

California Geriatric Society



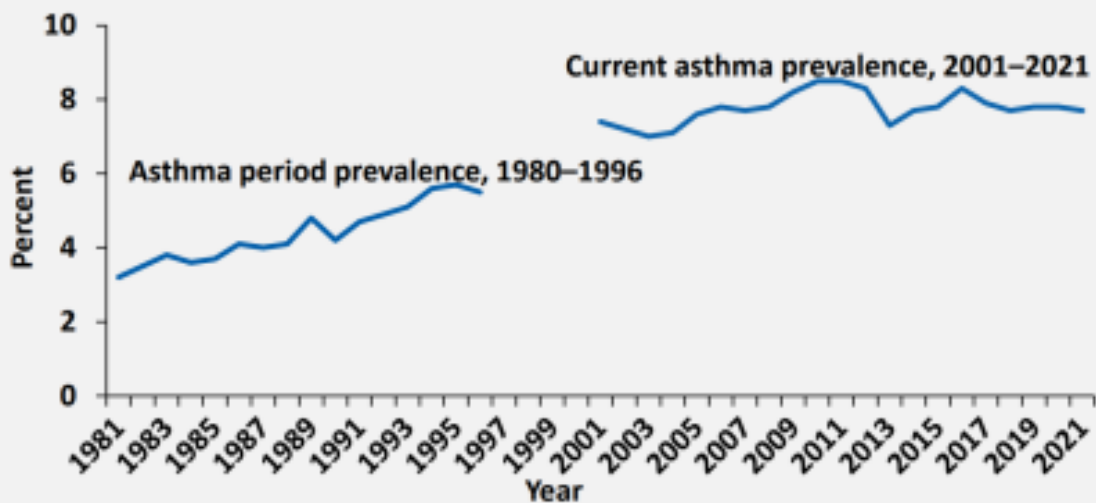
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News you can use from CAGS 2023!

Here is what we are about this year: Sun, Climate Change, Digital Therapeutics, and Current Events!

1. California's Climate Affects Your Lungs!

Asthma Period Prevalence and Current Asthma Prevalence: United States, 1980–2021



The percentage of the U.S. population with current asthma increased over time. Current asthma prevalence increased from 7.4% in 2001 to 7.7% in 2021.

Climate change in California is having significant impacts on respiratory health, specifically among the elderly, who are vulnerable due to their age and pre-existing health conditions. Multiple factors contribute to this trend:

Wildfires/Air Quality: California has experienced an increase in the intensity of wildfires because of the hotter and drier conditions caused by climate change. Wildfires release PM2.5 and PM10, as well as carbon monoxide and volatile organic compounds. These pollutants can reside deep in the respiratory system and exacerbate respiratory conditions such as chronic obstructive pulmonary disease, asthma, and bronchitis, which are common among older adults.

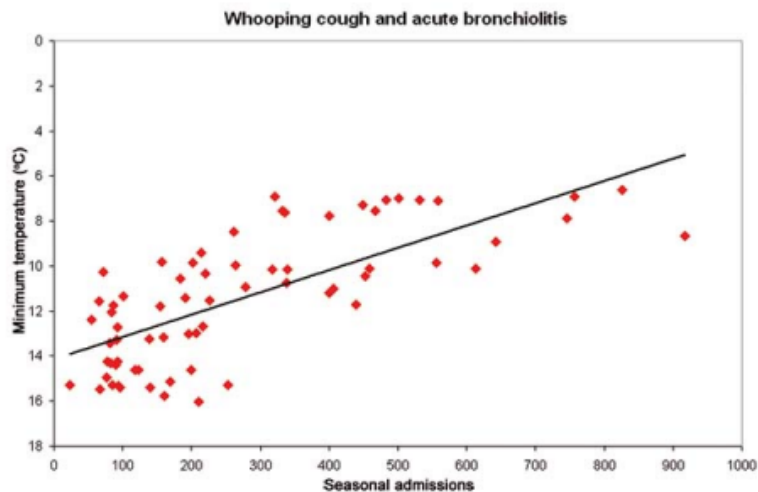
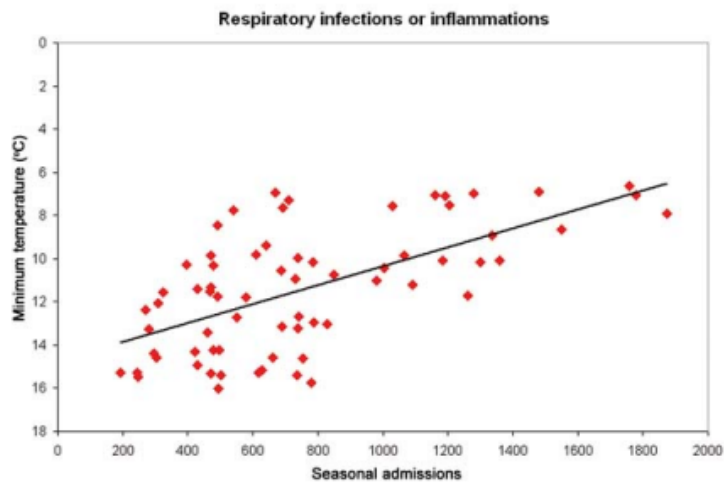
Extreme Heat Events: Rising temperatures in California have led to more frequent and prolonged heatwaves. Elderly individuals are especially susceptible to heat-related illnesses because of their decreased ability to regulate body temperature and higher likelihood of having chronic medical conditions. During such events, there is an increased risk of heatstroke and dehydration, both of which can negatively impact respiratory health and make existing conditions worsen.

Changes in Allergen Exposure: Climate change affects the blooming patterns of plants that contain allergens. This can lead to a prolonged allergy season, which increases pollen levels, and creates exposure to new allergens, which triggers respiratory allergies and asthma attacks in the geriatric population. Such conditions can further compromise lung function and overall respiratory well-being.

Air Pollution from Transportation/Industry: The changing climate can exacerbate air pollution in urban areas because of increased emissions both from vehicles and industrial sites. Long-term exposure to air pollution has been linked to respiratory issues and can be harmful to older adults with weaker respiratory systems.

Vector-Borne Diseases: Climate change can influence the distribution and prevalence of vector-borne diseases, such as West Nile virus, which affects respiratory health greatly. Infections like pneumonia, caused by vector-borne diseases, can have severe consequences for the geriatric population.

To address these health risks, change must be made within California to mitigate climate change. These may include reducing greenhouse gas emissions, increasing public awareness about air quality and heatwave risks, enhancing healthcare services targeting respiratory issues in vulnerable populations, and establishing adequate cooling centers during extreme heat events. By taking these steps, California is protecting the health of their elderly as well as being proactive in combating climate change.



2. Digital Therapeutics and Geriatrics

Falls among the senior population pose a significant challenge, resulting in both fatal and nonfatal injuries with widespread implications for individuals and the healthcare system. With millions of falls occurring annually, addressing the multifaceted consequences is of utmost importance, affecting both physical well-being and economic stability. Hospital costs associated with fall-related injuries are substantial, contributing to a notable portion of hospital and nursing home admissions. Moreover, the psychological impact of falls on elderly individuals should not be underestimated. This article explores the financial implications of falls, the strain on the U.S. healthcare system, and the potential of technology, including remote patient monitoring, personal emergency response systems, medication management solutions, and innovative approaches like GaitBetter, to prevent falls, provide early interventions, and reduce healthcare expenses.

The High Cost of Falls:

Falls are a significant concern, particularly among the elderly. Millions of fall-related incidents occur annually, leading to emergency room visits, hospitalizations, and unfortunately, numerous fatalities. The economic burden of falls is substantial, with an average hospital cost of \$30,000 for fall-related injuries. Falls account for 25% of hospital admissions and 40% of nursing home admissions. Among those admitted, 40% do not regain independent living, and 25% experience mortality within a year. The projected healthcare expenditures associated with falls surpassed \$50 billion last year, with predictions indicating a twofold increase by the year 2030 due to the ongoing expansion of the older demographic.

Psychological Consequences:

In addition to the tangible repercussions in terms of physical and financial burdens, falls can exert significant psychological consequences on the elderly population. Falls have the potential to result in a range of adverse outcomes, including injuries, hospitalizations, placement in long-term care institutions, disability, and mortality. Elderly individuals who have encountered a single instance of falling are more susceptible to further falls, often leading to the development of a phobia of falling. The presence of this fear might lead to a decrease in engagement in physical activities, thereby heightening the susceptibility to falls and injuries.

Leveraging Technology for Fall Prevention:

While traditional prevention methods are essential, technology can complement them to enhance fall prevention, early detection, and chronic care management. Three key technologies, along with innovative approaches like GaitBetter, can provide valuable assistance:

Personal Emergency Response Systems (PERS):

PERS devices offer 24/7 access to emergency assistance with the push of a button. Automatic fall detection capabilities can contact emergency operators, even if the individual cannot. GPS locating can identify the user's location and direct help quickly, crucial for those with conditions like dementia. PERS can help reduce hospital admissions by up to 26%, keeping seniors safe and independent while lowering healthcare costs. Medication Management Systems:

Medication nonadherence is common in older adults and is associated with a higher risk of falls. These systems ensure medication adherence, reducing the likelihood of falls due to missed doses or over-medication.

Programmable dispensers dispense medication according to individual prescriptions, enhancing safety.

Remote Patient Monitoring (RPM):

RPM allows healthcare providers to remotely monitor patients' health and adherence to care plans. Providers can review daily vitals and receive actionable data to triage and treat patients faster. RPM helps manage chronic diseases, post-acute care, and monitors the safety of the elderly population.

It reduces hospital readmissions by up to 60%, lowers hospitalizations and ED visits, improves patient satisfaction, enhances medication compliance, and decreases utilization costs.

Innovative Gait Training with GaitBetter:

GaitBetter is an innovative motor-cognitive approach for gait training and fall prevention using a Virtual Reality format. This technology offers a new dimension in fall prevention by focusing on enhancing an individual's gait and balance, critical components in reducing fall risk and the treadmill. By integrating GaitBetter into the arsenal of fall prevention technologies, we can further empower seniors to maintain their independence and safety.

The high cost of falls is a pressing issue for the healthcare system, but technology and innovative approaches like GaitBetter offer effective solutions for prevention and early intervention. Personal Emergency Response Systems, Medication Management Systems, Remote Patient Monitoring, and GaitBetter provide valuable tools to reduce the physical, emotional, and financial impact of falls. With the ongoing expansion of the elderly population, embracing these technologies and innovative approaches becomes crucial for delivering more comprehensive, preventative care, resulting in fewer hospitalizations, better outcomes, and reduced healthcare expenses.

3. Historical Publications in Falls Prevention



In geriatric healthcare, falls are something that can be prevented with precautionary measures. Accidents by tripping, slipping, and falling can alter the lives of an older person. As people age, the risk of falls increases due to a number of factors. These factors include changes in balance, muscle strength, vision, and mobility as you age.

Conditions that can potentially lead to falling are called risk factors. Risk factors for older people can include lower body weakness, Vitamin D deficiency, those with complications involving walking, balance, and vision, foot pain, use of medicines (tranquilizers, sedatives, antidepressants, and even over-the-counter medications), and hazards in the home (broken/uneven steps, throw rugs, clutter, and poor lighting). Typically, falls occur as a result of a combination of risk factors which greatly improve the chances of a fall.

According to a study published by the CDC's MMWR, a fall was recorded by one in four older Americans, resulting in around 36 million falls and 8 million injuries from falls that required medical attention or hindered daily activities for at least a day. Yet, with modern day practices and technologies, falls are more preventable than ever.

Falls can be easily prevented when supplied with the right knowledge. The first thing one should do when attempting to prevent a fall is to talk to your physician. A physician will be able to evaluate your risk and provide you with a plan that is tailored to your personal needs. A physician may review your medication and assess whether they contribute as a risk factor or not. A physician may also recommend Vitamin D supplements and better footwear, encourage strength and balance training such as Tai Chi, have your eyes checked, and advocate to make your home safer.

A simple way to make your home more accessible is by adding grab bars to your home, especially by a bathtub/shower or a toilet. Railings on stairs are especially important as well. Good lighting in a home also creates accessibility to those with vision impairments. Modern day technology and equipment has greatly contributed to greater safety when it comes to geriatric fall prevention.

4. Current Events in the California Geriatric Society

We are living in a digital world, with new technologies that have advanced and expanded beyond the traditional scope of innovation. In this day and age, internet skills are an essential part of life, especially for our senior citizens. Technology provides many valuable tools for elders, including resources for their health and well-being, activities that can help with staying active and engaged, and countless gateways to staying in touch with loved ones. The immense benefits that digital inclusion provides can lead to an improved state of mind and quality of life for the elderly. Unfortunately, many older people face challenges in adapting to different digital platforms. For this reason, the California Department of Aging has launched a Digital Inclusion Program, which seeks to bridge the "digital divide" to ensure that eligible senior citizens in California can reap the benefits of technology today. Through this program, seniors can gain access to digital literacy workshops, device and connectivity resources, one-on-one tech training/support, and many other resources, which are easily accessible at aging.ca.gov. Through this program, California is helping our seniors to embrace technology across the state. Additionally, for the first time ever, the California Department of Aging has released a statewide survey to hear directly from older adults, in order to assess the needs of

the community better. This survey is available online, in 9 different languages through this link: <https://polco.us/californiaopen23>. This survey will amplify the voices of older adults in California, and with the help of modern technology, it is widely accessible and able to represent a greater community.

www.cageriatric.org

We Invite You to Join Our CAGS Volunteer Group

Please contact our Volunteer Director at jacob.miller@cageriatric.org or (909) 610-7730 with any questions or concerns.

Above content is provided by Diane Chau, MD, Megan Ho, Ryan Plodkowski, Andrew Plodkowski, Sophia Nguyen, Jacob Miller, Brooklyn Valdez, and Sarah Sha