

July 2, 2019

The Honorable Susan Collins
Chairwoman
Committee on Aging
United States Senate
Washington, D.C. 20515

The Honorable Bob Casey
Ranking Member
Committee on Aging
United States Senate
Washington, D.C. 20515

Re: AGS Comments to Senate Special Committee on Aging on Falls Prevention

Dear Chairman Collins and Ranking Member Casey,

The American Geriatrics Society (“AGS”) appreciates the opportunity to provide input to the Senate Special Committee on fall-related injuries and deaths, which are a major threat to the health and independence of older adults. Founded in 1942, the AGS is a nationwide, not-for-profit society of geriatrics healthcare professionals dedicated to improving the health, independence, and quality of life of older people. Our nearly 6,000 members include geriatricians, geriatric nurses, social workers, family practitioners, physician assistants, pharmacists, and internists who are pioneers in advanced-illness care for older individuals, with a focus on championing interprofessional teams, eliciting personal care goals, and treating older people as whole persons. The Society provides leadership to healthcare professionals, policymakers, and the public by implementing and advocating for programs in clinical care, research, professional and public education, and public policy that can support us all as we age.

Falls are a leading cause of serious injuries in older adults that can lead to hospitalization, nursing home admission, and even death.¹ Each year, at least 27,000 older adults die as a result of falls² even though research has shown that falls can be prevented.^{3,4}

¹ Medina-Walpole A, Pacala JT, Potter JF, eds. Geriatrics Review Syllabus: A Core Curriculum in Geriatric Medicine. 9th ed. New York: American Geriatrics Society; 2016

² Centers for Disease Control and Prevention. CDC Newsroom – Older Adult Fall Prevention. <https://www.cdc.gov/media/dpk/healthyliving/injury-falls-older-adults/older-adult-falls.html>. Accessed June 24, 2019.

³ Gillespie LD, Gillespie WJ, Robertson MC, Lamb SE, Cumming RG, Rowe BH. Interventions for preventing falls in elderly people. Cochrane Database Syst Rev. 2005;(1):CD000340.

⁴ Chang JT, Morton SC, Rubenstein LZ, et al. Interventions for the prevention of falls in older adults: systematic review and meta-analysis of randomised clinical trials. BMJ. 2004;328(7441):680.

We appreciate the committee's focus on this important issue and welcome the opportunity to work with you to reduce older Americans' risk of falls and fall-related injuries. We have responded to your specific questions below.

REPORTING AND FOLLOW-UP

To what extent are falls unreported among older Americans?

Fewer than half of those who fall each year discuss their falls or fall prevention with a health care provider.⁵ Older adults may believe falls are not preventable and therefore some may choose not to discuss falls with their provider. The Centers for Disease Control and Prevention (CDC) has launched the [Stopping Elderly Accidents, Deaths and Injuries](#) (STEADI) initiative, which encourages healthcare providers to screen older patients for their fall risk, identify the modifiable fall risk factors (e.g., poor balance, vision impairment), and intervene to reduce risk using effective clinical strategies (e.g., physical therapy, medication management) and community strategies (community-based exercise programs like Tai chi). Given that more than 90% of older adults see a healthcare provider at least once a year, healthcare providers are well positioned to discuss falls with their patients and reduce underreporting of falls.⁶

What strategies can be employed to encourage patients to promptly notify their health care provider or caregivers of a fall?

Public health campaigns can be effective, particularly when seeing the impact of initiatives like the "stop smoking" campaign. We have described on page 6 the work being led by The John A. Hartford Foundation which includes a paradigm shift in clinical practice to focus on safe personal mobility instead of falls reporting at the point of clinical care. We see this shift as holding great promise because it moves the discussion from a focus on negative events (falls) towards one that is focused on how the older adult can safely move around in his/her community.

Recently, the CDC released a tool kit, [MyMobilityPlan](#) which is also focused on what older adults can do to remain active and safe in their communities.

How can follow-up with appropriate healthcare providers be improved after a visit to an emergency department for a fall?

The AGS suggests two possible approaches to improve follow-up with providers:

- Medicare can increase reimbursement to the emergency department (ED) to support care coordination following presentation for a fall, including arranging follow-up visits and providing referrals to community-based programs as well as fall-related information. Appropriate documentation would be required before full reimbursement is received. This would incentivize hospitals to ensure patients are supported following an ED visit.

⁵ Bergen G, Stevens MR, Burns ER. [Falls and Fall Injuries Among Adults Aged ≥65 Years — United States, 2014](#). MMWR Morb Mortal Wkly Rep 2016;65:993–998.

⁶ O'Hara B, Caswell K. Health status, health insurance, and medical services utilization: 2010. *Current Population Reports* 2012;70-133.

- Invest in the Electronic Health Record to better identify those patients who would benefit from falls-related interventions. This would mitigate the barriers that time and staff availability present in the emergency department and also allow referral numbers to be modulated to resources available in the community.⁷

TOOLS AND RESOURCES

What learning tools, resources or techniques can be used to empower patients to change their home environment or modify risk factors to reduce the risk of falls?

The concept of ‘aging in place’ is gaining momentum with more patients being vocal on their desired plans for care as they age, and providers being supportive of those decisions. Given this, interventions will likely need to occur with patients, particularly on fall prevention, in the home environment.⁸

Recommendation: The National Council on Aging (NCOA) letter to the Committee goes into great detail regarding tools and resources available to older adults for changing their home environment, including the need for greater Medicare and Medicaid coverage for home assessment and modifications. AGS is fully supportive of the NCOA recommendations and we urge you to consider the recommendations outlined in their letter.

Are there any federal policy barriers that make it difficult to offer tools and resources to patients to prevent falls?

There are significant federal policy barriers for dual eligible individuals who need to rely on durable medical equipment (DME). Specifically, there is a misalignment of DME payment procedures in Medicare and Medicaid that results in denials, delays, and higher than appropriate health care costs for essential DME among dually eligible beneficiaries. While having both sources of coverage should enhance benefits, the logistical problems created by the misalignment of Medicare and Medicaid policies leads to barriers in accessing needed care among our most vulnerable older adults and people with disabilities than individuals who are solely on either Medicaid or Medicare. These barriers make it more difficult for older adults who are dually eligible to remain healthy and active in their communities.

Recommendation: The Committee should encourage the Centers for Medicare & Medicaid Services (CMS) to synchronize DME policies across all populations. This recommendation supports CMS’ current campaign to put patients over paperwork by creating consistent guidance and procedures for the provider community.

⁷ Patterson BW, Engstrom CJ, Sah V, Smith MA, Mendonca EA, Pulia MS, et al. Training and Interpreting Machine Learning Algorithms to Evaluate Fall Risk after Emergency Department Visits. *Medical Care*. 2019;57(7):560-566.

⁸ Szanton SL, Xue QL, Leff B, Guralnik J, Wolff JL, Tanner EK, et al. Effect of a biobehavioral environmental approach on disability among low-income older adults: a randomized clinical trial. *JAMA Intern Med*. 2019;179(2):204-11.

MEDICARE

How can the “Welcome to Medicare” visit or the “Annual Wellness” visits be improved to better assess fall risk and fracture prevention and ensure appropriate referrals? How can Medicare coverage and reimbursement for falls prevention and fall-related services be improved?

The “Welcome to Medicare” and the “Annual Wellness” visits are vague in their language about how to assess risk for falls. In an effort to better assess fall risk, address management of falls, and determine appropriate next steps, the AGS recommends that fall risk assessment be a separate service outside of these visits.

The AGS believes there is a need for a new billing code that includes a thorough history focusing on prior falls, injuries from falls, and fear of falling as well as a standardized physical performance test (e.g., Short Physical Performance Battery, Timed Get-Up-and-Go). We urge Congress to direct CMS to create a new billing code that would describe a service for assessment, management, and care planning for patients at risk of falling. This service, while not currently reimbursed by Medicare, is well understood and has been demonstrated to prevent falls and their clinical sequelae. It is being performed regularly by many physicians and other qualified non-physician providers throughout the country and is the standard of care for such patients. This service should include a thorough evaluation of risk factors contributing to the excess morbidity and mortality associated with falls and the development of a formal written care plan to reduce or eliminate reversible risk factors.

The U.S. Preventive Services Task Force (USPSTF) recommends that clinicians selectively offer multifactorial interventions to prevent falls to community-dwelling adults 65 years or older who are at increased risk for falls. Although falls prevention is performed throughout the country, many of its components cannot be reported under current billing codes. Thus, it is difficult to determine the extent to which the multifactorial interventions are being performed. Creation of a new billing code would facilitate appropriate reporting of this service and assure that all the necessary elements of the service are performed.

Key elements that should be required in a falls assessment code include the following and are based on the *American Geriatrics Society/British Geriatrics Society Clinical Practice Guideline for Prevention of Falls in Older Persons and Recommendations*.⁹ Our recommendations are based on current evidence, but may be refined as further evidence becomes apparent (e.g., the STRIDE study). Any billing code should require that all elements are performed, in order to report the service, and should be overseen but not necessarily performed by a licensed provider.

- Strength, gait, and balance assessment
- Vision assessment
- Medications review
- Orthostatic hypotension assessment
- Feet and footwear assessment
- Home safety screen

⁹ Panel on Prevention of Falls in Older Persons, American Geriatrics Society, British Geriatrics Society. Summary of the updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. *J Am Geriatr Soc.* 2011 Jan;59(1):148–157.

- Osteoporosis evaluation to prevent consequences of falls
- Patient engagement

AGS would welcome the opportunity to discuss this with you further.

Are there demonstrations or pilot programs that the Center for Medicare and Medicaid Innovation should consider?

In 2014, the Patient Centered Outcomes Research Institute (PCORI) and the National Institute on Aging funded a trial, known as the STRIDE study, comparing the effectiveness of an evidence-based, multifactorial, individually-tailored intervention versus enhanced usual care in reducing serious fall injuries among 5451 at-risk, non-institutionalized, older persons.¹⁰ The intervention is still in progress with results expected in late 2019, but this is an example of an evidence-based intervention that could be considered for a demonstration or pilot program by CMMI.

Additionally, the state of Connecticut has funded a project for community-based fall prevention clinics. These clinics specialize in providing individual assessments, interventions, and referrals to collaborating community providers. Results showed that patients reporting self-reported falls dropped from 34 percent to 10.8 percent and fall-related health services, including hospitalizations, were lower. This is another example of a project that could be a demonstration or pilot under CMMI.

EVIDENCE-BASED PRACTICES

Are there evidence-based practices that reduce the rate of additional bone fractures among those older Americans who have fallen and broken or fractured bones?

Research has shown specific types of exercise to be effective in reducing the number of fall-related bone fractures and the rate of falls.¹¹ There are several evidence-based programs supported through the Administration for Community Living's Evidence-Based Falls Prevention Program (EBFPP) that include exercise as a key component of their program. The Stay Active and Independent for Life (SAIL) program, for example, works with community-dwelling older adults on exercises that improve strength, balance and fitness with an overall focus on reducing their chance of falling. Programs like SAIL and others supported through the EBFPP, may have a positive impact on reducing bone fractures from falls. We strongly urge you to support increased funding for the ACL's EBFPP, which is funded through the Title III-D of the Older Americans Act.

¹⁰ Reuben DB, Gazarian P, Alexander N, et al. The Strategies to Reduce Injuries and Develop Confidence in Elders Intervention: Falls Risk Factor Assessment and Management, Patient Engagement, and Nurse Co-management. *J Am Geriatr Soc.* 2017;65(12):2733–2739. doi:10.1111/jgs.15121

¹¹ Daly, R. M. (2017). Exercise and nutritional approaches to prevent frail bones, falls and fractures: an update. *Climacteric: the Journal of the International Menopause Society.* 20(2), 119-124. doi: 10.1080/13697137.2017.1286890

Are there regional differences in the utilization of these services, evaluations, or screenings?

Yes, currently clinical and community-based fall prevention efforts are not widely available. The NCOA in their letter noted that regional differences align with grant funding. Larger population states that have received multiple grants have higher utilization compared to smaller population states. The NCOA also noted differences in utilization among racial/ethnic minority populations. Their letter outlines these differences in further detail and highlights the overall need to increase these services across the country. More widespread adoption of falls prevention programs, like those funded through the Administration for Community Living, is needed, especially in rural and underserved areas.

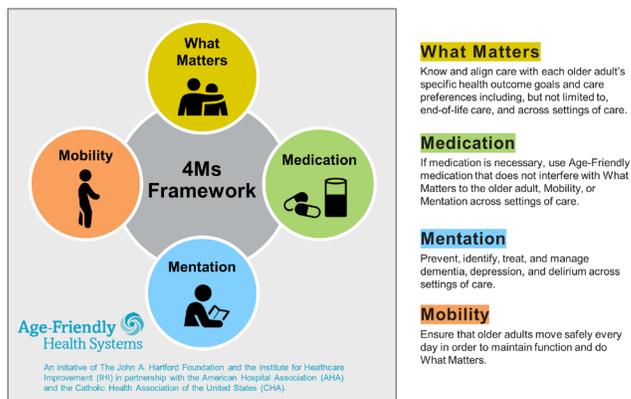
Are there models (such as the Million Hearts Campaign) for other health conditions that have applicability to reducing the overall rate and impact of falls among the elderly?

Age-Friendly Health Systems

In 2017, The John A. Hartford Foundation and the Institute for Healthcare Improvement (IHI), in partnership with the American Hospital Association (AHA) and the Catholic Health Association of the United States (CHA), set a bold vision to build a social movement so that all care with older adults is age-friendly care, which:

- Follows an essential set of evidence-based practices;
- Causes no harm; and
- Aligns with What Matters to the older adult and their family caregivers.

Becoming an Age-Friendly Health System entails reliably providing a set of four evidence-based elements of high-quality care, known as the “4Ms,” to all older adults in a system. The 4Ms are: **What Matters**, **Medication**, **Mobility**, and **Mentation**. Of note, the age-friendly movement includes a specific focus on safe mobility as a key element and this topic encompasses falls and falls prevention. When implemented together, the 4Ms represent a broad shift by health systems to focus on the needs of older adults.



Recommendation: We recommend that the Senate Special Committee on Aging hold a congressional briefing so that Congress can learn more about the age-friendly movement and the promise it holds for communities across the United States.

Geriatrics Workforce Enhancement Program

We are appreciative of the work of Senators Collins and Casey in spearheading the Geriatrics Workforce Improvement Act (S. 299), legislation that would help ensure that the Health Resources and Services Administration (HRSA) receives the funding necessary to carry these critically important workforce training programs forward.

In June, HRSA announced the next cohort of 48 Geriatrics Workforce Enhancement Program (GWEP). Together, the GWEPs are focused on integrating geriatrics and primary care, are collecting outcomes data using reporting measures aligned with the 4Ms of age-friendly health care. Additionally, based on their submitted abstracts, 23 GWEPs are focusing their data collection on falls. The GWEPs educate and engage the broader frontline workforce including family caregivers and focus on opportunities to improve the quality of care delivered to older adults, particularly in underserved and rural areas. The Geriatrics Academic Career Awards Program (GACA) is an essential complement to the GWEP program. GACAs ensure we can equip early career clinician educators to become leaders in geriatrics education and research. The AGS believes that both programs must be authorized and fully funded if all Americans are to have access to high-quality, person-centered care as we grow older and we encourage the Senate Special Committee on Aging to continue to support these and other programs that are focused on preparing the healthcare workforce that we all will need as we age.

POLYPHARMACY

What recommendations do you have to ensure prescribers take into account the relationship between polypharmacy and falls risk when making both initial and follow-up clinical decisions for high-risk patients?

The importance of true medication reconciliation and a medication history in terms of understanding potential fall risks cannot be understated. Patients who are at high risk of falls or have experienced a fall(s) should be triaged to a care pathway that includes careful review of medications, including medications specifically associated with increased fall risk, as well as general issues of polypharmacy. Decision support tools could also be helpful to alert clinicians to the presence of high-risk medications and polypharmacy in patients identified as being at high risk for falls.

The *American Geriatrics Society Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults*¹² is a compendium of medications to potentially avoid or consider with caution because they may not be the safest or most appropriate options for older adults. There are also specific medications that have been linked to increased fall risk.

Finally, creating a targeted care pathway for patients identified as being at high risk for falls would not only help those individual patients, but would educate clinicians about how to apply the same principles to patients not specifically in those pathways.

As a more general point, older persons with chronic illnesses and geriatric conditions frequently do not receive optimal care. Geriatrics healthcare professionals play an essential role in diagnosing and

¹² American Geriatrics Society 2019 Beers Criteria Update Expert Panel. American Geriatrics Society Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. *J Am Geriatr Soc.* 2019; doi: 10.1111/jgs.15767

managing older adults with multiple complex and chronic conditions. Geriatrics providers focus on 5 key areas, known as the Geriatric 5Ms*.¹³ The “Ms” represent the targets that are important to care for us all as we age: Mind, Mobility, Medications, Multi-Complexity, and Matters Most. As noted above, review of medications, ensuring appropriate treatment, and reducing polypharmacy is an important part of assessing and addressing fall risk in older adults. The 5Ms of geriatrics should be a required part of training for all physicians that will care for older adults. The Medicare Graduate Medical Education (GME) program, which is the hands-on training phase of physician education and is required in order for doctors to obtain a license, should require that institutions include this training in order to receive Medicare GME funding.

Is there a need for increased research on the link between polypharmacy and falls-related deaths and/or injuries?

Yes, we believe there is a need for increased research on polypharmacy and falls. To date, there has been very little research on how medications contribute to falls. As the cause of falls tends to be multifactorial, understanding the links between risk factors would be helpful when deciding whether or not to prescribe a medication associated with falls. For example, further studies for situations such as the association between antihypertensive therapy and fall risk, would provide added value. More generally, it would be helpful to include falls as a pre-specified outcome of importance in many studies of drug therapy in general, so that we have a clearer picture of how drug therapy affects fall risk, and also so that the research and clinical community can be educated about the importance of considering these issues.

TRANSITIONS OF CARE

How can the transitional period from a hospital or skilled nursing facility to the home be improved in assessing the home for fall risks?

The AGS supports the recommendations outlined in the NCOA letter to the Committee specifically the need for a transitional fall-prevention model that would build on existing care transitions interventions. The transitional period from a hospital or skilled nursing facility to the home comes with a high risk for adverse events including falls¹⁴, cognitive and functional decline¹⁵, and loss of independence¹⁶. Research shows that caregivers are often unaware of evidence-based best practices when leaving the hospital and could benefit from evidence-based transitional care services that would ensure that appropriate follow-up care is provided during this vulnerable period.

¹³ Health in Aging Foundation, the Official Foundation of the American Geriatrics Society, The 5Ms of Geriatrics, April 2018, <https://www.healthinaging.org/tools-and-tips/5ms-geriatrics>. Accessed on July 2, 2019.

¹⁴ Hoffman GJ, Liu H, Alexander NB, Tinetti M, Braun TM, Min LC. Posthospital fall injuries and 30-day readmissions in adults 65 years and older. *JAMA Network Open*. 2019;2:doi:10.1001/jamanetworkopen.2019.4276

¹⁵ Nagurney, JM, Fleischman, W, Han, L et al. Emergency department visits without hospitalization are associated with functional decline in older persons. *Ann Emerg Med* 2017; 69: 426– 433.

¹⁶ Covinsky, KE, Palmer, RM, Fortinsky, RH et al. Loss of independence in activities of daily living in older adults hospitalized with medical illnesses: Increased vulnerability with age. *J Am Geriatr Soc* 2003; 51: 451– 458.

What more could be done by government agencies to support fall risk assessments and the implementation of protocols that could be used to prevent falls in the home care population?

Geriatrics Emergency Medical Services for Older Adults

The Senate Special Committee on Aging could look at developing legislation that is modeled on The Emergency Medical Services for Children (EMSC) Program which is authorized under section 1910 of the Public Health Service Act (42 U.S.C. 300w-9) and is the only Federal program that focuses specifically on improving the pediatric components of emergency medical care. The program celebrated its 30th anniversary in 2014 and summary information about how integral it has been to improving emergency care of children can be found here: <https://www.aappublications.org/content/35/7/7>.

Safe Mobility

Patients in the home care population often rely on transportation (whether their own or public forms) for access to food, work, recreation and medical services. With an estimation of 37,000 injuries requiring emergency medical care occurring annually just by boarding and exiting a motor vehicle¹⁷, falls prevention interventions can, and should, be adapted to application in the transportation sphere. Linking falls risk with motor vehicle usage encourages conversations between patients and their providers on driver/rider safety as well as engaging occupational therapists or physical therapists to assess a patient's understanding of their own fall risk - employing exercises to improve a patient's balance and strength. Investing in information processing models for public transportation systems would also help in the prevention of falls. These systems would start with the drivers as the first point of contact for older riders and be the conduit for any information on unsafe situations or incidents on their vehicles to a separate Mobility Manager. These Mobility Managers would also meet with riders identified as needing additional support in an effort to create a bridge between the mode of transportation, the rider and the rider's family on a regular basis.¹⁸

Leveraging EMS Providers

In addition, community-based paramedics and emergency medical technicians (EMTs) have been frequently leveraged to support preventative, community health activities such as falls prevention. These highly experienced health care providers, who are respected in the community, are providing coaching, education, and support to patients to prevent falls. Although, to date, studies are just starting to assess the effectiveness of this intervention, regulatory changes allowing EMTs and paramedics to provide these services and to be paid for these services would benefit older adults residing in their homes.

Another option could be to provide funding for better collaboration with government entities and the hospitals in the area. One case study took place in Milwaukee where efforts were taken to improve care for older adults in the community who were at risk for falls. To support the needs of these patients, the University of Wisconsin reached out to the Milwaukee County Department on Aging. The challenge was

¹⁷ Dellinger AM, Boyd RM, Haileyesus T. Fall Injuries in Older Adults from an Unusual Source: Entering and Exiting a Vehicle. *J Am Geriatr Soc* 56:609-614, 2008.

¹⁸ Falls Prevention Awareness in Public Transportation. National Center on Senior Transportation. https://www.n4a.org/files/N4A_Falls_wTips.pdf. Accessed on June 27, 2019.

to 1) prevent folks from coming to the emergency department/ hospital because of their falls and 2) to improve coordination of care between the paramedics and the Emergency Department team. Community paramedics described the need for to "connect the dots" for these individuals and further described that many older individuals call 911 to the paramedics for assistance, yet refuse to be transferred to the Emergency Department. Some ultimately fell repeatedly or were injured and required further assistance. There was variation on how different communities within Milwaukee County managed these folks and there was no organized strategy in the communities to provide "best practice". The University successfully proposed a Milwaukee County Falls Prevention Coalition to work across health systems and with the Department on Aging, the health department and multiple community paramedics programs.¹⁹

POST-FRACTURE CARE

What can be done to create a care pathway for patients post-fracture to ensure proper follow up care and prevention of future fractures? Are there best practice models that can provide implementation opportunities? Are there any federal policy barriers to implementing best practices in post-fracture care?

In 2018, AGS launched AGS CoCare: Ortho which is a Geriatrics-Orthopedics Co-Management model of care in which geriatrics professionals, or specially trained geriatrics co-managers (e.g., hospitalists) work with orthopedic surgeons to coordinate and improve the perioperative care of older adults with hip fractures. Because Co-management incorporates a geriatrics approach to care as soon as possible after an older adult enters the hospital for a hip fracture, this helps to identify and reduce the risk for harmful events ranging from falls and delirium to infections. The model has been shown to reduce length of stay, re-admissions, and most complications, and to increase an older adult's chances of going home directly from the hospital, often resulting in improved function and independence.

Principles of Co-Management

- Most patients benefit from surgical stabilization.
- The sooner patients have surgery, the less time they have to develop iatrogenic illness.
- Co-management, with its early assessment to identify and remediate risk factors for adverse events, and its frequent communication avoids common medical and functional complications. It also improves processes, oversight, coordination, and commitment to the patient and the team.
- Standardized protocols decrease unwarranted variability.
- Discharge planning begins at admission.

Benefits of Implementing a Co-Management Model of Care

- 35.6% Reduction in time to OR (operating room) for surgery (24.1 hours vs. 37.4 hours)²⁰

¹⁹ Wisconsin Department of Health Services. *Falls Prevention for Older Adults*.

<https://www.dhs.wisconsin.gov/injury-prevention/falls/index.htm> (Accessed on July 1, 2019).

²⁰ Vidán MT, Sánchez E, Gracia Y, Marañón E, Vaquero J, Serra JA. Causes and effects of surgical delay in patients with hip fracture: a cohort study. *Ann Intern Med*. 2011;155(4):226-233.

- 26% Reduction in hospital charges (\$52,323 to \$38,586 per patient)²¹
- 44.6% Reduction in patient LOS (length of stay) (4.6 days vs. 8.3 days)²²
- 14% Drop in on-year mortality from 45% to 31%²³

Examples of a Co-Management Program

Kaiser Permanent in Southern California has a post-fracture program that used a systematic approach to care gaps for osteoporosis and fracture care. Using a ten-step process that includes using information technology and care managers to identify, risk stratify, treat and track patients with care gaps, the program led to a greater than 40% reduction in the expected number of hip fractures.²⁴

* * *

Thank you for the opportunity to submit these comments and for your efforts to improve care for older adults and reduce future injuries and deaths related to falls. We would be pleased to answer any questions you may have. Please contact Alanna Goldstein at agoldstein@americangeriatrics.org.

Sincerely,



Sunny Linnebur, PharmD, BCGP, BCPS, FCCP, FASC
President



Nancy E. Lundebjerg, MPA
Chief Executive Officer

²¹ Rocca GJD, Moylan KC, Crist BD, Volgas DA, Stannard JP, Mehr DR. Comanagement of Geriatric Patients With Hip Fractures: A Retrospective, Controlled, Cohort Study. *Geriatric Orthopaedic Surgery & Rehabilitation*. 2013;4(1):10-15. doi:10.1177/2151458513495238.

²² Orosz GM, Magaziner J, Hannan EL, et al. Association of timing of surgery for hip fracture and patient outcomes. *JAMA*. 2004;291(14):1738-1743.

²³ Siu AL, Penrod JD, Boockvar KS, Koval K, Strauss E, Morrison RS. Early ambulation after hip fracture: effects on function and mortality. *Arch Intern Med*. 2006;166(7):766-771.

²⁴ Dell R. Fracture prevention in Kaiser Permanente Southern California. *Osteoporos Int*. 2011 Aug;22 Suppl 3:457-60. doi: 10.1007/s00198-011-1712-0. Epub 2011 Aug 17. PubMed PMID: 21847765.