

# International Journal of Innovative Research in Science, Engineering and Technology

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## Old Age Persons: Need Is Rethink Their Care and Support

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**ABSTRACT:** Old age refers to ages nearing or surpassing the life expectancy of human beings, and is thus the end of the human life cycle. Terms and euphemisms for people at this age include old people, the elderly (worldwide usage), OAPs (British usage which stands for Old Age Pensioner), seniors (American usage), senior citizens (American usage), older adults (in the social sciences), and the elders (in many cultures). Elderly people often have limited regenerative abilities and are more susceptible to disease, syndromes, injuries, and sickness than younger adults. The organic process of ageing is called senescence, the medical study of the aging process is called gerontology, and the study of diseases that afflict the elderly is called geriatrics. The elderly also face other social issues around retirement, loneliness, and ageism. Old age is not a definite biological stage, as the chronological age denoted as "old age" varies culturally and historically. In 2011, the United Nations proposed a human rights convention that would specifically protect older people. The distinguishing characteristics of old age are both physical and mental. The marks of old age are so unlike the marks of middle age that legal scholar Richard Posner suggests that, as an individual transitions into old age, he can be thought of as different persons "time-sharing" the same identity. These marks do not occur at the same chronological age for everyone. Also, they occur at different rates and order for different people. Marks of old age can easily vary between people of the same chronological age. A basic mark of old age that affects both body and mind is "slowness of behavior." The term describes a correlation between advancing age and slowness of reaction and physical and mental task performance. However, studies from Buffalo University and Northwestern University have shown that the elderly are a happier age group than their younger counterparts.

**KEYWORDS:** old age, need, rethink, care, support, geriatrics, elderly, loneliness, health, support

### I. INTRODUCTION

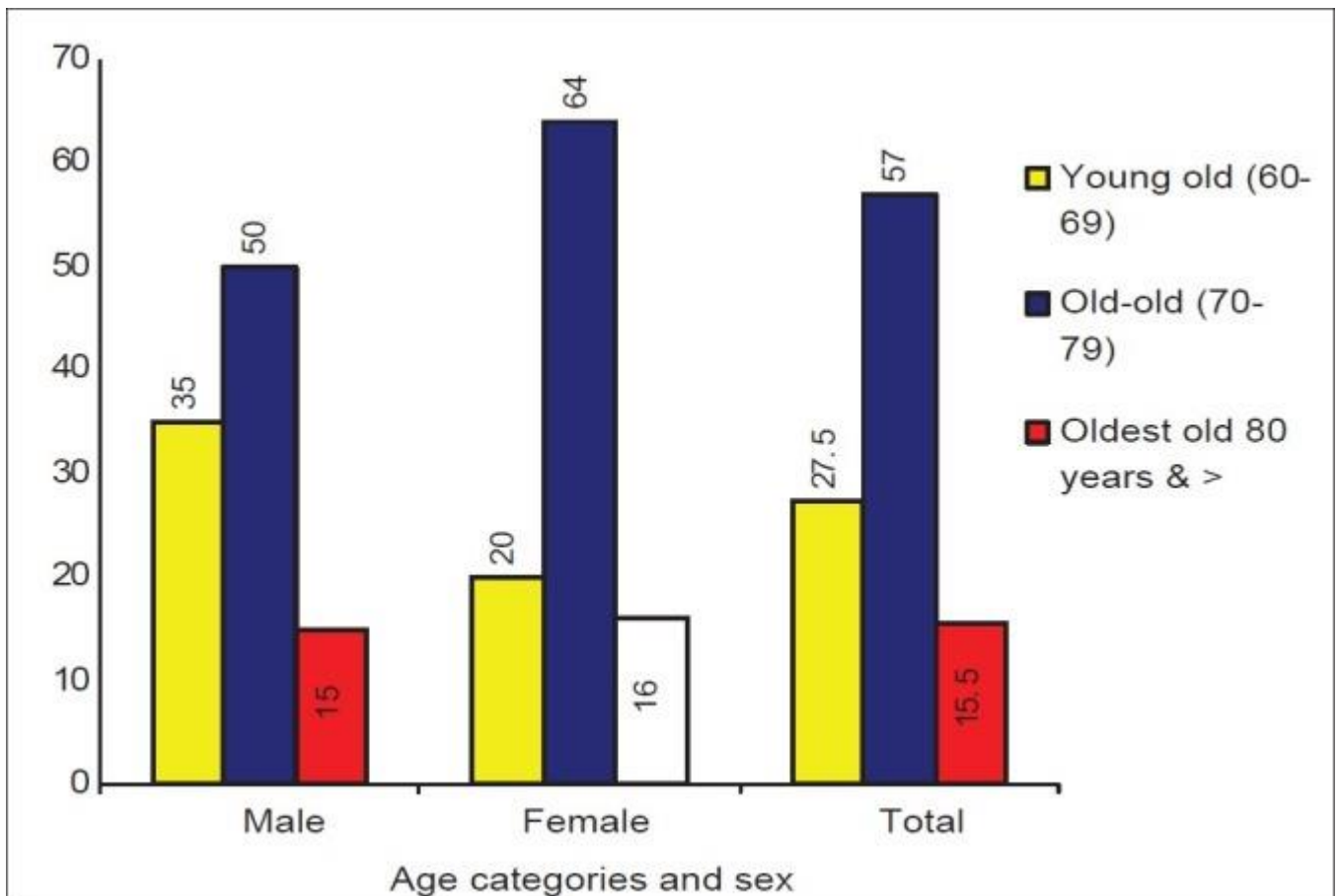
Frail people require a high level of care.[1,2] Medical advances have made it possible to "postpone death" for years. This added time costs many frail people "prolonged sickness, dependence, pain, and suffering". According to a study by the Agency for Healthcare Research and Quality (AHRQ), the rate of emergency department visits was consistently highest among patients ages 85 years and older in 2006–2011 in the United States. Additionally, patients aged 65+ had the highest percentage of hospital stays for adults with multiple chronic conditions but the second highest percentage of hospital costs in 2003–2014.[6] These final years are also costly in economic terms. One out of every four Medicare dollars is spent on the frail in their last year of life . . . in attempts to postpone death. Medical treatments in the final days are not only economically costly, they are often unnecessary, even harmful. Nordin Hadler, M.D. warns against the tendency to medicalize and overtreat the frail. In her *Choosing Medical Care in Old Age*, Michael R. Gillick M.D. argues that appropriate medical treatment for the frail is not the same as for the robust. The frail are vulnerable to "being tipped over" by any physical stress put on the system such as medical interventions. In addition to everyday care, frail elderly people and others with disabilities are particularly vulnerable during natural disasters.[7]

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They may be unable or unwilling to evacuate to avoid a hurricane or wildfire. Generally speaking, old people have always been more religious than young people. At the same time, wide cultural variations exist. In the United States, 90% of old age Hispanics view themselves as very, quite, or somewhat religious. The Pew Research Center's study of black and white old people found that 62% of those in ages 65–74 and 70% in ages 75+ asserted that religion was "very important" to them. For all 65+ people, more women (76%) than men (53%) and more blacks (87%) than whites (63%) consider religion "very important" to them. This compares to 54% in the 30–49 age range. In a British 20-year longitudinal study, less than half of the old people surveyed said that religion was "very important" to them, and a quarter said they had become less religious in old age. The late-life rise in religiosity is stronger in Japan than in the United States, but in the Netherlands it is minimal. In the practice of religion, a study of 60+ people found that 25% read the Bible every day and over 40% look at religious. Pew Research found that in the age 65+ range, 75% of whites and 87% of blacks pray daily. Participation in organized religion is not a good indicator of religiosity because transportation and health problems often hinder participation. [3,4]

### II. DISCUSSION

In the United States in 2008, 11 million people aged 65+ lived alone: 5 million or 22% of ages 65–74, 4 million or 34% of ages 75–84, and 2 million or 41% of ages 85+. The 2007 gender breakdown for all people 65+ was men 19% and women 39%.

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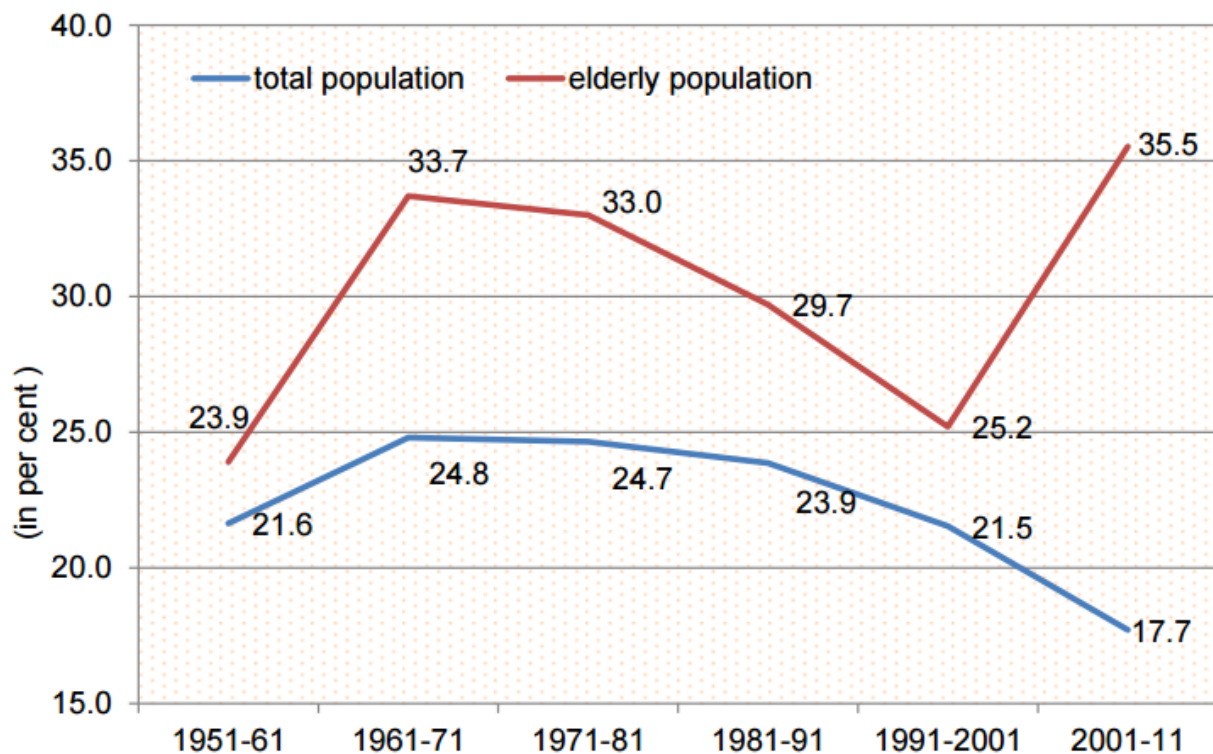
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Many new assistive devices made especially for the home have enabled more old people to care for their own activities of daily living (ADL). Some examples of devices are a medical alert and safety system, shower seat (making it so the person does not get tired in the shower and fall), a bed cane (offering support to those with unsteadiness getting in and out of bed) and an ADL cuff (used with eating utensils for people with paralysis or hand weakness).[5]

**Figure 1.2: Decadal growth in elderly population vis-à-vis that of total population**



A Swedish study found that at age 76, 46% of the subjects used assistive devices. When they reached age 86, 69% used them. The subjects were ambivalent regarding the use of the assistive devices: as "enablers" or as "disablers". People who view assistive devices as enabling greater independence accept and use them, whereas those who see them as symbols of disability reject them. However, organizations like Love for the Elderly aim to combat such age-related prejudice by educating the public about the importance of appreciating growing older, while also providing services of kindness to elders in senior homes. Even with assistive devices as of 2006, 8.5 million Americans needed personal assistance because of impaired basic activities of daily living required for personal care or impaired instrumental activities of daily living (IADL) required for independent living.[8] Projections place this number at 21 million by 2030 when 40% of Americans over 70 will need assistance. There are many options for such long-term care to those who require it. There is home care in which a family member, volunteer, or trained professional will aid the person in need and help with daily activities. Another option is community services which can provide the person with transportation, meal plans, or activities in senior centers. A third option is assisted living where 24-hour round-the-clock supervision is

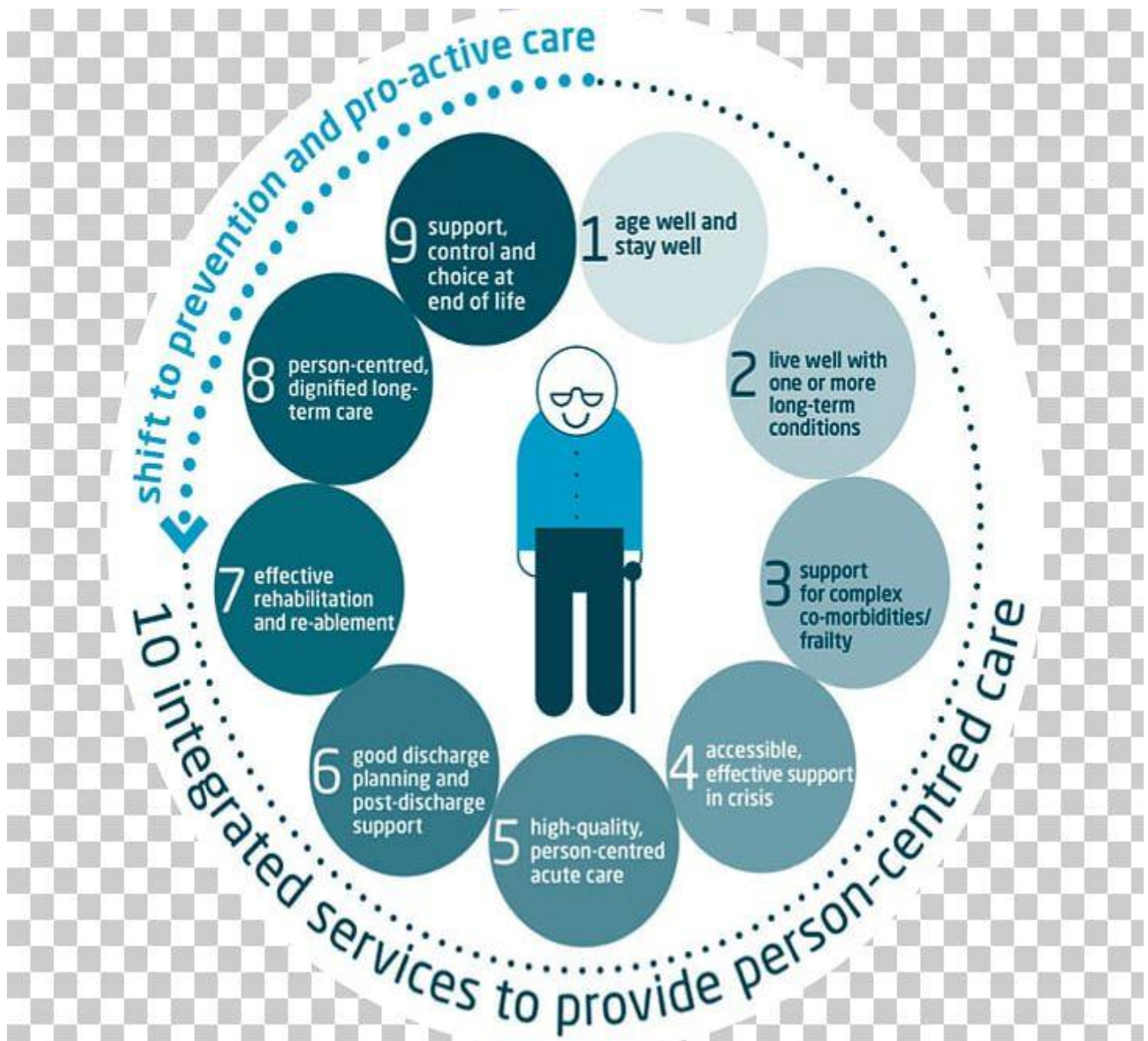
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given with aid in eating, bathing, dressing, etc. A final option is a nursing home which provides professional nursing care.[6,7]



Elderly care, or simply eldercare (also known in parts of the English-speaking world as aged care), serves the needs and requirements of senior citizens. It encompasses assisted living, adult daycare, long-term care, nursing homes (often called residential care), hospice care, and home care. Because of the wide variety of elderly care needs and cultural perspectives on the elderly, it includes a broad range of practices and institutions. For example, government-run elderly care is seldom used in many Asian countries, where younger generations often care for the elderly.

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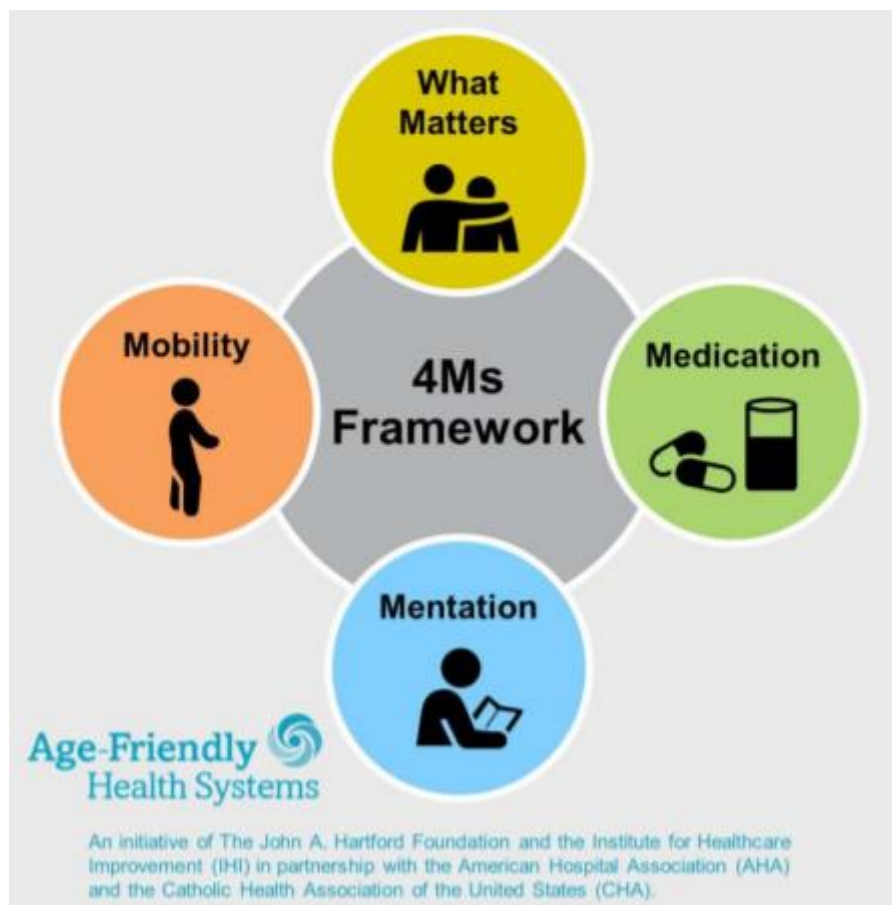
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Elderly care emphasizes the social and personal requirements of senior citizens who wish to age with dignity while needing assistance with daily activities and with healthcare. Much elderly care is unpaid.

The form of care provided for older adults varies greatly by country and even region,[2] and is changing rapidly. Older people worldwide consume the most health spending of any age group. There is also an increasingly large proportion of older people worldwide, especially in developing nations with continued pressure to limit fertility and shrink families.



Traditionally, care for older adults has been the responsibility of family members and was provided within the extended family home.[8] Increasingly in modern societies, care is now provided by state or charitable institutions. The reasons for this change include shrinking families, longer life expectancy and geographical dispersion of families. Although these changes have affected European and North American countries first, they are now increasingly affecting Asian countries.[9]

In most western countries, care facilities for older adults are residential family care homes, freestanding assisted living facilities, nursing homes, and continuing care retirement communities (CCRCs). A family care home is a residential home with support and supervisory personnel by an agency, organization, or individual that provides room and board, personal care and habilitation services in a family environment for at least two and no more than six persons.

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## IV. RESULTS

According to Family Caregiver Alliance, the majority of family caregivers are women:

"Many studies have looked at the role of women as family caregivers. Although not all have addressed gender issues and caregiving specifically, the results are still generalizable [sic] to

- Estimates of the age of family or informal caregivers who are women range from 59% to 75%.
- The average caregiver is age 46, female, married and worked outside the home earning an annual income of \$35,000.
- Although men also provide assistance, female caregivers may spend as much as 50% more time providing care than male caregivers."

A distinction is generally made between medical and non-medical care, the latter not being provided by medical professionals and much less likely to be covered by insurance or public funds. In the US, 67% of the one million or so residents in assisted living facilities pay for care out of their own funds.



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The rest get help from family and friends and from state agencies. Medicare does not pay unless skilled-nursing care is needed and given in certified skilled nursing facilities or by a skilled nursing agency in the home. Assisted living facilities usually do not meet Medicare's requirements. However, Medicare pays for some skilled care if the elderly person meets the requirements for the Medicare home health benefit. [10]

Thirty-two U.S. states pay for care in assisted living facilities through their Medicaid waiver programs. Similarly, in the United Kingdom the National Health Service provides medical care for the elderly, as for all, free at the point of use, but social care is paid for by the state only in Scotland. England, Wales and Northern Ireland have failed to introduce any legislation on the matter and so social care is not funded by public authorities unless a person has exhausted their private resources, such as by selling the home. Money provided for supporting elderly people in the UK has fallen by 20% per person during the ten years from 2005 to 2015 and in real terms, the fall is even greater. L Experts claim that vulnerable UK people do not get what they need.

However, elderly care is focused on satisfying the expectations of two tiers of customers: the resident customer and the purchasing customer, who are often not identical, since relatives or public authorities, rather than the resident, may be

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providing the cost of care. If residents are confused or have communication difficulties, it may be very difficult for relatives or other concerned parties to be sure of the standard of care being given, and the possibility of elder abuse is a continuing source of concern. The Adult Protective Services Agency, a component of the human service agency in most states, is typically responsible for investigating reports of domestic elder abuse and providing families with help and guidance. Other professionals who may be able to help include doctors or nurses, police officers, lawyers, and social workers.



Older adults are scared of losing their independence more than they fear death. Promoting independence in self-care can provide older adults with the capability to maintain independence longer and can leave them with a sense of achievement when they complete a task unaided. Older adults that require assistance with activities of daily living are at a greater risk of losing their independence with self-care tasks as dependent personal behaviours are often met with reinforcement from caregivers. It is important for caregivers to ensure that measures are put into place to preserve and promote function rather than contribute to a decline in status of an older adult that has physical limitations. Caregivers need to be conscious of actions and behaviors that cause older adults to become dependent on them and need to allow older patients to maintain as much independence as possible. Providing information to the older patient on why it is important to perform self-care may allow them to see the benefit in performing self-care independently. If the older adult is able to complete self-care activities on their own, or even if they need supervision, encourage them in their efforts as maintaining independence can provide them with a sense of accomplishment and the ability to maintain independence longer.

Elderly-friendly interior design plays a vital role in promoting independence among the elderly. The integration of Internet of Things (IoT) in smart homes provides a remote monitoring system to keep track of the daily activities of the elderly. Thus adults can live on their own confidently knowing that a feedback alarm will be sent to their caregivers

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immediately in case of an emergency. This not only allows the aging population to maintain their independence and confidence, but also brings peace of mind to their friends and family.[11]

Impaired mobility is a major health concern for older adults, affecting 50% of people over 85 and at least a fourth of those over 75 years old. As adults lose the ability to walk, to climb stairs, and to rise from a chair, they become completely disabled. The problem cannot be ignored because people over 65 years old constitute the fastest growing segment of the U.S. population.



Therapy designed to improve mobility in elderly patients is usually built around diagnosing and treating specific impairments, such as reduced strength or poor balance. It is appropriate to compare older adults seeking to improve their mobility with athletes seeking to improve their split times. People in both groups perform best when they measure their progress and work toward specific goals related to strength, aerobic capacity, and other physical qualities. Someone attempting to improve an older adult's mobility must decide what impairments to focus on, and in many cases, there is little scientific evidence to justify any of the options. Today, many caregivers choose to focus on leg strength and balance. New research suggests that limb velocity and core strength may also be important factors in mobility. Assistive technology and advancements in the health care field are further giving elders greater freedom and mobility. Several platforms now use artificial intelligence to suggest assistive devices to the elder for a better match. Well planned exercise programs can reduce the rate of falls in older people if they involve multiple categories such as balance, functional and resistance exercise.

Family members are one of the most important caregivers to the elderly, often comprising the majority and most commonly being a daughter or a granddaughter. Family and friends can provide a home (i.e. host elderly relatives), help with money and meet social needs by visiting, taking them out on trips, etc.[12]

One of the major causes of elderly falls is hyponatremia, an electrolyte disturbance when the level of sodium in a person's serum drops below 135 mEq/L. Hyponatremia is the most common electrolyte disorder encountered in the elderly patient population. Studies have shown that older patients are more prone to hyponatremia as a result of multiple factors including physiologic changes associated with aging such as decreases in glomerular filtration rate, a tendency for defective sodium conservation, and increased vasopressin activity. Mild hyponatremia ups the risk of fracture in elderly patients because hyponatremia has been shown to cause subtle neurologic impairment that affects gait and attention, similar to that of moderate alcohol intake.

There are relatively few studies focusing on interventions to improve personal mobility of older adults living at home.



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An elderly-friendly interior space can reduce mobility issues as well as other old-age issues. Staircase, lights, flooring etc can help elders combat mobility issues. Interior design can positively influence the physical and psychological wellness of the elderly, and if each area in house is designed for accommodation, it can let older adults live safely, comfortably and happily.

While navigating floors, climbing stairs is one of the greatest challenges due to high risk of collapsing. A poorly designed staircase can negatively impact elders' psychology as they develop loss of confidence and fear of accidents. However, a staircase designed with the ergonomics and usage patterns of the elderly in mind, can make it easier for everyone. A stairlift can be a huge step to combat mobility issues.

Appropriate lighting in the interior space makes it easier for elders to move around in the house. An average 60-year-old person requires three times more illuminance than an average 20-year-old boy. Windows, skylight and door openings can incorporate daylight into interior spaces. However, unplanned opening designs can lead to glare and increase the risk of falls and hinder their ability to perform daily tasks as the elderly are more sensitive to glare than young adults. Dual-layer curtains, drapes, window blinds, light shelves, low visual transmittance glazing or other shading systems can reduce glare. Illuminance can be increased by combining natural light with various kinds of artificial lights.[13]

When a person slips due to mobility issues, the flooring material plays a major role in the level of impact the person experiences after falling. Choosing the right flooring material in homes depending on whether an individual uses a walker, a wheelchair, or a cane, can also resolve many of the mobility issues faced by adults due to decline in physical strength, loss of balance. For elders, tile flooring is the least preferred option. Carpet, cork, sheet vinyl flooring are some of the flooring options which can be used for bedrooms, kitchen and bathrooms used by elders. Tiles can be

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extremely slippery when they are wet which increases the risk of accidents. Also, they are very hard and cold on feet which makes it difficult to walk barefoot during winters.



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Legal incapacity is an invasive and sometimes, difficult legal procedure. It requires that a person file a petition with the local courts, stating that the elderly person lacks the capacity to carry out activities that include making medical decisions, voting, making gifts, seeking public benefits, marrying, managing property and financial affairs, choosing where to live and who they socialize with. Most states' laws require two doctors or other health professionals to provide reports as evidence of such incompetence and the person to be represented by an attorney. Only then can the individual's legal rights be removed, and legal supervision by a guardian or conservator be initiated. The legal guardian or conservator is the person to whom the court delegates the responsibility of acting on the incapacitated person's behalf and must report regularly his or her activities to the court. [14]

A less restrictive alternative to legal incapacity is the use of "advance directives," powers of attorney, trusts, living wills and healthcare directives. The person who has such documents in place should have prepared them with their attorney when that person had capacity. Then, if the time comes that the person lacks capacity to carry out the tasks laid out in the documents, the person they named (their agent) can step in to make decisions on their behalf. The agent has a duty to act as that person would have done so and to act in their best interest.

## V. CONCLUSIONS

Food preferences in older adults and seniors takes into consideration how people's experiences change with aging, that is how taste, diet (nutrition) and food choice change. Primarily, this occurs when most people approach the age of 70 or older. Influencing variables can include: social and cultural environment, male or female sex and personal habits as well as physical and mental health. Scientific studies attempting to explain why people like or dislike certain foods have been performed to better understand these factors. The environment can greatly impact food preferences of older adults. Those around 75 years old and older are more likely to suffer with limited mobility due to health conditions and often rely on others for food shopping and preparation. [15]

In some areas, homebound seniors receive one meal per day (several fresh and frozen meals may be included in a single delivery) by communities that offer congregate meals, or meals served in community settings such as senior centers, churches or senior housing communities. These congregate meal programs are encouraged to offer these elderly people a meal at least five times per week.

Impeded access to transportation may also be an issue for elderly persons, especially in rural areas where there is less public transportation. This can vary greatly due to geographic location; for instance, a study based in Iowa study failed

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to find problems in purchasing food among elderly in rural open country and towns, as those without their own transportation relied on family, friends and senior services. A separate study found a slight difference in urban areas with elderly who did not own a car. Aside from transportation, the kind and quality of available food can also shape food choice if a person lives in a so-called "food desert".



### Salman Khan (Indian Actor) takes care of old persons

Geriatric rehabilitation covers three areas – normal aging due to disuse and deconditioning, cardiovascular problems like vascular disease and stroke, and skeletal problems including osteoporosis and osteoarthritis conditions such as knee and hip replacements. Physical medicine physicians [physiotherapists] use rehabilitation to work toward the goal of returning the patient to a pre-injury quality of life and may use physical, occupational, and speech therapies.<sup>[1]</sup>

With increased age, patients often face many physical and emotional changes that can affect level of physical, mental, social function and well-being. Rehabilitation maintains functional independence in the elderly. Rehabilitation of geriatric patients is imperative for the patients' well-being and for society, so that we can thrive socially and economically. Essential to geriatric rehabilitation is communication, specifically improving any sensory impairment, including those related to vision and hearing. The prevention of falls and osteoporosis can improve the patient's health and longevity. Addressing malnutrition can promote healing and vitalize the patient to participate in a formal rehabilitation program. Depression is common in the older population if a functional loss of mobility and an inability to perform activities of daily living (ADLs) predominates. Cognitive impairment, such as delirium and dementia, can affect the patient's rehabilitation goals and outcomes. Finally, a driver's evaluation for an appropriate elderly candidate is an underutilized part of rehabilitation that has a considerable impact on society.<sup>[2]</sup>

Geriatric rehabilitation also have a role in intermediate care, where patients are referred by a hospital or family doctor, when there is a requirement to provide hospital based short term intensive physical therapy aimed at the recovery of musculoskeletal function, particularly recovery from joint, tendon, or ligament repair and, or, physical medicine and rehabilitation care when elderly patients get out of sync with their medication resulting in a deterioration of their personal health which reduces their ability to live independently.

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Finally, geriatric rehabilitation has a large influence on the growing life expectancy around the globe. The American Physical Therapy Association (APTA) surveyed 556 adults over 65 years old in order to gain an understanding on the factors that affect adherence to an exercise program. Adherence to an exercise program influences frailty, speed, ability to live independently, and best of all, life expectancy. The study compared two factors: exercise barriers and motivation. The study concluded that exercise barriers play the largest role in determining adherence to a home exercise program (HEP). According to APTA, motivators include self-efficacy, the ability to control behavior, and outcome expectation, the belief that consequences follow certain actions. APTA describes barriers as: insufficient time, lack of social support, no place to exercise, limited finances, no transportation, and the fear of falling. Researchers recently found that depression, stress levels, increased age, decreased health status and lack of pleasure while exercising contribute to exercise adherence.[16]

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