are less interested in reality TV. For younger Boomers, shows like "Grey's Anatomy" and "Desperate Housewives" are popular. In addition, science fiction programming is popular with all Boomers, perhaps because this generation watched so much of the genre while growing up. Therefore, if you want your TV ads to reach Boomers in the most cost efficient manner, you have to place them during the shows that Boomers watch.

While younger TV viewers are likely to be online while watching TV, and may even interact with the program via online voting, text messaging or chat rooms, don't count on that with Boomers. They tend to focus on one media at a time. For advertisers, that means Boomers won't likely type in your displayed Web address while watching your commercial spot. Rather, they'll pick up the phone and call the toll-free number you display or go to your website after they finish watching a TV show.

Since Boomers are not in their 20s and 30s anymore, make sure your ads reflect the needs, wants, and images of older Americans. A 20-year-old perfectly airbrushed model touting an anti-wrinkle cream won't speak to the Boomer market. Go for more mature spokespersons, and really do your homework to determine how your product or service helps Boomers. The big categories or "hot buttons" for boomers are: security, longevity, money management, wealth transfer, lowering their bills, and travel.

The big misconception in online marketing is that you can't reach Boomers via the Internet. In fact, Baby Boomers make up one-third of the 195 million Web users in the United States, according to Jupiter Research. In addition, ad buyers targeted Boomers with close to 5 billion dollars in ads in 2004, out of 13 billion spent in Web advertising. So don't think that Boomers aren't online and that they reject technology. Nothing could be farther from the truth.

According to the Pew Internet & American Life Project, over half (54%) of 60- to-69-year-olds go online, and 72% of 51- to-59-year-olds surf the Net. Furthermore, studies show that Boomers spend more money online than the average Web user--yet they're still the most underserved audience on the Net. Therefore, if you want to serve this demographic, consider the following.

Boomers crave social networks. Sites like FaceBook.com and MySpace.com target younger people, and LinkedIn.com focuses on business professionals. While Boomers do participate in such online social networks, they usually discover that these sites have little to offer them. If you want Boomers to be regular visitors to your site, offer them a place where they can connect with each other and explore topics of interest to them. It may be helpful for you to check out a new site, TeeBeeDee, www.tbd.com, which is specifically designed for Boomers and is positioned as a Facebook www.facebook.com for Boomers.

Boomers are most interested in such topics as alternative health, entertainment, finance, health, hearth and home, hobbies and fitness, and travel. Boomers are frequent and engaged online users, so make sure your site has the type of information they are most interested in. This generation is also going through a life stage filled with lots of tough issues, including retirement, investment planning, and health care. If your product or service can help Boomers better plan for these life transitions, then you need to prominently state this on your site and offer lots of information on the topic.

Boomers don't want a Web page to be overwhelming. Therefore, limit how much "stuff" you have going on the screen. Remember, Boomers don't like to multi-task, so don't try to pull their attention away from the core information they came to your site for.

Once you effectively target the Baby Boomer demographic, your sales will increase. The key is to understand what this group wants, and how they use and view the different advertising mediums. So take a look at your current TV and online campaigns and make sure they address the needs and concerns of the Boomer market. Revamp your marketing messages and placements as needed so you can cash in on the nearly trillion dollars of spending power this group has. When you do, you'll have tapped into a large and profitable niche that can quickly boost your company's profits to new levels of success.

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Older Men Respond to Online Direct Mail

Don't ignore older men when it comes to online marketing, a new survey indicates. The responsiveness of men aged 55-64 to direct mail advertising on the Web has grown from 10% in 2003 to 28% in 2007, reports Vertis Communications based on the results of its Customer Focus Tech Savvy study.

(http://www.vertisinc.com/files/PressReleases/071112PR_VCF_DM_TechSavvy_Consumers.pdf)

The poll of 2,000 consumers also finds that more than half of men aged 55+ want interactive follow-up from a product or company in which they've expressed an interest online. Slightly less want an e-mail communication that is personalized to their needs.

"Adding an Internet component to direct mail campaigns targeting the older population may greatly increase the overall effectiveness of marketers' spending, particularly as men reach retirement and find more time to surf the Web," says Jim Litwin, vice president of market insights for Vertis. Men aged 55-64 also are most satisfied with their cell phone companies, with only 13% indicating plans to switch service in the next year.

Older women—particularly those aged 65+— are less easy to please, the survey reveals. They are not as interested in interactive, personalized or generic follow-up e-mails from a company in which they've expressed interest, and fewer say they regularly read e-mail advertising.

Voters Call for LTC Reform

American voters want action on long-term care reform, with 94% saying its important and 69% saying presidential candidates have failed to address the issue, reports the National Commission for Quality Long-Term Care, a group led by former Sen. Bob Kerrey and former House Speaker Newt Gingrich. (See the article and link to the full report under the EngAge section "Key Resource in Aging".)

The report includes results of a nationwide survey showing 85% of voters agree that our nation has an obligation to provide quality long-term care services to the elderly, and almost two in three say they would participate in voluntary contribution system for financing long-term care, even at a

cost of \$50 a month. The majority of voters surveyed also say they've had some personal experience with long-term care. Six in 10 have had a relative in the long-term care system, and a quarter currently has a relative receiving long-term care. Yet, a third still believes most long-term care is paid for by Medicare, which it is not.

The report addresses a variety of issues to reform the long-term care system, including quality, workforce, technology and financing.

Climate Bests Healthcare Costs in Choosing Retirement Destination

What goes into an older adult's decision about where to move in retirement? According to a poll conducted for Longevity Alliance, Americans aged 40+ consider a location's overall cost of living (92%) and climate (81%) more than healthcare costs (76%), ease of transportation (69%) or proximity to friends and family (49%).

Failing to factor in healthcare can be a mistake, the organization advises, because costs for things like insurance premiums, Medicare health plans, Medicaid, and long-term care vary widely by region. It recommends seniors investigate healthcare costs ahead of time and consult their current insurer and broker for advice. Longevity Alliance also offers seniors a free guide called *Uncover a Hidden Cost of Moving: Health Care*.

(http://www.lsnri.org/pdf/HiddenCostofMoving_HealthCare.pdf)

Identity Theft Has Seniors Worried

More than 80% of older consumers are concerned about becoming a victim of identity theft, AARP finds, and few know of a service that could protect them.

AARP says only 31% of seniors have ever heard of a security freeze, which requires the three consumer reporting agencies (Equifax, Experian and TransUnion) to block access to a consumer's credit information and score without the consumer's express consent or authorization.

Such a freeze can block identity thieves from opening new lines of credit and bank accounts. AARP has set up a Web site (<http://www.aarp.org/securityfreeze>) to educate older consumers about the practice.

Quarter of 50+ Have Prepaid Funeral Expenses

Funeral companies could do more to help older Americans learn about the pros and cons of preplanning their funeral, AARP research (http://assets.aarp.org/rqcenter/consume/funeral_survey.pdf) indicates. While 23% of Americans aged 50+ surveyed say they've prepaid at least a portion of funeral or burial expenses for themselves or someone else, 60% have never been contacted about purchasing their funeral in advance.

More than 20% of respondents also said they are interested in learning more about environmentally friendly burials, including cremation and using a blanket shroud instead of a coffin.

Source: Selling to Seniors, (<http://www.seniorsnews.net/sts/index.php>) 12/06/2007

MetLife Mature Market Profiles Baby Boomers Turning 62

The MetLife Mature Market Institute has recently released a report profiling the baby boomers turning 62 in 2008. Boomers Ready to Launch (<http://www.metlife.com/WPSAssets/15708378001198694051V1FBoomersReadytoLaunchHighlights.pdf>) finds that the majority (77%) of boomers born in 1946 say they are in good to excellent health, their net worth (excluding home value) is an average of \$257,800, and their average annual income is approximately \$71,400.

On average, the age at which they believe they'll be 'old' is 78, with their health status being a deciding factor. Those in excellent health say they'll be old at 83, while those in poor health put that number at 74. The most popular words they use to describe the best things about being 62 are 'retirement,' and 'not having to work,' and the words used to describe the worst things are 'old age' and 'health problems.'

Fifty-four percent acknowledge doing only a poor to fair job of ensuring that they have adequate coverage for their own long-term care needs. Twenty-two percent have long-term care insurance.

Sixteen percent would consider a reverse mortgage primarily to take care of their own long-term care needs and costs; 74% are aware that they are eligible at age 62 to apply for a federally backed reverse mortgage.

Members of the group who say they will take Social Security at age 62 reasoned that they feel they're entitled and would rather have the money than let the government have it. Respondents reported that they believe it's in their financial interest to take Social Security sooner. Other reasons reported were: they need the money right now and they fear there will be nothing left in the system if they wait.

Only 5% have both parents still living; 27% have one parent. The fact that the remaining 68% have neither of their parents living indicates that caregiving for an older relative is no longer a responsibility:

- Eighty-seven percent say neither they nor their spouse are caregivers to elderly parents or relatives right now.
- Of the 14% who are caregivers, 16% of them are providing care for more than 20 hours a week—the average number of hours is 9.5.

Forty-five percent like the term 'baby boomer' outright and another 38% are somewhat in favor of it; 17% don't like it. As for the term "retirement," 52% like it, 31% like it somewhat, and 18% don't like it.

Politically, 44% of these baby boomers report that they were and remain conservative; 20% say they were more liberal when they were young and have become more conservative since their 20s. Twenty-two percent say they have remained liberal, while 15% say they were more conservative and have become more liberal since their younger days. As for education, 45% have an associate's or bachelor's degree.

When asked to use one word to explain the best aspect of being 62, respondents answered: retirement or being close to retirement, being alive, freedom, health, Social Security, wisdom, and independence. As for the worst aspects, respondents answered: illness (overwhelmingly), disability, wrinkles, aches and pains, discrimination, under-appreciation, memory loss, mortality, and generally getting older.

KEY RESOURCES IN AGING

New Report Makes Recommendations for Improving LTC

The population of the United States is heading toward a dramatic and unprecedented demographic shift. Well into this century, the number of older Americans will grow substantially with each passing decade as the average person lives longer than we ever imagined possible.

As a result, the nation will experience an unprecedented demand for high-quality long-term care services provided in a wide variety of settings, including private homes, assisted living facilities and nursing homes. Unless we take action in the near future to prepare for these changes, our nation will not be ready and, inevitably, many of our citizens will suffer.

The National Commission for Quality Long-Term Care calls for a bold, national discussion about how the United States can create a new and better long-term care system that will help older people and people with disabilities remain independent for as long as possible.

The Commission calls on the Congress of the United States to hold hearings during 2008 that will investigate and recommend workable strategies to design and implement that system. The Commission also urges the next President of the United States to provide the leadership necessary to launch a multifaceted transformation of long-term care so that it:

- Places the needs and preferences of consumers at the heart of every care setting and fosters the right of those consumers to make care and lifestyle decisions for themselves.
- Provides adequate supports for family caregivers, without whom the nation could not care adequately for its aging citizens and citizens with disabilities.
- Ensures that long-term care workers receive the training, compensation and respect they need to provide compassionate, high-quality care.
- Adopts emerging technologies that will help maximize the independence of older consumers and make care provision more efficient.
- Institutes a financing system that utilizes public and private resources to ensure that every American who needs quality long-term care will have access to those services.

The National Commission for Quality Long-Term Care releases final report with recommendations to improve a severely strained long-term care delivery system. Click on the following link to access the full report: www.ncqltc.org/pdf/Final_Report_NCQLTC_20071203.pdf

U.S. Department of Health and Human Services Strategic Plan Released

Healthy and productive individuals, families, and communities are the foundation of the Nation's present and future security and prosperity. Through leadership in the medical sciences and public health and human service programs, the U.S. Department of Health and Human Services seeks to improve the health and well-being of people in this country and throughout the world.

This HHS Strategic Plan for Fiscal Years 2007–2012 addresses health care; public health promotion and protection, disease prevention, and emergency preparedness; human services; and scientific research and development. These broad goals represent the mission of the U.S. Department of Health and Human Services and encompass its central functions.

Since HHS submitted its last strategic plan to the U.S. Congress in 2004, HHS has made significant strides in improving the lives of Americans. HHS has made progress through the efforts of every HHS operating and staff division. Some of these highlights include:

- Breakthroughs in health information technology have accelerated the development and adoption of this promising resource.
- Medicare beneficiaries have greater access to their medications because of the Medicare prescription drug benefit.
- Medicaid can tailor benefits to needs because its modernization efforts have made the program more flexible and sustainable.
- HHS deployed medical supplies and Federal Medical Shelters from the Strategic National Stockpile to help with mass casualty care needed after Hurricanes Katrina and Rita.
- The newly created Drug Safety Oversight Board has provided independent recommendations related to drug safety to the Food and Drug Administration and shared information with health care professionals and patients.

- HHS Compassion Capital Fund has strengthened the capacity of grassroots, faith-based, and community organizations to provide a wide range of social services.
- Advances in the understanding of basic human biology enabled sequencing of the human genome 2 years ahead of schedule.

Although HHS has made great progress, it must continue its current efforts to sustain positive outcomes and augment them with new, innovative strategies to continue to improve the Nation's health and well-being.

At the same time, HHS must work diligently to address emerging and reemerging health threats. These include a possible influenza pandemic; the rise of drug-resistant strains of tuberculosis and HIV; and potential terrorist attacks involving chemical, biological, radiological, and nuclear agents.

HHS Strategic Plan, Fiscal Years 2007–2012 (Strategic Plan), provides direction for HHS efforts to improve the health and well-being of the Nation. The *Strategic Plan's* goals and objectives direct HHS efforts to improve health care, promote and protect the public's health, enhance human services, and advance the research and development enterprise.

The *Strategic Plan* also addresses emerging threats to the health and well-being of Americans. The *Strategic Plan* encompasses the major areas of focus for HHS at the goal level and lays out the primary strategies for achieving these goals.

Access the HHS Strategic Plan at: <http://aspe.hhs.gov/hhsplan/2007>

Minimizing Adverse Drug Events in Older Patients

Adverse drug events are common in older patients, particularly in those taking at least five medications, but such events are predictable and often preventable. About one in three older persons taking at least five medications will experience an adverse drug event each year, and about two thirds of these patients will require medical attention.

Approximately 95 percent of these reactions are predictable, and about 28 percent are preventable. However, age is not the only risk factor for an adverse drug reaction in older patients. Preventable adverse drug events in older adults are often the result of misuse, overuse, or underuse of medications.

Avoiding Misuse of Medications

The fact that drugs affect older adults differently has been apparent for some time, and work in geriatrics has moved from theoretical considerations to specific recommendations. In 1991, an expert consensus panel developed the Beers criteria, a list of drugs that should generally be avoided in adults residing in skilled nursing facilities. This list was updated in 1997 to address a wider population of older adults. The panel also identified "high-severity" medications on the list, based on the risk of adverse event occurrence combined with the clinical significance of the outcome. An expert panel convened in 2002 to incorporate additional data and new medications.

These criteria label certain medications as "potentially inappropriate," either for older persons in general or for older persons with specific medical conditions. The list relies heavily on expert opinion because so little research evidence on older persons is available. There is conflicting research on the ability of these criteria to predict adverse drug events, improve quality of life, or decrease costs. Despite the lack of outcomes data and the development of a more nuanced list by Zhan and colleagues, the Beers criteria have been widely adopted. The list is the most commonly used research tool for studying inappropriate prescribing practices. These criteria, when applied to older adults, show that between 14 and 24 percent of patients receive potentially inappropriate medications.

Medications with a potential for higher severity adverse drug events are listed [here](http://www.lsnj.org/pdf/Drug_table.pdf). (http://www.lsnj.org/pdf/Drug_table.pdf)

For patients who have not yet started these medications, all of these drugs are easily avoidable, because safer and equally effective alternatives are available. Discontinuation is not always required in patients receiving long-term treatment with one of these drugs. However, the lowest effective dose should be used rather than waiting until an adverse drug event occurs, and discontinuation should be strongly considered.

Avoiding Overuse of Medications: Polypharmacy and Overdosing

The term *polymedicine* has been used to describe the increasing number of medications related to a similarly increasing number of medical problems. *Polypharmacy*, on the other hand, denotes an inappropriate use of multiple medications. No commonly accepted definition exists for the threshold at which a patient's polymedicine list becomes polypharmacy. More than 40 percent of ambulatory adults older than 65 years use at least five medications per week, and 12 percent use at least 10 medications per week. Increasing the number of medications also increases the risk of drug-drug interactions and adverse drug events, the most common of which are listed here. (http://www.isni.org/pdf/Drug_Interactions.pdf)

Two recent systematic reviews have identified proven methods a physician can use to reduce inappropriate prescribing. These include using the Beers criteria, asking pharmacists for their input on reducing inappropriate prescribing, educating patients about the risks of polypharmacy and benefits of medication compliance, and using computerized alerts.

A team approach that provides education to the health care professional and patient, where feasible, is effective in decreasing the number of medications taken by older patients and reducing the occurrence of adverse drug events. Assessment teams involving pharmacists and nurses can evaluate drug regimens and suggest changes. Occasionally, pharmacists will conduct stand-alone medication brown-bag reviews and suggest changes. Serious consideration of these changes may help preempt adverse drug events. Also, use of recent advances in technology, including personal digital assistants and computerized alerts associated with an electronic health record, can reduce adverse events.

Another way to avoid adverse drug events is to explore nonpharmacologic treatment options. For instance, the use of physical therapy and exercise for musculoskeletal complaints is effective and much less toxic than chronic use of nonsteroidal anti-inflammatory drugs. Referring a patient to a senior community center can help with depression and even allow for the avoidance of antidepressant medications. Relaxation techniques and cognitive behavior therapy are effective in controlling anxiety and can take the place of anxiolytics. Lifestyle modification can help patients lower high blood pressure and elevated cholesterol and obviate the need for antihypertensives and statins. The focus should be on maintaining functional status.

Proper dosing of medication is even more important in older patients. Renal function remains one of the most important pharmacokinetic factors to alter the effect of a drug. Serum creatinine level is not a reliable measure in older adults, because it assumes a muscle mass that older patients may not have. Although a 24-hour urine assessment is the most accurate measure of a patient's renal function, it is inconvenient. In the absence of 24-hour urine measurements, the Cockcroft-Gault equation and the Modification of Diet in Renal Disease (MDRD) study equation provide an age-adjusted estimate of the glomerular filtration rate (GFR). A GFR of less than 50 mL per minute per 1.73 mm² is a predictor for drug-related problems, even though dosage adjustments for renally excreted drugs often are not recommended until the GFR is less than 30 mL per minute per 1.73 mm². Free online versions of the Cockcroft-Gault (<http://nephron.com/cgi-bin/CGSI.cgi>) and MDRD (http://www.nephron.com/MDRD_GFR.cgi) equations are available.

Avoiding Underuse of Medications: Underprescribing and Nonadherence

Despite concerns about overprescribing, many conditions remain underdiagnosed or undertreated. For example, a recent survey of older adults in assisted living centers found that 60 percent of those with a history of myocardial infarction were not receiving aspirin, and 76 percent were not receiving a beta blocker. Another study found that only 55 to 75 percent of patients with diabetes received angiotensin-converting enzyme inhibitors or angiotensin-II receptor blockers when they were clinically indicated. Ascribing all symptoms to degenerative disease or old age will potentially miss treatable conditions.

Rheumatoid arthritis beginning in older adulthood, depression, diastolic heart failure, and ataxia secondary to normal-pressure hydrocephalus are examples of conditions that should be diagnosed and treated in older patients but are often missed. Prevention and treatment of osteoporosis must be improved in older adults, particularly among men and women with a history of minimal trauma fracture. Simple interventions, such as a single monthly high dose of vitamin D, have been shown to improve outcomes in this population. Pain can be undertreated or overtreated, especially in the context of neuropathic pain and cancer, because physicians can prescribe dosages that are too high or too low in relation to the amount of pain the patient has.

Nonadherence (also called noncompliance) refers to the discordance between physician recommendations and the patient's subsequent behaviors. Patient nonadherence occurs with 40 to 60 percent of prescriptions and is complex in its presentation and origins. Although nonadherence commonly refers to patients failing to take their recommended medications, it can also refer to patients consuming too much of a medication or remaining on a medication despite physician suggestions to stop.

Nonadherence is a complex phenomenon determined by a variety of issues, including physician-patient communication, cognitive decline, and the cost of medication. Interventions aimed at increasing adherence have focused on addressing such factors. However, using these interventions often assumes that the problem lies in some deficit of information and that a correction of that deficit will change behaviors. They fail to recognize that some patients actively choose to be nonadherent despite having all the correct information. Nonadherence is not simply a knowledge discrepancy, but it can also involve feelings, reactions to the physician, cost, availability, and competing medical belief systems.

The recent implementation of Medicare Part D drug benefits and a complex scheme involving annual dollar limits may magnify issues of cost to some patients. Two thirds of older patients do not tell their physicians in advance that they plan to underuse a medication because of its cost, and 35 percent never discuss at subsequent visits that they have underused the medication. Many will not talk about it if they are not asked.

Simply asking whether a patient plans to use his or her prescription may be useful. In many cases, more expensive drugs initiated by another physician have generic substitutes that are equally effective and much less expensive. Examples include using omeprazole (Prilosec) instead of esomeprazole (Nexium), lisinopril (Zestril) instead of an angiotensin receptor blocker, and lovastatin (Mevacor) or simvastatin (Zocor) instead of atorvastatin (Lipitor) or rosuvastatin (Crestor).

Source: Pham, C. and Dickman, R. Minimizing Adverse Drug Events in Older Patients, American Family Physician, Vol. 76, No. 12, 2007.

The Future Role and Challenges for Medicaid – New Report

This new report from the Kaiser Family Foundation's Commission on Medicaid and the Uninsured examines the structure and impact of Medicaid's role in long-term care. The report outlines seven problems faced by states on long-term care financing related to Medicaid.

Medicaid's role from inception has been to ensure access to health care for low-income Americans. In fulfilling this role, Medicaid has become the major payer for long-term care services and supports to low-income persons and a safety-net for those who become impoverished as a result of long-term care needs. Over half of those who use Medicaid long-term care services and supports are individuals age 65 years and older. Nearly 3.4 million persons rely on Medicaid long-term care services for a range of physical and mental health care needs.

This report addresses seven major policy challenges facing Medicaid long-term care. These issues include:

1. Integrating Services for Persons with Long-term Care Needs. Often, older adults with long-term care needs also face acute care problems and have needs beyond the services offered by housing, social services, and home care assistance. The need for Medicaid programs to coordinate with other service sectors has grown, particularly targeting the use of community versus institutional services. Poor care coordination results in lack of access to needed services.
2. Impact of Varying Disability Criteria. Each state interprets "need for institutional care" differently using state-administered assessment and eligibility systems. The rationale for these variations in eligibility criteria should be addressed for its impact on equitable access to long-term care services.
3. Means-Testing the Benefit. In addition to meeting need criteria, individuals must meet financial qualifications for Medicaid coverage of long-term care services. Elderly who qualify for Medicaid must have very few assets (\$2,000 for an individual and \$3,000 for a couple in most states).
4. Balancing Institutional and Community-Based Care. Medicaid covers a continuum of long-term care service settings from nursing homes to the community. States are employing a wide range of approaches to rebalance long-term care in favor of community settings such as nursing home diversion programs and transition programs, but restrictions on income and assets for persons in the community may inhibit goals to reducing nursing home usage.
5. Flexible Benefit Design. Flexibility provides the opportunity to individualize services and respond to consumer preferences, but poses challenges in maintaining equity and assuring that needs are being met. Focusing on outcomes, not solely on costs, as measures of system and program performance needs to occur.
6. Maintaining and Monitoring Quality of Care. Quality of care is an ongoing concern in providing services to vulnerable populations including low-income older adults. Most attention to quality of care has been on nursing homes and not consistently or comprehensively evaluated in community-based settings.
7. Financing Long-Term Services and Supports. The number of persons with long-term care needs is projected to grow and high costs of services means a substantial proportion will turn to Medicaid. The most commonly recommended alternatives to Medicaid financing of long-term care services – greater coverage by private long-term care insurance and home equity programs – are usually out of reach by low-income populations.

Access the full report at: www.kff.org/medicaid/7671.cfm

Sleep Disorders in the Elderly

Sleep disorders are common but frequently underdiagnosed in the elderly. Aggressive screening and appropriate therapy can significantly improve general health and well-being. Complaints of sleep difficulty are common among the elderly. In a National Institute of Aging Study of over 9000 subjects aged 65 and older, more than 50% of men and women reported frequent trouble falling asleep, difficulty waking or waking too early, or needing to nap and not feeling rested.

Normal sleep follows a well-described and predictable pattern called sleep architecture. The average adult experiences 4 to 5 full sleep cycles over an 8-hour period. A typical sleep cycle comprises 4 stages and takes 90 to 110 minutes. Sleep is initiated as stage 1 and marks a very light grade of sleep. It progresses into stage 2, a deeper, denser stage of sleep. Slow-wave

sleep, also known as delta sleep, is the next stage and marks the densest state of sleep. This state of sleep is considered the most restful and recuperative. The fourth stage of sleep is rapid eye movement (REM) sleep and is marked by muscle atonia as well as extensive physiologic excursions, such as accelerated respiration, REMs, and muscle relaxation.

Sleep architecture changes significantly in the elderly. More time is spent in bed awake before falling asleep, as sleep initiation is more difficult; total sleep time and sleep efficiency are reduced; delta-wave sleep decreases; and sleep fragmentation increases. Early awakening is a common complaint in the elderly. Natural physiologic changes in circadian rhythm influence many elderly people to go to bed and wake up earlier.

Daytime napping may compound the problem by reducing the need for sleep at the usual bedtime hour, delaying sleep onset and further decreasing the duration of nighttime sleep. Elderly patients often develop night-owl patterns, with bedtime delayed until the early morning hours. In the older population, sleep disorder tends to occur secondary to comorbidities such as respiratory problems, physical disabilities, medication use, symptoms of depression, and environmental factors.

Elderly patients with insomnia need a very detailed and comprehensive evaluation, as multiple secondary factors can be contributing to or exacerbating the symptom. Medical, behavioral, and environmental factors must be evaluated. Psychiatric disorders such as subsyndromal depression and dementia are very common in the elderly and are known to affect sleep. Other common psychiatric problems such as anxiety disorders, for example, are associated with changes in sleep, such as disrupted sleep or nightmares. Therefore, special emphasis should be placed on the psychiatric evaluation. Commonly, elderly patients take numerous medications, both prescription and OTC, many of which can affect sleep. A detailed medication history is of the utmost importance.

Beta-blockers, commonly used to treat hypertension and heart disease, are liable to cause sleep disturbance, such as vivid dreams, nightmares, increased waking, and insomnia. Decongestants used to treat the common cold may include nonselective alpha-adrenoceptor agonists and may significantly contribute to insomnia. Elderly patients with chronic lung disease such as emphysema may be taking beta-agonists or a theophylline drug, both of which can contribute to sleep disturbances.

All secondary causes of insomnia, for example, insomnia that results from medication use, need to be first treated on an individual basis. A patient taking beta-blockers for hypertension could switch to a different agent, whereas a patient taking the same medication for an arrhythmia may benefit instead from a change in the time of administration. The goal of therapy is to reduce morbidity and improve the patient's quality of life. Therapeutic approaches involve nonpharmacologic and pharmacologic modalities.

Nonpharmacologic therapy is underused by health care providers. Implementation of good sleep habits and daily physical activity should help create an environment conducive to restorative sleep. Behavioral therapy is appropriate as initial treatment of primary insomnia, as well as adjunctive therapy for secondary insomnia. Behavioral therapy approaches include stimulus control, relaxation, temporal control, and sleep restriction therapies.

Sedating antidepressants in a low dose are especially helpful in patients with depressive symptoms. If hypnotics are considered, the first choice would be short-acting benzodiazepine receptor agonists. In general, when administering benzodiazepines to elderly patients, adhere to the familiar admonition, "Start low, go slow." Begin with no more than half the lowest dose recommended for younger adults, titrate slowly, and prescribe for short periods only. Because continued use can produce drug tolerance, dependence, and the potential for withdrawal symptoms, encourage patients to limit their use to 2 or 3 nights per week.

Studies show that the use of OTC sleep aids is common. In a survey of 3447 adults, 21.4% of subjects with daytime problems resulting from insomnia were found to take an OTC medication to help them sleep. More research is needed to determine whether OTC medications produce measurable improvements in sleep. Studies thus far have had small sample sizes and have focused on subjective reports rather than objective measures.

Other commonly used OTC sleep aids include:

- Valerian is derived from the root of the plant species *valeriana* and is thought to promote sleep. Limited evidence shows no benefit compared with placebo. The FDA does not regulate valerian, and thus different preparations vary in valerian content. Safety data are minimal, but there have been case reports of hepatotoxicity in persons taking herbal products containing valerian.
- L-tryptophan is an endogenous amino acid that has been used as a hypnotic. Systematic evidence supporting its use in the treatment of insomnia is extremely limited and based on studies with small numbers of subjects. Its possible toxic effects, particularly when used in combination with certain psychiatric medications, are of concern.
- Melatonin is a natural hormone produced by the pineal gland that plays a role in the control of circadian rhythms. Because melatonin is not regulated by the FDA, preparations containing it vary in strength, making comparisons across studies difficult. Although melatonin appears to be effective for the treatment of circadian rhythm disorders such as jet lag, for example, little evidence exists for efficacy in the treatment of insomnia or its appropriate dosage.

In individuals with dementia, sleep disruptions increase as the dementia increases in severity. Examples of sleep disturbances with AD include increased nighttime awakenings after falling asleep, lower sleep efficiency defined as a percentage of time spent asleep versus time spent in bed, increased daytime napping, changes in the amount of REM, and nonrapid eye movement sleep.

Sleep can also be disrupted in individuals with dementia because of primary sleep disorders, such as OSA, advanced sleep-phase syndrome, and RLS. Other factors that contribute to disrupted sleep in individuals with dementia include advancing age, acute and chronic illness, mood disorders, and medication use—the same age-related and medical issues that are associated with insomnia in the general elderly population.

Source: Subramanian, S. and Surani, S. Sleep disorders in the elderly. Geriatrics, December 15, 2007.