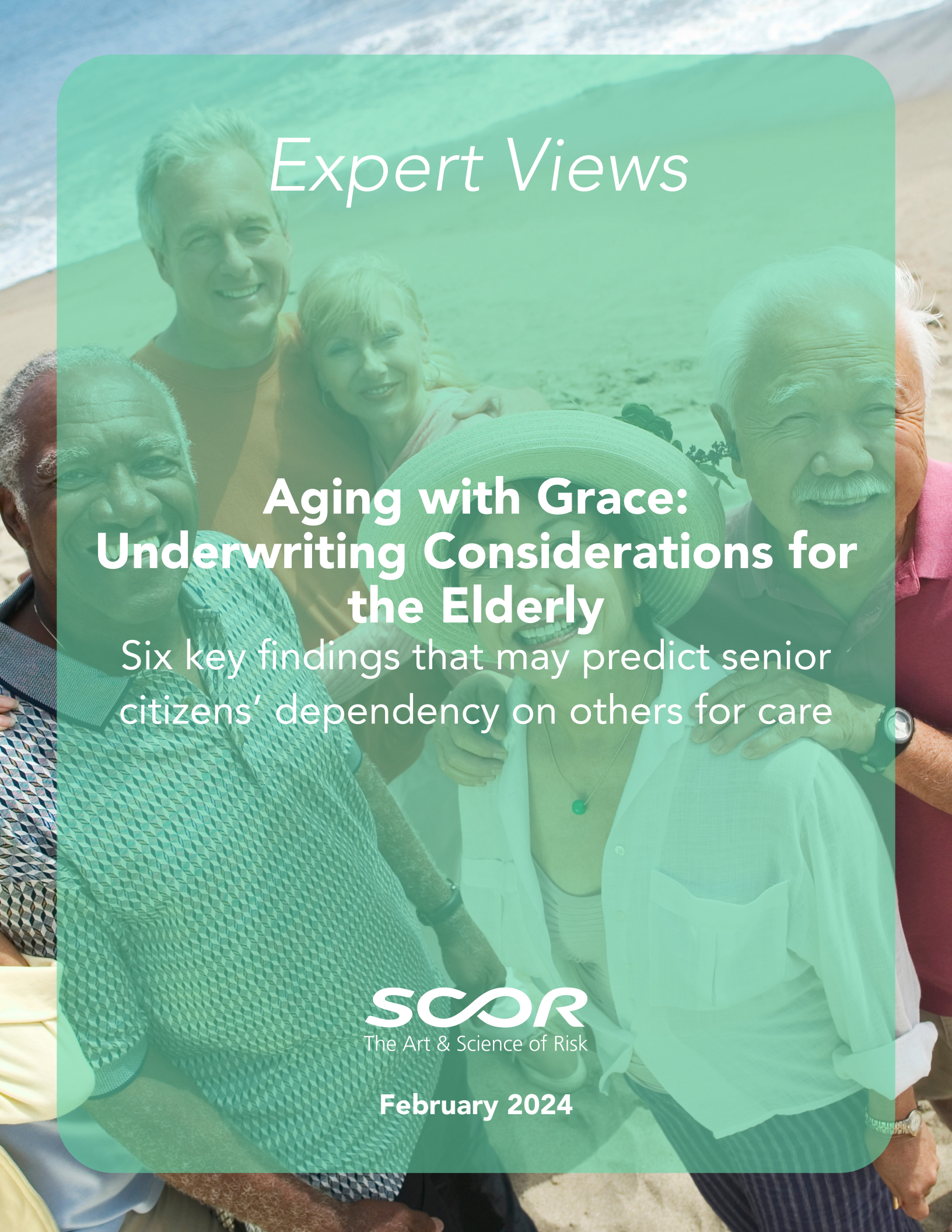


Expert Views

Aging with Grace: Underwriting Considerations for the Elderly

Six key findings that may predict senior citizens' dependency on others for care

SCOR
The Art & Science of Risk

February 2024

Introduction

Baby Boomers, born between 1946 and 1964, are reaching the age of 65 at the fastest rate ever. America is said to be hitting "peak 65" this year as the highest number of Boomers will reach retirement age in 2024. More than 12,000 American Boomers per day will turn 65 in 2024, reaching an estimated 4.4 million people in the US. By 2030, one in five people in the US is projected to reach age 65 or older. Worldwide, between 2020 and 2050, the the population over age 80 is expected to triple and reach 426 million, according to WHO.

In anticipation of this silver tsunami, underwriters should prepare by becoming familiar with the prevalent health issues that are more unique to the older population.

Chronic health conditions become more common with advanced age. Four out of five people over age 65 are estimated to have at least one chronic illness, and one in two senior citizens have at least two. The major causes of death continue to be heart disease and cancer, but the course of these conditions become more affected by frailty and lack of resiliency that characterizes advancing age.

Six key findings in the elderly may indicate a future downhill course resulting in dependency on others for care:

- cognitive impairment
- a history of falling
- Incontinence
- vision or hearing impairment
- a low body mass index (BMI)
- a history of dizziness.

Individuals with one of those conditions are 2.1 times more likely to become dependent on others for care. When three or more conditions are present, the relative risk rises to 6.6 when compared to elderly people without such findings.

A complex issue

Health management of the elderly can become very complex. An estimated 50% of Medicare beneficiaries in the US are prescribed five or more medications. In elderly ambulatory patients with a history of cancer, 84% are receiving five or more medications and 43% are receiving 10 or more medications. Add to this the explosion of herbal or dietary supplement use, and polypharmacy (use of multiple drugs by one individual) becomes a major concern.

In addition, care for the elderly is often provided by multiple medical professionals, and good communication between providers may not exist. Prolonged use of opioids, muscle relaxants, and anti-anxiety medications may have an exaggerated effect on the elderly and be associated with delirium or falls. Drugs having high anticholinergic activity like many psychotropics have been associated with increased risk of cognitive impairment.

Cognitive impairment

One medical condition that is found most frequently in the elderly is cognitive impairment. Everyone who ages will have some level of age-related cognitive decline. After midlife our ability to learn new information and recall it after a delay declines by 10% per decade. Our mental processing speed and the ability to multitask also decline. We have more difficulty in recalling names and finding words. This is a natural part of aging and should not be of concern.

However, the most important risk factor for dementia is also advanced age. With the aging of the Boomer generation in the US, Alzheimer's Disease will likely affect 6.7 million in 2025 and between 13.8 million to 15 million elderly by 2050. The age-standardized dementia prevalence is estimated at 5-7% of the population in developed countries. More than 130 million cases are expected worldwide by 2050.

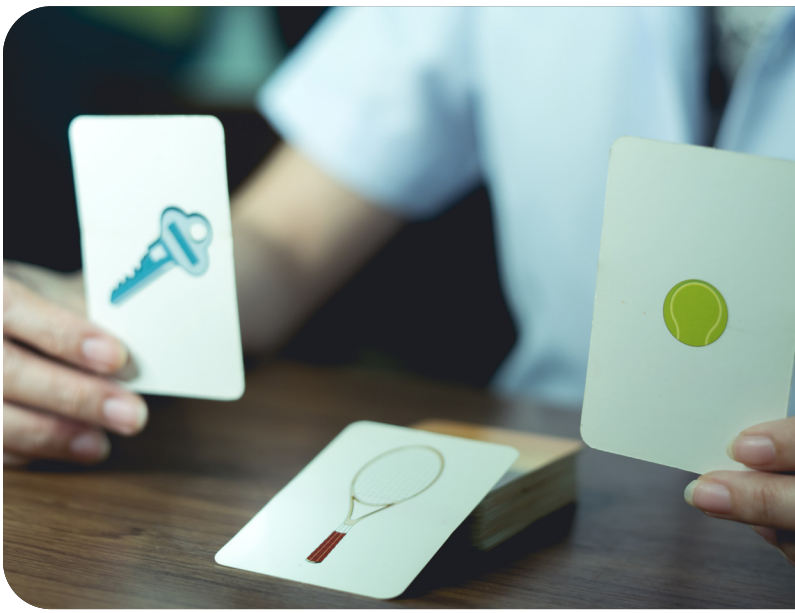
The incidence of dementia doubles every 10 years after age 60. About 5% of men and women ages 65-74 have Alzheimer's Disease (AD). Autopsy studies have shown that about one-third of those dying after age 85 have pathologic changes of AD, and one study showed approximately 88% of individuals 93 and older showed signs of dementia.

In the evaluation for dementia, it is important to consult a patient's partner or other people who spend time with them. More than half of the elderly complain of memory impairment, but often this is age-related cognitive decline, but those with Mild Cognitive Impairment (MCI) or dementia are often unaware of the condition. Good observers who know an elderly person well are often best at determining if memory lapses are significant. They can often identify behavioral changes such as no longer cooking or becoming lost while driving familiar routes, which have a high likelihood of predicting the diagnosis.

Without these types of observations by someone close to a patient, the family doctor often misses the diagnosis because those with MCI or AD can often carry on a superficial conversation. So, while memory loss with age is normal, in some patients, progression to MCI occurs more rapidly. In MCI neuropsychological testing is abnormal in some domains, but the basic activities of daily living (ADLs) remain intact. Basic ADLs are:

- bathing/showering
- personal hygiene (dental hygiene, combing hair, etc.)
- dressing
- toileting
- feeding oneself.

A person with MCI may have difficulty with higher level functions such as paying bills, driving a car, and so on. Some 10-15% of patients with MCI may progress to dementia each year. Using biomarkers in cerebral spinal fluid and plasma may help identify those who will progress to dementia at a more rapid pace, but this remains an active area of investigation and not a routine test done in clinical practice.



Types of dementia

Alzheimer's Disease is the most well-known form of dementia, but many other types account for 60% to 80 % of dementia cases in the US. For example, Vascular Dementia (VaD), characterized by ischemia of the brain, can be seen in those with a history of diabetes or hypertension. Quite often, there is an element of VaD in those with Alzheimer's. VaD can be associated with a course that exhibits sudden worsening with an ischemic event; however, it may also be slowly progressive. Another type is Dementia with Lewy Bodies (DLB). This is the second most common type of degenerative dementia after AD and is characterized by the appearance of visual hallucinations, fluctuating cognitive function, autonomic denervation, and neuroleptic sensitivity. Different areas of the brain are atrophied in DLB as compared to AD, specifically the putamen and the dorsal mesopontine gray matter.

A third form of dementia is Frontotemporal Dementia (FTD). FTD is characterized by early alteration of personality, social and emotional behavior, and decision making. One can also see a progressive aphasia with FTD. As the name implies, there is focal degeneration of the frontal and temporal lobes.

Lastly, Parkinson's Disease (PD) with Dementia (PDD) accounts for an estimated 3.6% of dementia cases. PDD Tends to occur with longer duration PD or in older age at onset PD. The pathology of PDD is likely heterogeneous and has crossover with AD, VaD, and DLB. Often, but not always Lewy bodies are found in the pathology of PDD.

Assessing dementia

During the evaluation of dementia, an elderly patient's conditions such as depression or schizophrenia need to be ruled out or treated. Medications need to be reviewed for adverse cognitive side effects, and brain imaging should be done to rule out physical impairments like stroke, tumor, or chronic subdural hematoma. Neuropsychological testing should be performed to establish a baseline and to determine severity of impairment for guiding decisions about driving, financial tasks, and accommodation needs. Two common brief cognitive screening tests are the Mini-Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MoCA). The sensitivity of these tests is given as 75-92% and the specificity 81-91% in various studies. The tests should be administered and scored by a trained professional.

The Clinical Dementia Scale (CDR) is based on the everyday aspects of a person's life:

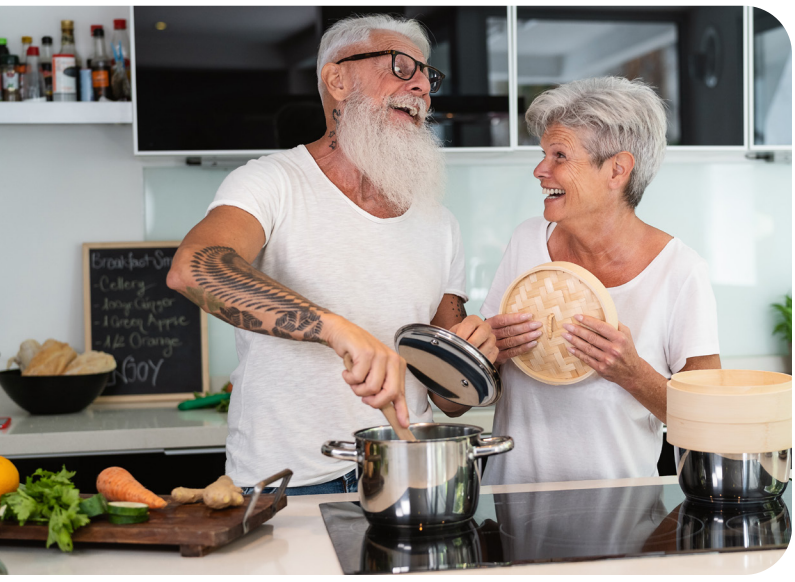
- memory, orientation, judgement, and problem solving
- independence in the community (job, shopping, etc.)
- home and hobbies
- personal care.

CDR categories are rated from 0 (no impairment) to 3 (severe impairment). Life expectancy after a dementia diagnosis is closely related to the severity of impairment and the rate of decline. Most deaths due to dementia have an infectious cause as the final event.

Risks of falls

Falls are another concern commonly seen in the elderly. Approximately 30% of older adults living at home fall each year. With the prevalence of osteoporosis in this group, 5% percent of falls result in fracture or hospitalization. The elderly experiencing fractures have a high mortality when compared to matched controls without fracture, especially in the first 30 days after the fracture. Hip fractures appear to be the worst and the excess mortality risk persists up to five years after the fracture.

Factors contributing to falls include age-related postural changes, decreased vision, cognitive impairment, medications, loss of muscle strength due to disease or inactivity, intermittent vertigo, and environmental factors. Evaluations of mobility can include six-minute walk tests or timed up-and-go testing. Timed up-and-go testing involves rising from a chair (preferably without arms) walking 10 feet or 3 meters, then returning to the chair and sitting down. Approximately 97% of the ambulatory elderly should be able to accomplish this in under 12 seconds for the younger old and under 16 seconds for the older old. Observation of balance and stability is an important component of this testing.



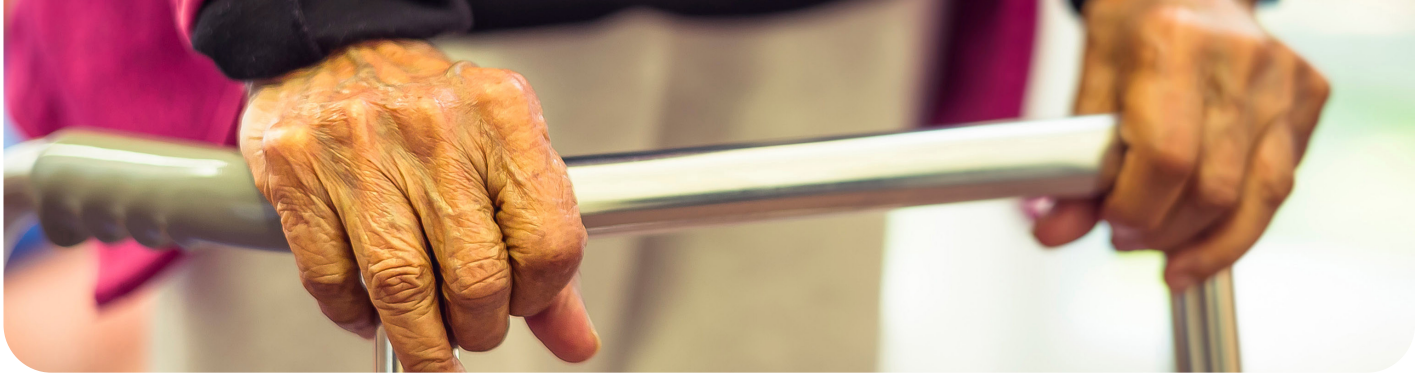
Other health issues

Incontinence is another impairment primarily affecting the elderly. Urinary incontinence is a major cause of nursing home admission. Approximately 11-34% of elderly men and 17-55% of elderly women are affected. Incontinence is associated with frailty and in some studies was a significant independent risk factor for mortality in elderly persons living at home.

Hearing and vision loss are not uncommon in the elderly and contribute to social isolation, depression, functional disability and the risk of falling.

Nutrition can become a concern for the elderly. It is estimated that 15% of elderly outpatients and 50% of inpatients are malnourished. Contributing factors can be poor dentition, food insecurity, medications, inability to prepare food, poor appetite, inability to swallow, depression, and loss of taste. Involuntary weight loss is associated with increased mortality.

Of those who seek medical attention for unexpected weight loss, some 24% to 35% are found to have cancer. These rates go up as age increases. One large study of those aged 65 and older found that men involuntarily losing more than 10% of their body weights had 4.5 times the mortality of those not losing weight. The rate in women was 2.4 times.



Frailty

Many of these findings can be combined into an overall condition called frailty. Frailty is the term that describes age-related vulnerability, decline, and loss of resiliency. Several scoring systems measure the degree of frailty. One large study defined phenotypic frailty as slow walking speed, weak grip strength, self-reported declining activity levels, unintended weight loss, and exhaustion. These characteristics form the core of most frailty scoring systems. Seniors with three or more deficits were considered frail.

The prevalence of frailty in community-dwelling adults aged 65 or older in the US is estimated between 7% and 12%. This prevalence increased to 25% in those over age 85. Women had a slightly higher rate of frailty than men (8% versus 5%).

As frailty increases, so does the rate of mortality. Different studies in developed countries using different rating scales showed death rates from two to five times higher in those patients who were considered frail. It should be noted that exercise that can be tolerated at any level of frailty has been shown to improve outcomes.

Driving a motor vehicle becomes a potential source of risk for the elderly, too. Some estimate that 79% of those over age 70 have a driver's license in the US. On the positive side, the elderly tend to drive fewer miles, at slower speeds, less at night, and they avoid rush hour. But elderly drivers are second only to teenagers in the number of fatal accidents per mile driven, and number one in non-fatal accidents. Beyond age 78, the risk of at-fault accidents approximately doubles. Assessment for accident risk should be part of elderly evaluations.

Cancer is of particular concern in the elderly. Over half (54%) of cancers occur in those at age 65 or older, and 70% of all cancer deaths are recorded in this same age group. Comorbidities found in the elderly complicate the treatment of cancer. One study found that elderly women with three or more comorbidities diagnosed with breast cancer were four times as likely to die as their healthier peers. Similar findings have been reported with colon cancer. Lastly, the frail elderly are less resilient and less able to tolerate the surgery and chemotherapy often used to treat cancer.

Conclusion

In summary, the silver tsunami of aging is breaking upon the developed world, and it is expected to keep making waves for the foreseeable future. This means insurers will increasingly deal with older policyholders and life insurance buyers, who bring distinctive mortality and morbidity risk management challenges related to their ages. Insurance underwriting practices need to adapt to this emerging environment and learn to consider the health issues that are unique to an aging population.

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February 2024