Measuring Health in Adults 65 and Over:

Colorado 2016

A Report by the Colorado Cross-Agency Collaborative

Fulfilling Colorado's Commitment to Become the Healthiest State

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Executive Summary

Colorado's population is experiencing a significant shift in demographics. It was estimated that by 2030, Colorado's 65 and over population will be 125% larger than it was in 2010, growing from 555,000 to 1,243,000.[1] To address this large shift in demographics, several initiatives are under way to ensure that health and social service systems have the information and capacity to provide the necessary resources to the growing number of older adults in Colorado. In addition, older adults are essential to our society and must be provided with long lasting opportunities that keeps them active and well connected within communities. By focusing on a multidisciplinary approach that includes socio-economic factors, health and social services, and cultural competencies, the needs of older adults can be met, allowing them to reach their fullest potential and achieve a high quality of life.

Recognizing that Colorado has a multitude of initiatives focusing on improving the health of Coloradans, the Department of Public Health and Environment (CDPHE), Human Services (CDHS), and Health Care Policy and Financing (HCPF) created the Colorado Cross-Agency Collaborative to establish a data strategy, identifying metrics that are pertinent to Colorado as well as identifying gaps where further work is needed.

The Collaborative recognizes that each agency strives to positively impact Coloradans and seeks to leverage points of intersection. The Collaborative intends to foster alignment across the agencies, and establish priority efforts and targeted interventions in order to more effectively improve Coloradans' health.

The Collaborative' s current goals are to:

- Identify, track and trend metrics collected by CDPHE, CDHS, and HCPF
- Develop aligned initiatives that impact Coloradans' health
- Set targets and benchmarks for performance

The Collaborative' s future goals are to:

- Expand the scope of this project to include alignment with other State agencies, such as, the Department of Education, and the Governor's Office of Information Technology
- Expand population health data to allow for community, state, and national comparisons
- Improve the efficiency of programs and resource allocation
- Create a combined, statewide strategy of common programs that create economic opportunities through improved health

The Collaborative will publish its work through data reports, with the following report focusing on the health of older adults (65+) in Colorado. This report will provide an environmental scan of the health of Colorado's older adults, using data from CDPHE, CDHS, and HCPF.

The Colorado Cross-Agency Collaborative has adapted the World Health Organizations (WHO) framework on Active Aging to align its measures.

Active aging has been defined by the WHO as allowing people to realize their full potential for physical, mental and social well-being throughout the life course as well as participating in society according to an individual's needs, desires, and capacities, while providing them with adequate protection, security and care when they require assistance.[2]

The report is divided into six domains that determine health outcomes of older adults. The domains are:

- economic determinants
- health and social services
- behavioral determinants
- personal determinants
- physical environments
- social environments

Each domain includes important indicators that contribute to the health and well-being of older adults. Data sets at each of the state health

departments were assessed to identify indicators that corresponded with the framework on active aging and were highlighted in the Collaborative's Older Adult report.

Based on the data obtained by the Collaborative, a number of metrics describe the health situation of older adults in Colorado.

Eight percent of adults 65 years and older who live in Colorado are below the federal poverty line.[3] Individuals who have limited resources to pay for housing, food, and health services are at a greater risk of negative health outcomes. Programs in Colorado can assist older adults who are in poverty by providing food assistance and supplemental security income. For example, in 2014, the Colorado Low-Income Energy Assistance Program (LEAP) provided 17,758 older adults with energy subsidies.[4] These programs allow older adults to sustain their well-being by alleviating some of their financial hardships.

Health and social services keep populations healthy through health promotion, disease management and addressing various social needs. In Colorado, 66,381 adults over the age of 65 have both Medicaid and Medicare benefits to help them pay for needed care.[5] Important preventative services provided by health services include colorectal cancer screenings and flu immunizations, which 76.3% and 67.8% of older adults in Colorado received respectively.[6]

The early identification of diseases through screenings allows health professionals to provide timely treatment before the illness spreads or becomes unmanageable. It is a cost effective way of prolonging life and reducing morbidity. Engaging in health promoting behavior may also reduce the risk of disease. In Colorado, 23.9% of older adults are physically inactive and 21.8% consumed fruits and vegetables at least five times per day.[6] Staying physically active and eating healthy has shown to produce many positive health outcomes.[7]

Unfortunately, 9.8% of older adults in Colorado experience food insecurity, potentially leading to malnourishment.[6] Diets that are unhealthy can lead to negative health outcomes.[8] Based on the Collaborative's data, 57.1% of older adults have high blood pressure and 16.8% are diabetic.[6] The leading cause of death in Colorado is heart disease at 782.6 per 100,000 people.[9] While the life expectancy is fairly high in Colorado at 80.4 years and 1.6 years longer than the national average, south eastern counties in Colorado still have significantly lower life expectancies.

Physical environments that are safe and secure, reduce the risk of potential adverse events such as falls which are more prevalent as people age.[10] Living spaces free of obstructions that are elder accessible can reduce these dangerous injuries. In 2013, the number of adults aged 65 and over who had a fall-related hospitalizations was 8,229. Falls can lead to disability, reduced mobility, or even death. Effective fall prevention programs address medications and vision, home and community safety, and specific exercise programs.

An additional aspect of safety is abuse, neglect and violence. In Fiscal Year 2014-15, the amount of neglect, abuse, and exploitation of at-risk adults in Colorado totaled 7,350 reports that required Adult Protective Services (APS) intervention.[11]

Focusing on metrics that determine healthy active aging will allow Colorado to foster a healthier environment for older adults by creating opportunities to live to their fullest potential and enjoy a high quality of life.

Through this Collaborative, the state health agencies have aligned metrics that impact the health outcomes of older adults and identified measurement gaps such as the lack of quality of life measures and Medicaid data. Initiatives are already underway to address these gaps and provide data that accurately describes the health and well-being of older adults in Colorado.

Older Adult Demographics

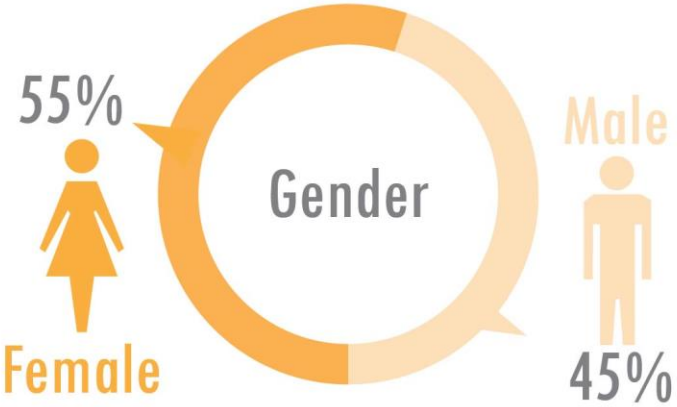
Older Adult (65+) Population in Colorado

585,250

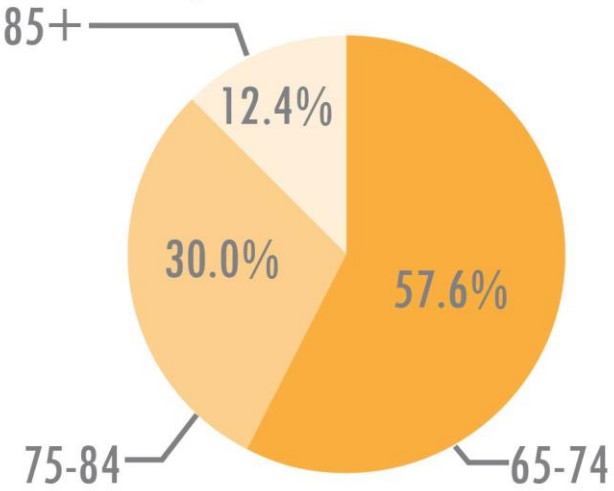
12.7%

of overall Colorado Population

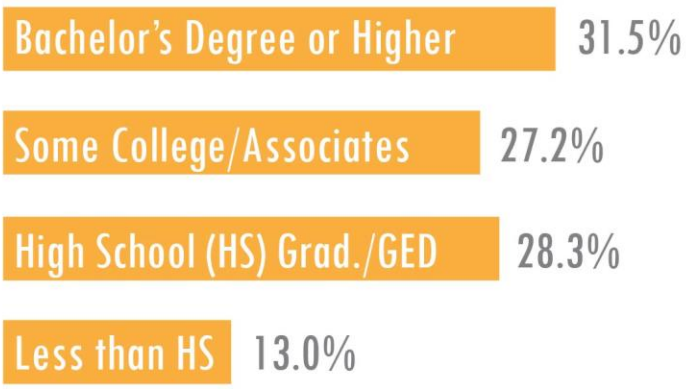
Gender



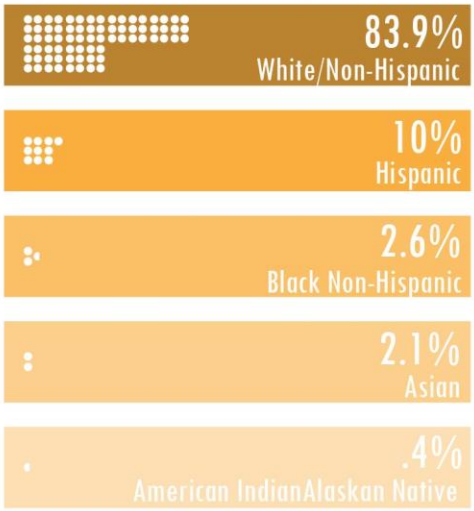
Age Distribution



Education



Race/Ethnicity



Source: American Community Survey, 2013

Economic Determinants

The physical, social and mental well-being of older adults is highly dependent on their economic situation. It determines their ability to afford housing, purchase nutritious food, and access health care. Without a stable source of income, older adults may experience a significantly lower quality of life, which can cause negative impacts to the individual and their communities.[12]

As older adults retire, their incomes may significantly decrease, placing additional burden on physical, social and mental well-being. Studies show that individuals in poverty are at increased risk for ill health and disability.[14] The limited resources that individuals have due to lower incomes can impact a their livelihood and ability to maintain their independence. The most vulnerable are those who have little to no assets, savings, and do not receive Social Security payments. Family members often alleviate part of the economic burden by providing housing, food or other resources that are necessary to live.

Women are especially prone to limited financial resources due to outliving their male counterparts, thereby reducing the income on which they rely on. Such situations can cause homelessness among older adults, leading to multiple negative health and social outcomes.[15]

To support the active and productive aging of older adults, opportunities are often provided to engage individuals in meaningful work. Not only will a job create additional income, it can also increase social interactions and psychological well-being.[16]

This work does not necessarily have to be a formal, paying job. It can be an informal and unpaid position, such a volunteering. In Colorado, 31.8% of residents volunteer according to the National & Community Service's data. Activities that provide a sense of self-worth and autonomy, such as volunteering can engage older adults into providing a significant contribution to society as well as support healthy aging.

Among those who have conditions that prevent them from seeking or maintaining employment, social protection programs are a key resource to support individuals. Programs that protect older adults from financial ruin include old-age pension programs, occupational pension schemes, voluntary incentives, compulsory savings funds, and insurance programs for disability, sickness, long-term care and unemployment. These structures create environments that allow older adults to more fully contribute to our communities

Economic Determinants

7.9%

of older adults (65+) in Colorado live below the poverty line.

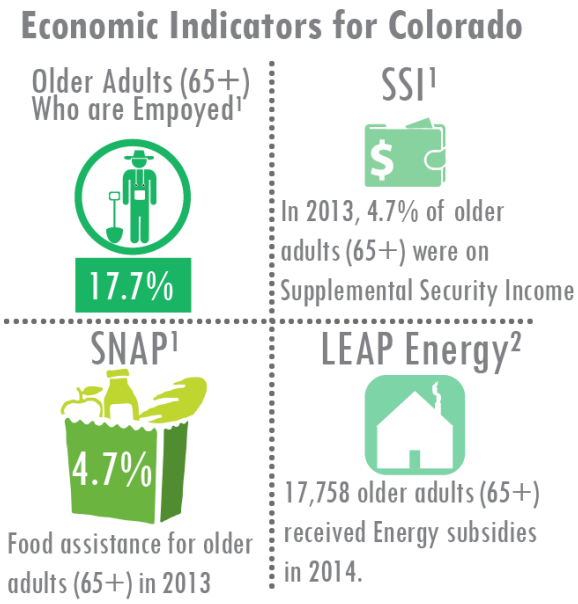
American Community Survey (ACS), 2013

Older Adults Living in Poverty

In 2013, half of all people on Medicare in the United States had incomes less than $23,500, which is equivalent to 200 percent of poverty in 2015.[17] The poverty rate in the US among women 65 and older was also higher than in men in this age group (12% vs. 7%). [18]

Food Distribution to Elderly (SNAP)

Seniors who are homebound may have difficulty obtaining the food they need, which can lead to anger and sadness. Seniors without adequate nutrition may experience weakness, lack of energy, poor balance and more pronounced symptoms of diseases like diabetes and dementia. [19] Colorado's Supplemental Nutrition Assistance Program (SNAP), more commonly recognized as the Food Stamp Program, was implemented in 1939 and has since been extending services to people across the United States. The program allows low-income families and individuals to buy nourishing food that they would not otherwise be able to afford. Benefits are given to SNAP participants based on factors like income, assets, and family size.



Source: [1]American Community Survey, 2013 [2] Department of Human Services, 2014

LEAP Energy

The Low-Income Energy Assistance Program is a federally funded program that assists low-income households with winter home heating costs. Increases in heating bills, especially during the winter can be a great financial burden for older adults. Having to spend most of ones savings for heating costs can put individuals at risk of not being able to afford other bills such as food and housing costs. Being warm during the winter months is essential for older adults to stay healthy. Energy assistance programs therefore provide help to those who have limited resources in order to keep them warm without sending them into financial ruin.

Health and Social Services

Quality of life is a multidimensional concept that includes the physical, mental, emotional, and social well-being of an individual. It focuses on the impact that health status and quality of life have on each other. To achieve a high quality of life, health and social services are needed to care for individuals who have health needs.

Providers, public health professionals and other partners in health care are responsible for creating strategies that reduce the risk of disease and help manage disabilities among individuals. Through primary prevention, many negative health outcomes can be mitigated by implementing educational campaigns or mechanisms that can better engage older adults in their health. Health care systems also assist in providing secondary prevention such as identifying diseases before they develop into serious and difficult to treat conditions. Lastly, tertiary prevention is provided to individuals who need clinical management of their disease. These prevention strategies are integral to a health care system as they can help keep people healthy.

Older adults may not always have physical health problems, but may have an unmet social need that impacts their health. For example, older adults may have difficulty getting to medical appointments, or may be unable to obtain food due to a lack of transportation. Services that assist individuals with their social needs may significantly improve their quality of life. Therefore, for optimal quality of life outcomes, health care systems should address both health and social needs to ensure that older adults have the adequate opportunities to sustain good health.

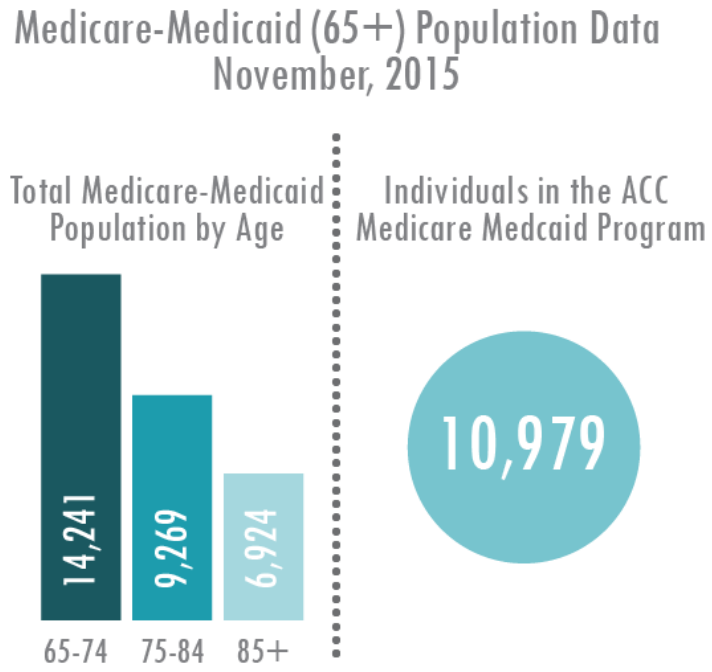
Medicare

Medicare is health insurance for people 65 or older, people under 65 with certain disabilities, and people of any age with End-Stage Renal Disease (ESRD) (permanent kidney failure requiring dialysis or a kidney transplant). Medicare is divided into four parts, A,B,C and D. Each of the parts cover a number of different services such as inpatient care, prescription drugs, hospice care, home health and many other services. In Colorado, there are currently 667,277 individuals on Medicare (KFF, 2012).

Accountable Care Collaborative: Medicare-Medicaid Program (ACC:MMP)

Low-income older adults are covered by both Medicare and Medicaid. These dually eligible beneficiaries usually exhibit a greater burden of disease and require more complex health care. To better manage the needs of this population, Medicare-Medicaid beneficiaries can enroll in the ACC:MMP. This program integrates and coordinates physical, behavioral and social health needs for its beneficiaries in an effort to raise the quality of each individual's care while reducing overall costs.[20] The overarching goals of the program are:

- Improved health outcomes for full benefit Medicare-Medicaid enrollees
- Improved enrollee experience through enhanced coordination and quality of care
- Decreased unnecessary and duplicative services



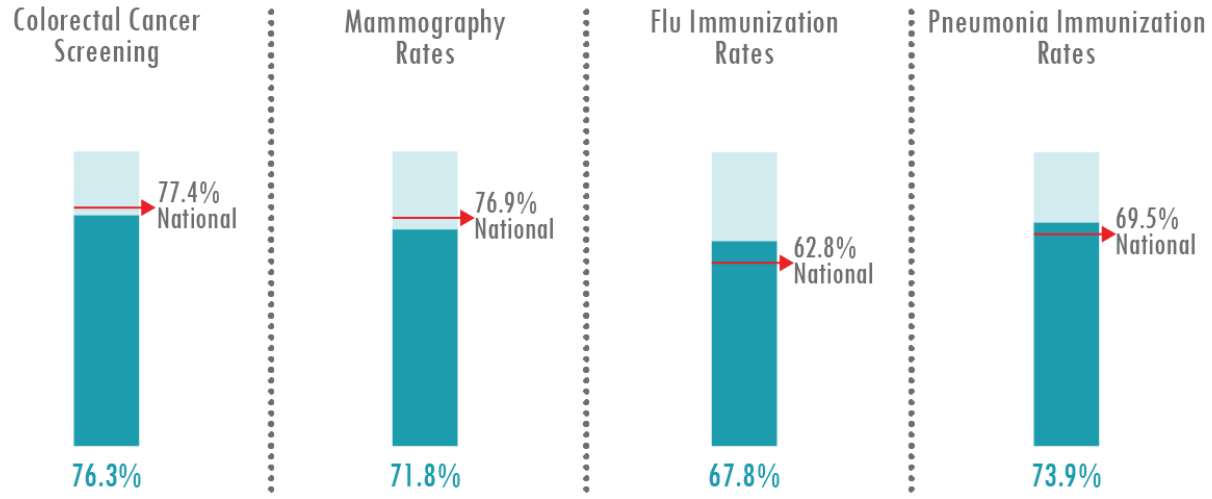
Source: Medicaid Reporting System, Nov 2015

Waivers

Waiver programs provide additional Medicaid benefits to specific populations who meet special eligibility criteria. It allows states to test new or existing ways to deliver and pay for health care services. Waivers pay for things such as case management (i.e. supports and service coordination), homemaker, home health aide, personal care, adult day health services, habilitation (both day and residential), and respite care. States can also propose "other" types of services that may assist in diverting and/or transitioning individuals from institutional settings into their homes and community.

Health and Social Services

Rates of Preventative Services for Older Adults (65+) in Colorado, 2013



Source: Behavioral Risk Factor Surveillance System, 2013

Preventative Services for Older Adults

As people age, the risk of developing diseases increases due to a multitude of factors, such as weakened immune systems or lack of access to care caused by reduced mobility. In order to reduce negative health outcomes and unnecessary distress, proper prevention measures should be made available for older adults. Screenings can help identify diseases and mitigate serious complications. In addition, uptake of important vaccinations can significantly reduce the mortality rates of older adults.[21] The following preventative services may help alleviate morbidity in older adults:

Colorectal Cancer Screening

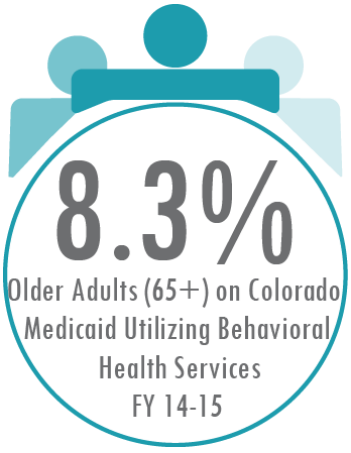
- Colorectal Cancer is second leading cancer killer in the U.S. 51,000 Americans die each year from colorectal cancer. Recommended screening could prevent at least 60% of deaths.[22]

Mammography screening

- Almost half of all new cases and nearly two-thirds of deaths from breast cancer occur among women aged 65 years or older. Mammography is the best available method to detect breast cancer in its earliest, most treatable stage before it has advanced enough to be palpable or cause symptoms. Mammography screening every two years for women aged 65–74 has been shown to reduce deaths.[22]

Influenza and Pneumonia Immunization

- Represent the 8th leading cause of death among U.S. adults aged 65 years or older.[23] Older adults are more likely to receive the pneumonia vaccine if they have received a flu shot in the past.



Source: Medicaid Reporting System, FY 14-15

Behavioral Health Organizations

Behavioral health issues can greatly affect the quality of life of older adults. In Colorado, Medicaid members have access to behavioral health organizations (BHOs) that provide comprehensive mental health and substance use disorder treatment. Medicaid clients are automatically enrolled in the BHO in their region based on where they live.

Older Americans Act/State Funding for Senior Services

Administered through the State Unit on Aging at the Colorado Department of Human Services (CDHS), the Older Americans Act and State Funding for Senior Services programs provide grants to sixteen regional Area Agencies on Aging (AAA) throughout Colorado that provide an array of community services for older adults. The goal of the programs is to allow older adults to remain and thrive in their homes as long as they choose. The programs offer a variety of services including: nutrition programs such as home delivered meals, group meal sites, nutrition education and counseling; supportive services such as transportation and homemaker services; services for caregivers including respite care, counseling and education; and legal assistance, and employment services.

The CDHS State Unit on Aging also supports health promotion and disease prevention initiatives such as the Chronic Disease Self-management Program and Fall prevention program. These programs are evidence-based and designed to help individuals manage their chronic conditions, address their fear of falls, and remain active and healthy.

STATE OF COLORADO AREA AGENCIES ON AGING (AAA)

Region 1 Northeastern Colorado Assoc. of Local Gov.

Region 2A Larimer County Office on Aging

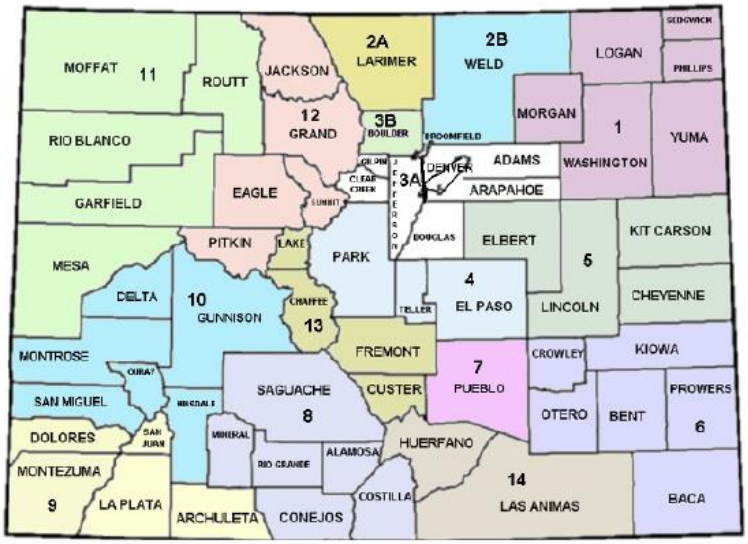
Region 2B Weld County AAA

Region 3A DRCOG AAA

Region 3B Boulder County Area Agency on Aging

Region 4 PPACG Area Agency on Aging

Region 5 East Central Council of Governments



Region 6 Lower Arkansas Valley AAA

Region 9 San Juan AAA

Region 12 Alpine AAA

Region 7 Pueblo AAA

Region 10 League for Economic Assistance & Planning

Region 13 Upper Arkansas AAA

Region 8 South-Central Colorado Seniors Inc.

Region 11 Assoc. Governments of Northwest Colorado

Region 14 Huerfano/Las Animas Area COG

Please follow the link below for contact information for each Area Agencies on Aging

https://sites.google.com/a/state.co.us/cdhs-cai-aas/state-unit-on-aging/area-agencies-on-aging

Adult Protective Services

The CDHS Adult Protective Services (APS) unit oversees County Human Services Departments' administration of the APS program statewide. The law urges reporting of abuse, exploitation, neglect, and self-neglect of at-risk adults age 18 and older, and the county departments investigate all allegations of mistreatment of an at-risk adult and offer protective services. A new law, in the criminal statutes, was implemented on July 1, 2014 that mandates certain professionals to report abuse, neglect, and exploitation of at-risk elders (defined as 70 and older) to law enforcement. Law enforcement is required to report any cases to the County APS Program.

Behavioral Determinants

Health outcomes are highly dependent on the type of lifestyle choices individuals' make.[24] Attitudes toward healthy lifestyles such as physical activity and balanced diets are often established in childhood.

Leading a healthy lifestyle may not always be possible due to socio-economic factors that influence our behaviors. Access to healthy foods or green spaces may not be available, potentially causing older adults to have foods with low nutritional value and limited amounts of physical activity.

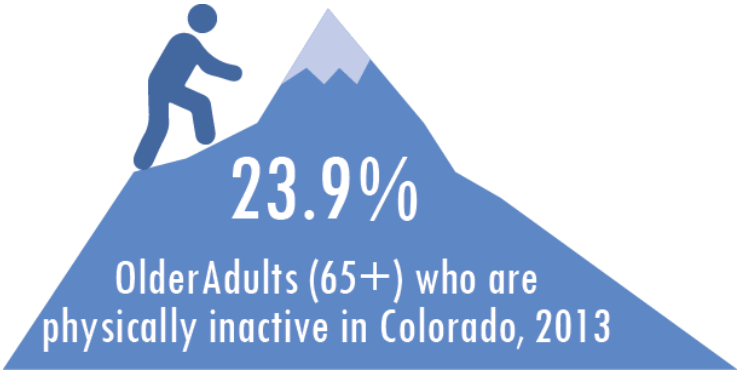
Research has demonstrated that participating in an active lifestyle throughout the life course protects from negative health outcomes later in life.[25] Individuals who integrate physical activity into their life reduce the risk of cardiac death and accidental falls, enjoy better behavioral health, as well as reduce the presence of disability during older age.[26]

Healthy diets have also shown to help protect people's health.[25] Unfortunately, some older adults may not have adequate access to healthy food due to resources, lack of knowledge about healthy food or even a cognitive disability that hinders their ability to eat healthy. Strategies to ensure food security for older adults are essential in order to safeguard their healthy aging.

Additionally, individuals should abstain from certain behaviors that damage health. Smoking tobacco has shown to cause lung cancer, cardiovascular disease, reduce bone density and muscle strength.[27] It is a major cause of preventable, premature death. Smoking cessation can alleviate many health risks as well as increase life expectancy.[28]

Alcohol is another contributor to negative health outcomes. Older adults who drink unsafe amounts of alcohol are prone to health complications that can impact their quality of life.[29] Creating environments where healthy lifestyles are encouraged may allow older adults to actively age.

Behavioral Determinants



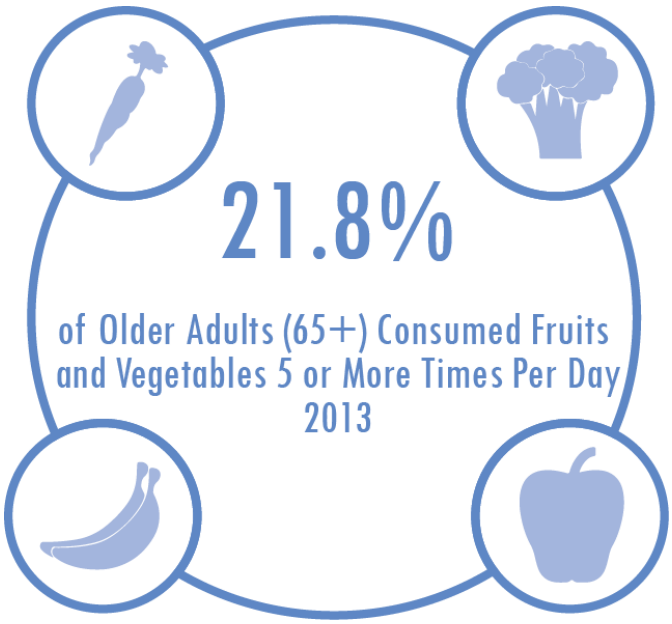
Source: Behavioral Risk Factor Surveillance System, 2013

Managing Chronic Conditions

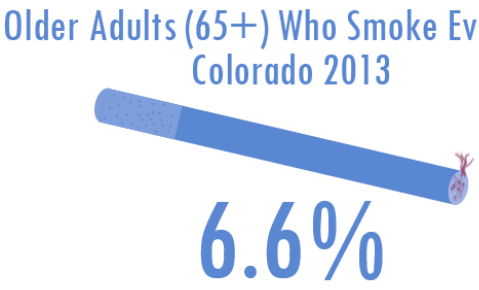
Chronic conditions are often times incurable and have to be properly managed, especially among older adults who are at a greater risk of having coexisting diseases.[30]

Some chronic conditions such as diabetes and obesity can be managed through health promoting behaviors. Evidence supports that physical activity and adequate diets have shown to help control glucose levels as well as maintain a healthy weight.[31] Although situations may arise where behavioral modifications have to be combined with pharmacological interventions for proper management.[31]

As the number of older adults who are overweight and have diabetes is projected to grow, managing conditions will become vital to sustaining good health.[32] Therefore, it is important that older adult have the right resources and access to interventions that allow them to adequately manage their conditions, limiting the impact on their quality life and wellness.



Source: Behavioral Risk Factor Surveillance System, 2013



Source: Behavioral Risk Factor Surveillance System, 2013

Personal Determinants

Biology and genetics can be a determining factor for health outcomes. Certain diseases are more prevalent among people who exhibit specific genetic characteristics. These genes may influence the development of chronic conditions such as diabetes, Alzheimer's Disease as well as certain cancers.[33]

While genes may play a role in the causation of disease, external and environmental factors are usually greater determinants of health.[34] To ensure that individuals live long and healthy lives, factors that impact health such as a combination of genetics, lifestyle, environment, and social factors should be taken into consideration

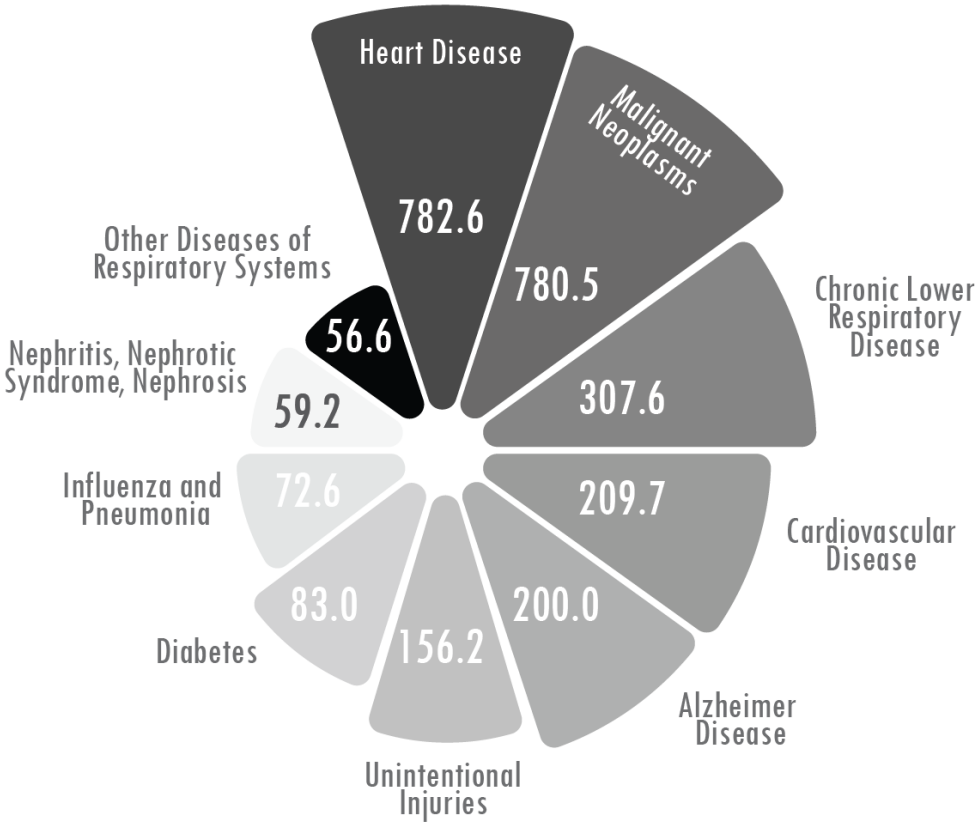
Other factors that impact the health and well-being of older adults include psychological factors such as intelligence and cognitive capacity. The ability to learn quickly, remember, and make decisions are strong predictors of healthy and active aging.[35] If a person loses these important capacities, they may have limited independence and need to receive care from others.

Furthermore, older adult's exhibit greater well-being if they have good self-efficacy.[36] Believing that one has control over one's life is important in making healthy choices and more actively engaging in one's health management.

Often declines in cognitive capacities are caused by disuse of brain (lack of practice), illness (such as depression or dementia), behavioral factors (use of alcohol), psychological factors (such as lack of motivation, low expectations and lack of confidence) and social factors such as loneliness and isolation.[2]

Genetics can play a role in an individual's health and well-being, but many of the factors that influence the development of chronic disease may be reduced or even eliminated through interventions and environmental change.

Leading Causes of Death for Older Adults (65+) in Colorado, 2013



*Rates per 100,000

Source: Colorado Department of Public Health and Environment, 2013

Leading Causes of Death

During the last century, life expectancies began to dramatically increase as medical technology found cures for infectious disease that caused fatalities at younger ages. With individuals now living longer, the leading causes of death are now primarily caused by non-communicable diseases.

In Colorado, the leading chronic diseases that result in death among adults 65 and over are heart disease and cancers. In addition, older adults frequently suffer from more than one life-threatening, chronic condition at the time of death.

Chronic diseases that are caused by unhealthy behaviors earlier in life are predominantly preventable.[37]

Source: Colorado Department of Public Health and Environment, 2013

Suicide among Older Adults

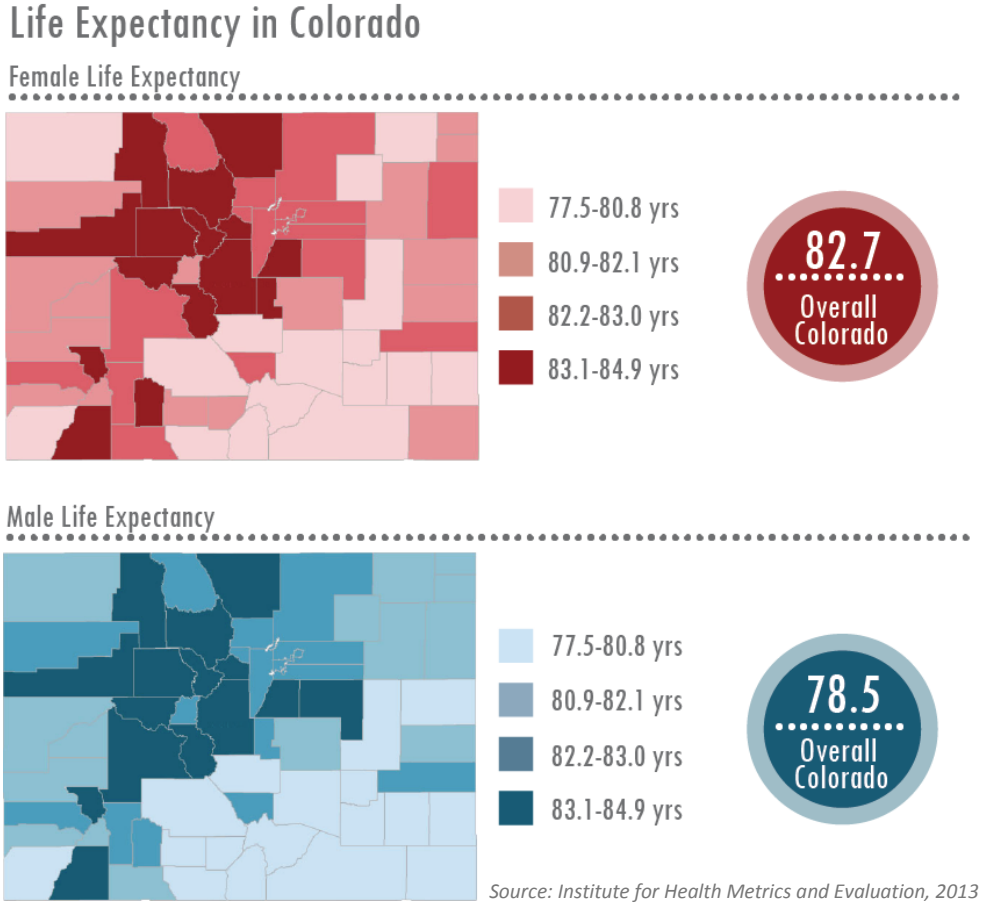
Colorado ranks as one of the worst performing states when it comes to the mental health of its citizens. The age-adjusted suicide rate is 6th highest in the nation (CDPHE, 2013). In addition, suicides rank as the 10th leading cause of death among older adults aged 65-74.

There are a number of risk factors that increase the likelihood of an older adult committing suicide. Older adults can be greatly affected by the loss of function, loss of mobility, and significant physical pain, which can threaten autonomy, personal integrity, and increased perceived burdensomeness.[38] The loss of independence can cause physiological problems and lead people to hurt themselves. Furthermore, social connectedness plays a huge role in creating belonging and reasons to live. People who lose close friends and family due to death or moving away can feel disconnected and socially isolated. Without that social support, the risk of depression and not belonging greatly increases, potentially leading to suicide if timely interventions are not provided.[38]

Personal Determinants

Life Expectancy in Colorado

Since 1990, life expectancy among Colorado residents has increased from 77.2 to 80.4 years.[39] While there have been increases in both male and female life expectancy over this time period, women continue to have longer life expectancy than men. This gap between males and females has been shrinking over time. Despite increases in life expectancy across Colorado's various race/ethnic populations, disparities still persist, particularly among the black population, for which life expectancy in 2010 was 76.9 years, compared to 80.5 among white, non-Hispanic residents and 80.3 among white, Hispanic residents.[39]



Source: Institute for Health Metrics and Evaluation, 2013

4.9% of Older Adults (65+) in Colorado have a **Cognitive Impairment**

Source: American Community Survey, 2013

Cognitive Impairment during Older Adulthood

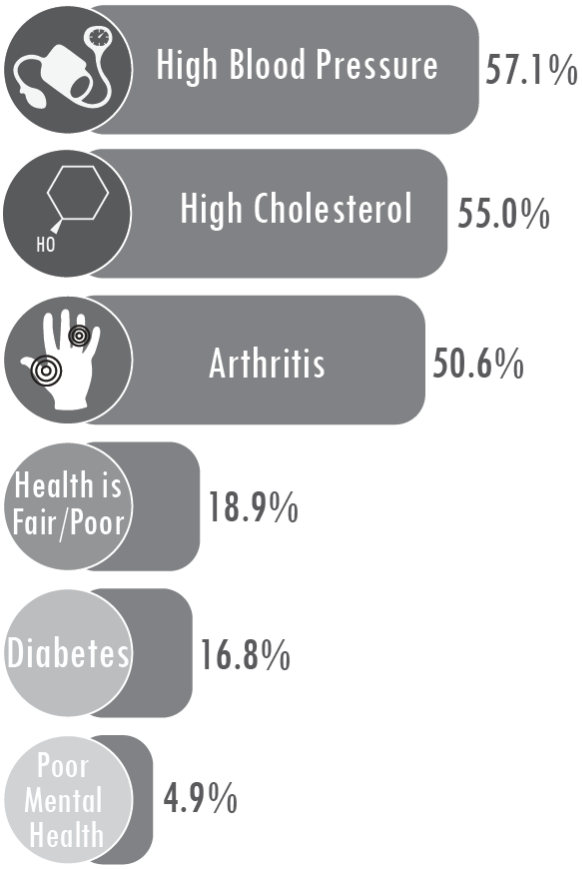
As adults age they are at an increased risk of developing cognitive impairments such as difficulties with memory, learning new concepts, concentrating or making important decisions that impact everyday life. More than 16 million American adults exhibit some form of cognitive impairment.[42] This number is expected to grow due to the increasing number of individuals expected to live well past the age of 65.

Cognitive impairments are one of the most costly conditions for health care systems. It is estimated that people with a cognitive impairment visit the hospital three times more often than individuals who are hospitalized for other conditions.[43] Impairments can range from mild conditions where some cognitive function is lost to severe conditions such as dementia or Alzheimer's where a person's inability to understand and communicate affects their ability to live independently.

Risk factors that may cause cognitive impairment may include: family history, lack of physical exercise, brain injuries, exposure to toxins and chronic conditions such as heart disease, stroke, and diabetes.[42] Currently, no cure exists, but a person can reduce their risk of developing a cognitive impairment by remaining physically active and maintaining a healthy diet.

Personal Determinants

Older Adult Health Indicators in Colorado , 2013



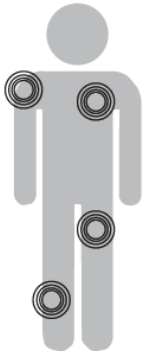
Source: Behavioral Risk Factor Surveillance System, 2013

Health Outcomes in Older Adulthood

Chronic diseases can severely impact the quality of life for older adults by limiting their independence and decreasing their productivity. Many of these chronic disease often co-occur, creating an even greater burden for an individual to manage. Studies show that older adults with multiple chronic illnesses experience greater hospitalizations and cost of care.[40] The utilization of these health services only increases with time due to the longer life expectancies that individuals experience. Health systems will have to be prepared to be able to manage the increasing number of older adults with multiple chronic disease.

Chronic conditions are also more prevalent among minorities and underserved populations.[41] Initiatives that promote health equality and equity are needed to address these health disparities.

Prevelance of 6 or More Multiple Chronic Conditions, 2012



8.2% Colorado Medicare

14.9% Colorado Medicare-Medicaid

12.2% National Medicare

22.3% National Medicare-Medicaid

Source: Centers for Medicare and Medicaid Services, 2012

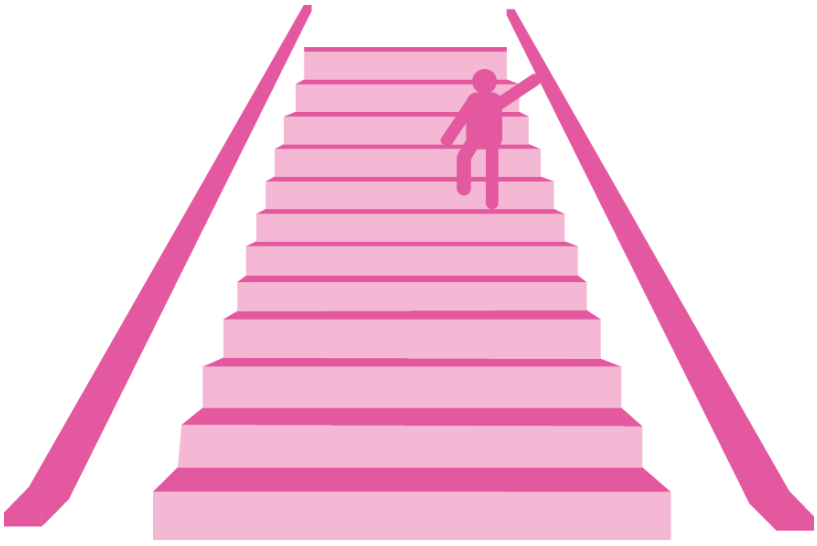
Physical Environment

Physical environments that are age friendly allow older adults to live to their fullest potential. Eliminating obstacles that cause potential harm to health is essential to maintaining good health. The living situations of older adults have to be safe with no present physical barriers. If hindrances do exist that limit an individuals movement around their surroundings, the risk of isolation may increase and cause negative outcomes such as depression, reduced fitness and increased problems with mobility.[44]

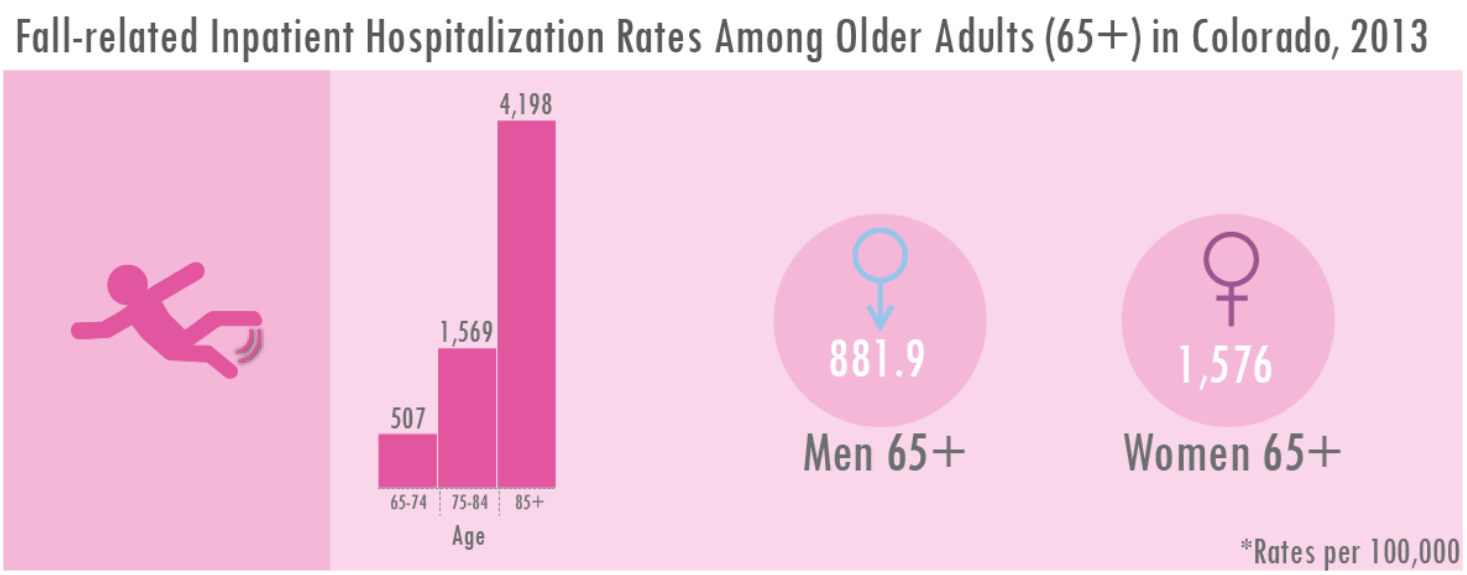
Older adults need access to health and social services. Doctors need to be in close proximity in order to provide health advice in a timely manner. Grocery stores have to be close enough for individuals to buy food any time they feel hungry. If older adults are not able to use their own mode of transportation to reach any needed destinations, transportation services need to be available that are age-friendly and affordable.

Furthermore, the building codes of homes, health organizations, local businesses and any other places that older adults frequently visit, have an important role in ensuring safe environments to reduce fall risks. Falls are a large cause of injury among older adults, which can lead to high treatment costs and death.[45] Physical factors that increase the risk of falls include poor lighting conditions, uneven surfaces and lack of supportive devices in the home. Other risk factors are living alone, lack of mobility due to fear of falling or lack of access to physical activity and fall prevention programs. Injuries sustained from falls are more severe in older adults and require longer hospital stays.[45] Such injuries may cause severe disability where older adults become dependent and in need of in-home services and more community services. These outcomes reduce self-efficacy and can cause secondary consequences, including depression.

Rural areas often lack many services that older adults rely on. They are forced to travel long distances to receive the services they need. In addition, the demographics of diseases are vastly different from urban settings, creating a need for geographically-specific interventions. By using community health needs assessments, state and local health organizations can target their interventions and provide communities with physical environments that support the active aging of older adults.



Physical Environment



Source: Colorado Hospital Association, 2013

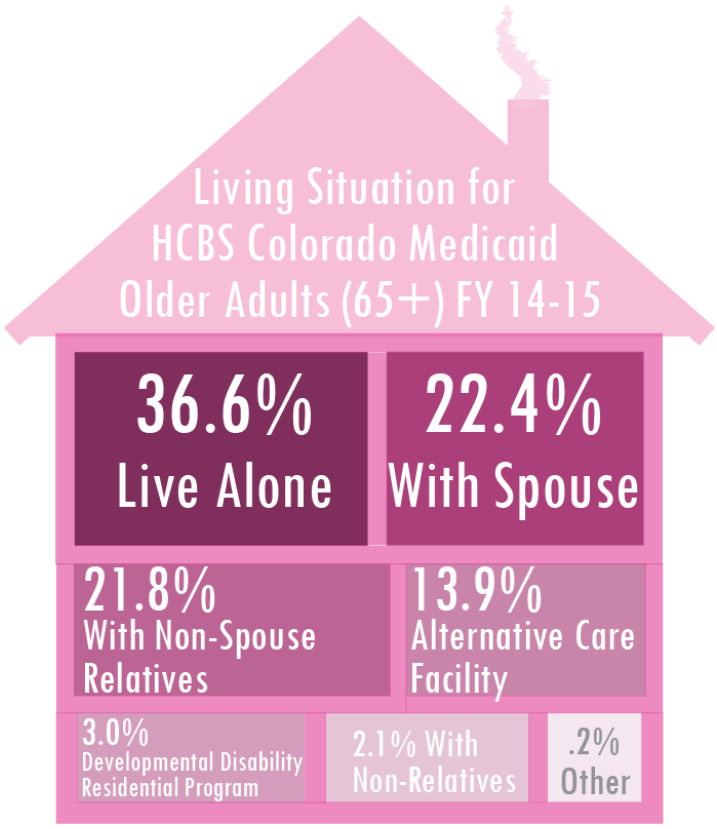
Older Adult Falls Prevention Programs at CDPHE.

Older adult falls are a significant health concern for older adults and a major public health issue. In addition to the health care costs, falls and the fear of falling lead to a lack of mobility, independence and participation in an active live for older adults, their families and communities. As the population ages, falls are due to complex, interrelated risk factors including physical factors (muscle strength, gait and balance impairments, vision and hearing and other physical conditions), social (socialization, sense of independence, mental health), and environmental barriers, (stairs, lighting, neighborhood design). However, falls are not an inevitable result of aging. There are available strategies to reduce falls and improve quality of life. The overall message to older adults are that falls can be reduced through four strategies: engage in strength and balance exercises, make your home safer, have your eyes and eyeglasses checked annually, and talk to your doctor to manage health problems, including medication review. The role in fall prevention for health care providers, public health agencies and communities are to promote and implement evidence-based fall prevention programs.

There are evidence-based programs that are effective in reducing falls and the risks for falling. At one level there are multifactorial interventions that include individual risk assessment changes. For single interventions, well-designed strength and balance-focused exercise programs can prevent falls and fall-related injuries and decrease the fear of falling. Other effective strategies are home safety assessment and modifications, especially when done by occupational therapists; and clinical strategies such as medication modification, Vitamin D supplementation and vision screening strategies.

State agencies, such as the Colorado Department of Public Health and Environment and the State Agency on Aging are working to create integrated, sustainable networks to implement and promote evidence-based older adult fall prevention programs. Partners include hospitals, parks and recreation departments, senior center and other senior-serving groups who are embedding fall prevention activities and programs within the infrastructure. Clinical partners are also provided with guidelines and effective strategies to help them address their older patients' fall risks and identify modifiable risk factors, offering patient referrals to solutions that work.

Physical Environment



Source: Medicaid Reporting System, FY 14-15, HCBS- Home and Community Based Services, DD- Developmentally Disabled

Living Situation for Older Adults

The quality of life and well-being of older adults can be impacted by their living situation. Older adults living alone often have fewer resources due to financial constraints and less caregiver support than living with a spouse or relative. They are faced with tougher challenges, such as finding affordable housing and having enough money for nutritious meals.[46] Women in particular are at greater risk of living alone since they usually outlive their male spouses. This can cause great hardships for women as their pensions are significantly lower due to fewer years in the workforce caused by child rearing or historical gender roles.

Activities of daily living may also be impacted for older adults who live alone, especially those with debilitating disabilities. Without help from relatives or spouses, tasks such as paying bills, managing medications and shopping for groceries can be unmanageable. Therefore, in-home services that provide caregivers for older adults, who have trouble taking care of themselves, are necessary to assist individuals with activities of daily living. Furthermore, transportation services may also help older adults stay independent by providing access to any of their daily needs such as grocery stores or health and social services.

An individual's mental health may also suffer if they are living in social isolation. Studies show that the risk of depression increases among older adults who are feeling alone and disconnected from their communities.[47] Support services are needed to ensure that older adults feel engaged and a part of a community, ultimately allowing them to live to their full potential. Social support systems are therefore essential to well-being, particularly among older adults who live alone.

Physical Environment

Colorado Service Settings

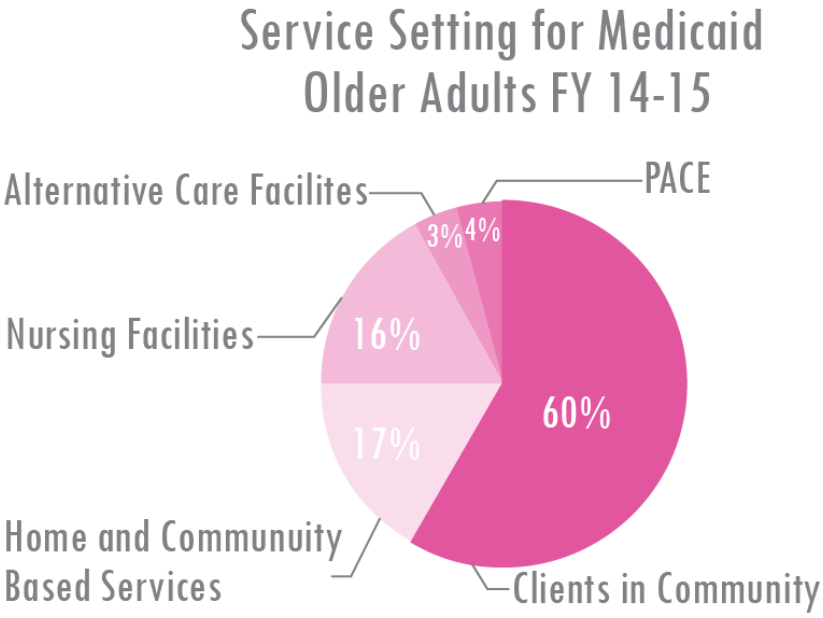
Nursing Facilities

Nursing facilities care for chronically ill, usually elderly patients, that need long-term nursing care, rehabilitation and other services. They are also called long-term care facilities or nursing homes.

Alternative Living Residence

In Colorado, older adults who need assistance with daily living activities and care, have the ability to live in assisted living residences (ALR). These residences are regulated by CDPHE and provide housing that include personal services, protective oversight, social care due to impaired capacity to live independently and regular supervision.

ALRs may also apply for Medicaid reimbursement in order to accommodate individuals with greater financial needs. Before they can accept Medicaid reimbursement and become alternate care facilities (ACF), they have to be certified by HCPF.



Source: Medicaid Reporting System, FY 14-15

ACFs are essentially ALRs, but are eligible to accept Medicaid. Residents have as much independence as they want with the knowledge that personal care and support services are available if needed. These facilities are designed to provide assistance with daily activities of daily living (ADLs), such as bathing, grooming, and dressing. ACFs differ from nursing homes in that they do not offer complex medical services, and services are provided in the community.

Home and Community Based Services

Home and Community Based Services (HCBS) provide opportunities for Medicaid beneficiaries to receive services in their own home or community. In addition, Colorado's Areas on Aging coordinates and offers services that help older adults remain in their home, if that is their preference, aided by services such as Meals on Wheels, homemaker assistance and other programs needed to make independent living a viable option.

PACE (Program of All-inclusive Care for the Elderly)

PACE is a Medicare and Medicaid program that helps people meet their care needs in the community rather than a nursing home or other care facility. In order to be eligible for PACE, participants must be 55 years of age or older, live in the service area of a PACE organization, require nursing home-level care and be able to live safely in the community with help from PACE.

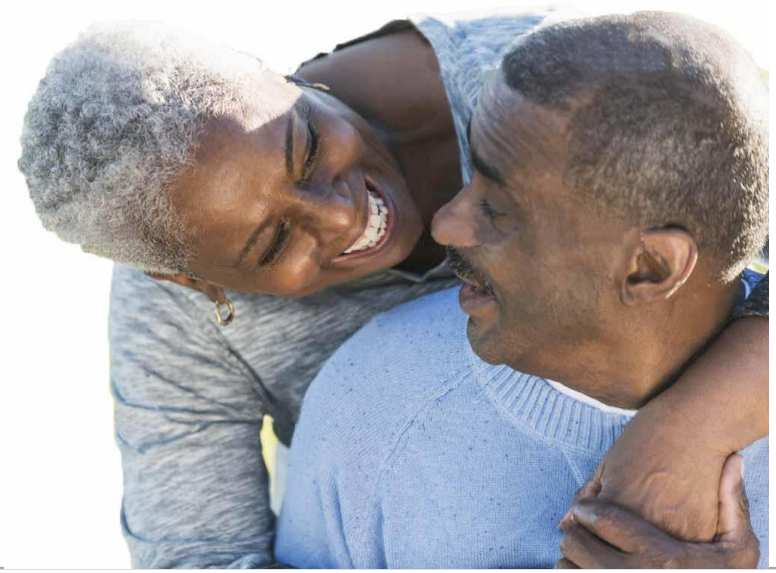
Social Environment

Social environments contribute to the health outcomes of older adults. Environments that promote social interaction and provide adequate social support lower the risk of mortality, morbidity and psychological distress among individuals.[48] Social isolation can damage the health and well-being of older adults due to a lack of necessary help or absence of emotional ties that impact mental health.[48]

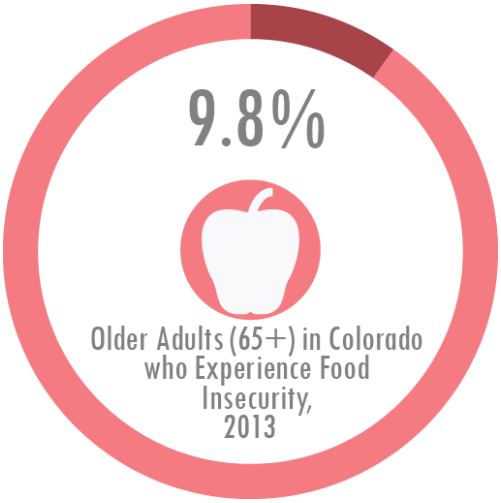
Loneliness and isolation may increase with age due to the passing of family members or friends. Studies have shown that older individuals who live in such inadequate social environments exhibit a decline in both physical and mental well-being.[49] Therefore, supportive social connections and intimate relations are important factors that help older adults live through difficult situations, ultimately sustaining a higher quality of life.

Disabilities, frailties and living alone are of great concern among older adults as it makes them more vulnerable to exploitation, thereby negatively affecting their well-being. Most often elders are abused and exploited by their own family members.[50] Exploitation can range from monetary to ill-treatment. Protecting older adults from abuse is vital to their livelihood and our societies.

Evidence-based programs that promote the safety and inclusion of older adults in communities may help sustaining a high quality of life. Social networks can be fostered through community groups, volunteerism, intergenerational programs as well as other initiatives that create environments where older adults are engaged and productive in society.



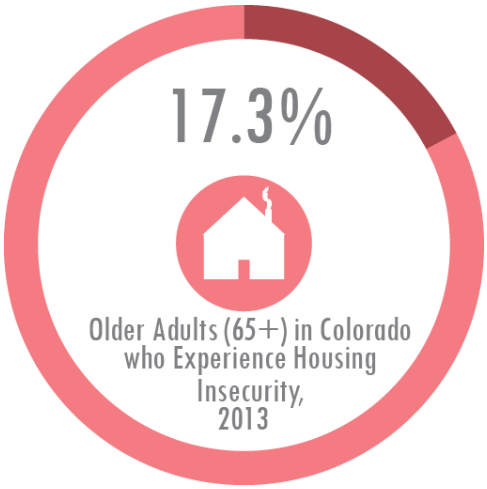
Social Determinants



Source: Behavioral Risk Factor Surveillance System, 2013

Food Security

The U.S. Department of Agriculture defines food insecurity as having a lack of consistent access to adequate food due to limited resources and financial constraints. Food insecurity among older adults is generally influenced by financial instability, isolation and functional disability.[51] To mitigate the influence of these factors, programs have to be implemented to ensure that every older adult has access to healthy foods. In Colorado food distribution programs such as SNAP and Meals on Wheels already exist to alleviate food insecurity among older adults. As Colorado's population continues to age, more people will need to take advantage of such programs in order to sustain their well-being.



Source: Behavioral Risk Factor Surveillance System, 2013

Housing Insecurity

The Department of Health and Human Services has defined housing insecurity as high housing costs in proportion to income, poor housing quality, unstable neighborhoods, overcrowding, or homelessness. Safe, adequate, and affordable housing is essential for maintaining good health among older adults. Without appropriate housing elders are at a greater risk of developing chronic conditions that lower their quality of life.[51]
Housing hazards that cause unintentional injuries such as falls have to be repaired or removed. Creating neighborhoods and communities where the distance to health care services, transportation, and family members is not a barrier will support greater autonomy, independence and social interactions for older adults.

Source: Colorado Department of Human Services, 2013

Violence and Abuse

Violence and abuse of elders often occurs among vulnerable populations that are frail or living alone. A common form of violence against older adults is "Elder Abuse" committed by family members or caregivers who are well acquainted with the victim. Elder abuse includes physical, sexual, psychological and financial abuse or exploitation. Individuals who are abused are generally also neglected, which can cause injury, illness, a loss of productivity, isolation and despair. Many cases of abuse are underreported, potentially leading to greater harm for older adults.

Awareness campaigns can help inform individuals of problems that older adults may face, but in order to see a reduction in substantiated cases of elder abuse, multi-sector initiatives have to be implemented that involve justice officials, law enforcement, health and social service workers, advocacy organizations and older adults themselves.

Lessons Learned

The Colorado Cross-Agency Collaborative has aligned metrics between three Colorado state health agencies (Human Services, Public Health and Environment, and Health Care Policy and Financing) that impact the health and well-being of older adults 65 and over. The identified metrics provide an environmental assessment of the current needs of the senior population.

As Colorado's population keeps on getting older, new strategies will have to be in place that focus on the economic, behavioral, social, and medical needs of older adults. Multifaceted initiatives that provide opportunities and services equally and equitably throughout our communities can assist in ensuring that older adults live to their fullest potential.

Each of the Collabrative's partners are involved in furthering the health of older adults in Colorado through various state initiatives. By aligning measures the state health agencies can collectively focus on areas of need, ultimately bridging gaps in hope of providing opportunities for each and every individual to age actively.

The Collaborative recognizes that the health and well-being of older adults cannot be exclusively measured by what was identified in the report. Rather it highlights important evidence based metrics that have shown to impact their quality of life.

Furthermore, through the Collaborative's efforts, a number of measurement gaps were identified by each state health agency.

The Department of Health Care Policy and Financing identified a number of data gaps that it currently cannot measure, but is working towards integrating new data systems. State Medicaid agencies have historically had a significant gap in data for Medicare-Medicaid beneficiaries. Medicare is the primary payer for most acute care and pharmacy claims for this population. Without access to this data, the acuity and utilization patterns of the Medicare-Medicaid beneficiaries is difficult to assess. The Medicaid specific statistics referenced in this report, therefore, have been limited to long-term care.

To address this need, Colorado is currently designing a new Business Intelligence and Data Management (BIDM) system that will link together Medicare and Medicaid data for our members. The new system will allow for greater data capabilities for this population in terms of utilization of services. The BIDM will contain data on acute care, behavioral health, and long-term services and supports. Also much of the social services data located in disparate state agencies will be combined to support healthcare delivery with social determinants of health.

Colorado is also a participant in a federal demonstration project to integrate care for full benefit Medicare-Medicaid enrollees using the infrastructure of the Accountable Care Collaborative (ACC). Access to this integrated data will facilitate meeting the demonstration's goals of improved health outcomes and experience of our members while decreasing duplicative or unnecessary services.

In addition, the National Core Indicators for Aging/Developmental and Disability (NCI-AD and NCI-DD) surveys will continue to serve as a way for the State to measure satisfaction with services and client experience. Other surveys that will be implemented include the Testing Experience and Functional Tools (TEFT) survey for Home and community-based services (HCBS). This initiative is designed to field test an experience survey and a set of functional assessment items, demonstrate personal health records, and create a standard electronic Long-Term Services and Supports (LTSS) record.

There is much work to do in order to develop and implement outcome measures relevant to older adults in Colorado. Currently, NQF is working to establish quality metrics for HCBS with domains related to issues like caregiver support, workforce training and development, and community inclusion. Additionally, we need to measure care planning that address what older individuals really value, as well as issues related to personal control, choice, cultural competence and person centeredness.

The Colorado Department of Human Services has also identified measurement gaps that are

currently being addressed. The Division of Aging and Adult Services is currently contracting for a data study that will enable the Division to track impact and outcomes of Older American's Act and State Funding for Senior Services programs. Currently the Division collects data on the number and type of services provided such as transportation, congregate meals, home-delivered meals, but does not have the capacity to report on outcomes such as the impact these services have on older adults' ability to remain in the home. Once the data study is complete, the Division will work to fund and implement the findings and recommendations of the study over the next two years, expanding the Division's capacity to report on the impact of the programs and services for older adults.

Furthermore, CDHS in collaboration with the Colorado Commission on Aging created *The Colorado Aging Framework: A Guide for Policymakers, Providers and Others for Aging Well in Colorado*. It includes possible strategies that could be adopted to respond to the increasing older adult population and serve as a catalyst for communities to learn about and respond creatively to this increasing population.

The Colorado Department of Public Health and Environment does not have a specific program dedicated to addressing health issues in the aging population, however, CDPHE is increasing the collection and analysis of population-level, aging-related data (e.g., collecting data on cognitive decline in 2015 BRFSS and on care-giving in 2016 BRFSS). A possible data gap is data on adults in long-term care facilities as the chronic disease and other health-related prevalence estimates from BRFSS do not include this population. For example, the oral health program would like to obtain better data on oral disease among older adults. Some states have started to conduct basic screening surveys for the older adult population; unfortunately, Colorado does not have the resources to do this type of activity at this time. CDPHE is also working to obtain data on medication adherence and control of hypertension and diabetes - two areas where we have historically had state-level data gaps.

CDPHE has created a Healthy Aging Plan that will focus on Dementia, Fall Prevention, Diabetes, Suicide Prevention, and Community-based and family centered care. Measures are continually being developed to better monitor and evaluate those initiatives.

The Collaborative will continue to align metrics and work on closing existing data gaps. The metrics in this report will be trended on an annual basis. Once new metrics have been developed through the identification of measurement gaps, they will be added to future Collaborative reports.

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