Caroline Loeser: Thank you. My name is Caroline Loeser. I am with the Lewin Group. Welcome to the webinar, "Fall Prevention for Older Adults."

This is the first session of our 2019 Geriatric Competent Care webinar series. Today's session will include a 60-minute presenter-led discussion, followed up with 30 minutes for a discussion among the presenters and participants. This session will be recorded, and a video replay and a copy of today's slides will be available at https://www.resourcesforintegratedcare.com/.

The audio portion of the presentation will automatically stream through your computer. Phone lines for this presentation are also available. To access that number, click the black Phone widget at the bottom of your screen.

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On this slide, we've included the disclosure statements of the planners and faculty for this webinar.

You'll see on this slide that we've laid out various Continuing Education credit options. If you are a social worker, you could obtain Continuing Education credits through NASW if you complete the pre-test at the beginning of the webinar and complete the post-test. If you're a physician, you could obtain CMEs through AGS if you complete the pre-test at the beginning of the webinar and complete the post-test.

CMS is also offering CEUs for those individuals looking to obtain credits for attending this webinar. In order to obtain these credits, you must complete the post-test through CMS' Learning Management System.

Additional guidance about obtaining credits and accessing the link to the pre-test and post-test can be found within the Continuing Education Credit Guide in the resource list on the left-hand side of your screen or at the Resources for Integrated Care website.

This webinar is supported through the Medicare-Medicaid Coordination Office of the Centers for Medicare & Medicaid Services. MMCO is helping beneficiaries dually eligible for Medicare and Medicaid have access to seamless, high-quality health care that includes the full range of covered services in both programs.
To learn more about current efforts and resources, please visit our website or follow us on Twitter for more details. Our Twitter handle is @Integrate_Care.

At this time, I'd like to introduce our moderator. Carol Regan is a senior advisor to Community Catalyst Center for Consumer Engagement and Health Innovation and has over 30 years of experience with national and state-based public policy and advocacy organizations. Carol?

Carol Regan: Thanks, Caroline, and welcome, everyone. I'm delighted to moderate this incredible session today. Again, as Caroline said, I'm with Community Catalyst Center. It's a center that's really committed to working on health system transformation with innovative health plans and hospitals and providers in order to incorporate the consumer experience in the design of their systems of care.

Through that, we've been working with Lewin and MMCO for years now with these Geriatric Competent Care webinars, which have been incredibly important in terms of improving the care for older adults in our communities. So, thank you.

I have the privilege of welcoming an incredible cast of faculty. Their bios I had to shorten to introduce them, but let me jump right in.

Dr. David Reuben is a director and Geriatrics Medicine and Gerontology and the Chief Physician of Geriatrics at the University of California, Los Angeles, Center for Health Sciences. He's a professor of medicine at UCLA and the director of the UCLA Alzheimer's and dementia care program.

Dr. Reuben is the past president of the American Geriatric Society and a former board chair at the American Board of Internal Medicine. In 2014 he was one of three principal investigators to be awarded a multi-center clinical trial—you'll hear about this today—called STRIDE by the Patient-Centered Outcomes Research Institute, PCORI, and the National Institute on Aging, to reduce serious falls-related injuries. It's the largest grant PCORI has ever awarded.

Dr. Reuben continues to provide primary care for frail, older adults, including making house calls.

He will then be followed by Dr. Nancy Latham, who's a PhD and physical therapist and associate epidemiologist at Brigham and Women's hospital in Massachusetts, and a lecturer at Harvard Medical School. She's particularly interested in innovative interventions that help address physical inactivity and social isolation in older people and people with chronic conditions.

She is currently the study director for the STRIDE study, which is a pragmatic, randomized controlled trial of primary-care-based intervention to reduce serious fall-related injuries in 10 health systems across the country.

Then we'll hear from Priscilla Gazarian. Dr. Gazarian's research is focused on preventable patient harm, specifically in the role of patient engagement, patient self-management and nurse decision-
making. She's also interested in how the patient experiences dignity and respect during hospitalization, including the loss of dignity and respect as a preventable harm.

She's an expert in the use of cognitive task analysis and the critical decision method as a way to understand the cognitive requirements of her client work. Her population of interest is adults and elders in acute and critical environments.

Then we're pleased to have Dr. Sachin Jain, who is the president of CareMore Health, offer his comments on the speakers' presentations. He's a consulting professor of medicine at Stanford University School of Medicine, and he was previously CareMore's chief medical officer and chief operating officer.

Dr. Jain worked in the Obama Administration, where he was senior advisor to Don Berwick when he led the Centers for Medicare & Medicaid Services, and he was the first Deputy Director for Policy Programs at the Center for Medicare and Medicaid Innovation. He's also served as a special assistant to David Blumenthal when he was the National Coordinator for Health Information Technology.

And finally, we're pleased to have Chelsea Gilchrist, who's a senior program manager with the Center for Healthy Aging at the National Council on Aging, who's a gerontologist with expertise in community-based health promotion programs and research analysis and implementing national education and awareness programs.

In her role at NCOA, she supports the dissemination of evidence-based health promotion programs and will be able to tell us about resources available on falls prevention.

So, you can see we have an incredible lineup, so let me quickly turn it over to the next slide. Just to review quickly, you can see the learning objectives today about recognizing the public health impact of falls and injuries; identifying health-related and environmental factors that can lead to increased risk; interventions that may help reduce the falls among dually eligible older adults; and then be able to describe how to leverage person-centered plans to reduce the risk of falls.

This is the agenda for today. I don't have to go over every detail. You'll see what we're going to learn about in terms of covering those objectives, some background and some treatment and some other strategies, as well as a plan perspective on this issue, this really important issue, and then some resources that are available for your work, moving forward. And we'll have time for questions and answers at the end. Thank you. Next slide

One of the things we'd like to do is start with the poll so we can get a sense of who you are on the phone. In a quick moment, can you tell us which best describes your professional area? You can see there's a number of selections. Administration, clinical nursing, pharmacy, social work, health plan, policy. Just take a moment and select one that best describes it. Another two seconds. Great. Thank you. And then we'll see a little bit about who we've got on the phone.
Okay, thank you. A number of people. You can see we've got a third of folks in medicine or nursing or clinical work, a number of social workers, and a good significant number of people from health plans. Wonderful.

One more poll. Can you tell us what setting in which you work, primarily? Some of you may have more than one setting. Is it health plan, long-term care facility, consumer organization? Maybe you're with a community-based organization? See the selection there and just pick the best one that reflects the setting you work in. Great. Okay, and then let's look at the results.

Again, a little over half with health plans. Wonderful. Reaching people who are really serving the population we're talking about today. Community-based organizations, terrific.

Thank you so much. All right, now let me turn it over to Dr. Reuben to open up our discussion today. Dr. Reuben?

David Reuben: Thank you very much. I'm going to begin with some background about falls in older adults. Next slide, please.

I always try to put a face and a name to a health issue. I'm not able to put faces and names that all 2,500 of you would know individually, but I did pick out four people who were pretty famous people who died because of falls. The first you see is Katharine Graham, who was the owner and publisher of the Washington Post. Kurt Vonnegut, a very famous author. Robert Culp, a television actor. And Leonard Cohen. All of whom died because of falls. Next slide, please.

To give some idea of the magnitude of the problem, about 1 in 3 older Americans fall each year, and of those who fall, about 20% to 30% have moderate or severe injuries, and these are enough to really get you into trouble. Hip fractures is the most prominent of them. Head trauma. Lacerations. But in spite of this important health problem, fewer than 50% of older persons discuss their falls with their primary care provider.

Falls are the leading cause of both fatal and non-fatal injuries, and the risk of falls-related injury, these hip fractures, these head trauma, increases with age, particularly those who are over 75 years of age.

Past falls predict fractures independent of osteoporosis risk, and because older adults who are dually eligible for Medicare and Medicaid experience a number of chronic conditions—and we'll go through some of these in just a moment—they are particularly vulnerable to falls and the consequences. Next slide, please.

What causes falls? They tend to be multifactorial—in other words, more than one factor—but the factors can be divided into three categories. Intrinsic, and these are things that the person themselves experiences, such as poor balance, weakness, chronic illness, visual or cognitive impairment. Extrinsic, and this is things that we as health care providers tend to do in terms of giving them drugs that might increase the risk of falls. And then environmental, so this might be poor lighting, thick carpeting. One of my patients who I saw on Monday fell because of a problem with the curb.
When falls occur, falls may be the presenting complaint of other more serious illness. For example, if somebody develops a pneumonia, they're doing pretty well before they have the illness and then when they get the pneumonia, they become weak and fall. So they're presenting because they fell, but in fact, the real problem is pneumonia. And we see this with stroke and sometimes influenza or other kinds of dehydration. Next slide, please.

The risk factors for falls, and this is compiled from a lot of literature and published articles, are a number. I want to just emphasize that these risk factors that have asterisks beside them double the risk. Twice as likely to fall.

Obviously people who have had prior falls, that's a very high predictor of future falls. Even if they haven't fallen and they have a fear of falling, it's an increased risk. Number of chronic condition pain sites. The more sites where you have pain, if you have pain, is a very strong predictor. Parkinson's disease. Any pain. If you already are using a walking aid such as a cane or a walker, it increases the risk of falling. If they have problems with their gait. If they have vertigo or other dizziness. If they're taking anti-convulsant medicines.

And then there's a whole category of drugs, which we'll go to in just a moment, which are called fall-risk-increasing drugs, or FRIDs is what we call them. Next slide, please.

These are the FRIDs. They fall into several categories. Benzodiazepines, these are the Valiums and the Ativans that are used commonly, probably more commonly than they should be, particularly for older people. The first-generation antihistamines, these are drugs like Benadryl. Anything that can be purchased over the counter that says "PM" is generally a first-generation antihistamine. Skeletal muscle relaxants such as Soma is an example of that. Long-acting hypoglycemic agents, these are drugs that were commonly used for treatment of diabetes, but they can cause hypoglycemia and cause falls. Tertiary tricyclic antidepressants, these are drugs that are used a little less nowadays, particularly in older people, but they're still used, and an example is Elavil.

And finally, the drug that nobody thinks of as a drug but it is very important in increasing falls risk, and that is alcohol ingestion. Next slide, please.

I'd like to talk a little bit about screening and assessment. First, to define "screening," screening is to identify people who are at risk of falling. Fortunately, the Medicare Annual Wellness Visit actually requires screening for falls, but it does not give a specific requirement on how the screening should be done. They permit both using screening questions or direct observation of strength, gait and balance.

Some recommended questions that I like to recommend include three. These are used also in the STRIDE study, which you'll hear about in a moment. Have you fallen and hurt yourself in the past year? Have you fallen two or more times in the past year? This instance studies have shown to be the best predictor of future falls-related injuries. These are people you really want to intervene on. And then finally, do you fear falling because of your balance or your gait? Next slide, please.
Then, falls assessment. Once you've identified someone as having a high risk of falling, then the assessment is really the process of identifying why the person is falling and then doing something about it to reduce the risk.

Fortunately, again, Medicare through its MACRA and Merit-based Incentive Payment System, which is referred to as MIPS, actually uses this as a quality measure. There are two quality measures that relate to falls assessment. The first is the percentage of people 65 years of age or older with a history of falls who had a falls risk assessment completed within 12 months. And then the second is the percentage of people who are 65 or older with a history of falls that have a plan of care for falls documented. So this is further in-depth looking for risk factors and then doing something about them. Next slide, please.

In 2011, the American Geriatric Society and the British Geriatric Society came up with a list of what should be assessed. I believe this may actually be in revision now. They're working on updating this. But the kinds of things are things that we've heard before. People who have a history of falls. Medications. And then some specific components. Muscle strength. Gait, balance and mobility. Visual acuity. Neurologic impairment such as signs of Parkinson's disease. Heart rate and rhythm. Postural hypotension. This is when people stand up and their blood pressure falls, and that predisposes them to falling. Poor feet and footwear. And environmental hazards. Next slide.

This is a great audience to speak about the quality problem. In a number of studies that have been conducted over the past couple decades, the quality of care for falls has been poor. Considerable less so than the quality of care for hypertension or diabetes or if somebody had a stroke. Generally it's kind of in the 30% to 50% of quality indicators are met. These quality measures could actually help organizations find areas for improvement. Next slide, please.

I'm going to give you an example of a quality indicator for falls, and this is taken from Assessing Care Of Vulnerable Elders project that was conducted by RAND and UCLA a number of years ago. Each of these quality indicators is based on strong enough evidence that not producing the care process is bad care. This isn't just recommended care. This isn't just guideline-based care. This is care that if you're not doing it, it's bad.

Typically these are framed as if-then statements. So if somebody is at risk, then the specific care process should be done. Here's a very good example from the ACOVE quality indicators for falls: If an individual reports a history of two or more falls or one fall with injury in the previous year, then there should be documentation of a basic gait, balance and strength evaluation within three months of the report, because detection and treatment of gait and balance disorders reduces the risk of future falls.

So this is how quality indicators are constructed. Next slide, please.

These are ACOVE III quality indicators, and they are very similar to those that the American Geriatric Society and British Geriatric Society had recommended. All older people should be screened. A falls history should be conducted if somebody has fallen. Orthostatic vital signs,

I'd like to introduce my colleague and terrific collaborator, Nancy Latham, who will pick this up with treatment to prevent falls.

Nancy Latham: Great. Thank you, Dave. I'm going to build off of Dave's excellent overview of fall risk factors, and I'm going to summarize the evidence that we currently have for effective treatment interventions to reduce those risk factors and prevent falls. Next slide, please.

I just want to acknowledge that we now have a large amount of evidence about very different approaches to reduce falls in older adults. We do have evidence that quality improvement strategies, such as some of the ones that Dave highlighted, that can take place at different levels within health systems can be effective in reducing falls. So strategies to make changes at the clinic level or the health system level, such as have been outlined here, can be effective in reducing falls in older people.

But given the short time that I have for this part of the presentation, I'm going to focus on evidence of effective interventions at the individual patient level. The general approach that takes here is to address the specific fall risk factors that are identified after a comprehensive assessment, and working together with the patient to identify the strategies that they're willing to take and the changes they're willing to make based on their own preferences. Next slide, please.

We're really at a fortunate time when we think about fall-prevention strategies in that unlike many health care problems, we have a large amount of reliable evidence to guide us. A fairly recent meta-analysis by Tricco and colleagues, which was published in 2017 in *JAMA*, included over 280 clinical trials.

The overarching findings from these sorts of meta-analyses are, first, that we can effectively reduce falls and serious fall-related injuries. It's often kind of complicated to look at the information from these trials because many different interventions have been used in different combinations, but what seems clear is that when a person has multiple risk factors, it is usually better to use a multifactorial strategy to reduce the risk of falls.

In other words, there's a lot more benefit in addressing multiple risk factors that people have rather than simply targeting a single intervention. In fact, when we look across all the different approaches that can be used to reduce the risk of falls, exercise is the only intervention that's been found on its own as a single intervention to reduce the risk of injurious falls.

In fact, if someone is prescribed an appropriate exercise intervention to reduce falls, the risk of falls is reduced by 50%, so it's a powerful intervention on its own. For that reason, I am going to go on, after I've discussed the other intervention approaches, to talk about exercise a little bit more, both because it's such an effective intervention but there's also complexity in its delivery.
I did also want to highlight another intervention approach, which is osteoporosis treatment, and that's because a combined osteoporosis treatment is the intervention that's been found to be effective in reducing the risk of fractures, both overall fractures and hip fractures. So that combined osteoporosis treatment that we found across trials to be effective is using a pharmaceutical approach—for example, bisphosphonates—calcium supplementation and Vitamin D supplementation in combination. Next slide, please.

The slide that you're looking at here is summarizing the interventions that have been effective in reducing the risk of falls and serious fall-related injuries when used as part of multi-component programs. Again, when using combination either with each other or with exercise.

To just highlight a few, a comprehensive medical assessment and management is effective. In particular, it's been found when that assessment and management is focused on managing postural hypotension and managing heart rate and cardiac abnormalities.

The assessment and treatment of vision problems is a risk factor that really stands out because of the impact that it can have when this is addressed. The sorts of interventions that would be included in this would be encouraging people where appropriate to have cataract surgery, encouraging them to have proper lens prescription, and, for people who are high risk at falls for other reasons, encouraging to minimize wearing their bifocals when doing outdoor walking when possible.

When we combine these approaches to address vision problems, so the combination of addressing vision problems and exercise, just those two interventions have been found to reduce the risk of falls in older people by approximately 80%, so it's worth targeting.

Other effective strategies and risk factors to target would include managing foot and footwear problems. Next slide, please.

In addition, medication adjustments. One of the most effective changes that can be made would be removing or reducing psychotropic medications. We do acknowledge that the reality of having patients agree to this and adhere to that change is challenging, and it's one of the more difficult ones to implement that change with patients.

Environmental modification is an important strategy for people who have environments that put them on risk. This can be delivered in different ways effectively, but it includes an assessment of home hazards, providing safety devices such as handrails, grab bars or also important improvements in lighting, both indoors and outdoors.

Referral to an occupational therapist when possible is very helpful for implementing this. And for people at high risk of falls, this is important, and it seems that especially for people at high risk of falls who have low vision, it is particularly important to include a referral to an occupational therapist to help make these modifications effectively.

Finally, incorporating within these changes education about fall risk and community resources, and using self-management and other approaches such as collaborative goal setting and
motivational interviewing is important to help make sure that people are actually willing to adopt these changes and adhere to these changes. Next slide, please.

When we're thinking about what type of exercise, this is both, as I indicated, one of the most potent strategies that we can use to reduce falls, but that is if it is the right exercise program for the right person. An inappropriate exercise program that, for example, focuses on flexibility can be ineffective. Or, an exercise program that is inappropriate could increase the risk of falls. For example, there have been trials that took people at high risk of falls and prescribed a brisk walking program for them with no other components to address other physical impairments, and that program actually increased the risk of falls.

So it's important that we target the exercise program appropriately. Fortunately, again, we have a lot of reliable evidence from clinical trials to guide us in this and several excellent meta-analyses that synthesize the evidence. And what they have found is that exercise programs that target the component of balance in addition to strength and aerobic capacity, and that are designed specifically for older adults, are the most effective in reducing the risk of falls.

And this could be delivered in different ways, including, for example, tai chi programs that are available in many communities. Or, if people have a preference for not exercising in a group or are unable to access group exercise programs, the evidence is that appropriate home-based programs are equally effective in reducing falls. For example, the Otago exercise program is a program prescribed by a physical therapist in the home where they select from a menu of different strength and balance exercises, and then progress over time with the patient. This is a program that might be covered by Medicare if a member is at high risk of falls and meets the criteria for medical necessity for skilled physical therapy.

If you just want to click through and show there's a slide showing Exercise 1, 2 and 3, which is an example of the Otago exercises that are quite simple, to be delivered in the home. The next slide shows, again, just simple knee-bend exercises that can be delivered. And then we get to the slide that's what type of exercise can reduce falls.

So the type of exercise, it's important that the program is properly designed and targeted for older adults. Again, we're fortunate that at this point in time, we have a lot of community-based resources that are available to help people and providers identify those programs. The National Council on Aging has a website with the link that's included here. They have worked to screen and identify effective and safe fall prevention programs for older adults, and this link has a description with maps and links to community fall prevention programs available and where they are located all across the country.

If somebody needs or prefers an individual exercise program, we strongly recommend working with a physical therapist or other health care provider who has expertise in prescribing and setting up an exercise program for at-risk older adults. Next slide, please.

For any person, exercise is something that could benefit our health, but at any age it is also challenging for all of us to actually stick with an exercise program. The problem with exercise is there are no benefits if you don't do it, so if you are working with someone and recommending
an exercise program, we recommend that you just use a few strategies that make it much more likely that people will start and maintain that exercise program.

That includes making sure that people really understand the benefits that they can get from exercise. It can reduce the risk of falls by half. And also that they know that no matter what their age, even into their 90s and above, people can continue to get stronger and more fit. There's no age limit to the benefits of an exercise program.

It's also really important that you talk with them and find out what their preferences are. We again have now a large number of programs that we know can benefit people, so find out which ones they actually want to do and might be more likely to stick with.

One of the most important tools for getting people to maintain that exercise program is other people. If you can explore with that person if there's somebody in their life who might be willing to join that exercise class with them or do the exercises in-home, it's going to be much more likely that that person is continuing that program a year or two from now than if they're trying to do it on their own.

And finally, when we are working with older adults who are at risk of falls and completing the sort of assessment that Dave spoke about, many people, especially the frailer older people, are going to have a large list of fall risk factors. Our recommendation and the recommendation from the data is that you work with that person to identify a few factors that they are willing to implement changes on right now, and try to get them to make those changes. And then gradually add in other strategies that they might be willing to use and changes they might be willing to make over time to reduce the risk of falls. Next slide.

I'm now happy to pass on to my colleague Priscilla Gazarian, who is going to talk about work that our team has been doing together on the STRIDE study.

**Priscilla Gazarian:** Thank you, Nancy. Yes, I'm going to provide an overview of the STRIDE study, which applies much of the evidence that has already been reviewed by Dr. Reuben and Dr. Latham. Next slide, please.

The Strategies to Reduce Injuries and Develop Confidence in Elders, or the STRIDE study, was funded by the Patient-Centered Outcomes Research Institute and the National Institute on Aging. The principal investigators are Dr. Shalender Bhasin, Dr. Tom Gill and Dr. David Reuben. The coordinating center was housed at Yale University. Next slide, please.

The research question for this study was: Can redesigning medical practices and engaging care recipients to improve quality reduce serious falls-related injuries and improve other outcomes? Next slide, please.

The study was a randomized pragmatic trial; 5,451 participants were recruited from 86 practices from within 10 health systems across the United States. They were followed for between 22 to 44 months, depending on their enrollment date, and the study participants included persons living in the community who were 70 years of age or older and who had one or more risk factors
for falls. These risk factors, Dr. Reuben already mentioned how he uses them in his practice, and include asking has the person fallen and hurt themselves in the past year, have they fallen two or more times in the past year, or do they have a fear of falling because of balance or gait problems. Next slide, please.

The Chronic Care Model supports how the STRIDE study was implemented. The Chronic Care Model is designed to improve patient health outcomes by changing the way care is delivered. It is designed to accomplish this through multi-dimensional solutions to complex problems, such as falls, by addressing health care system improvement at multiple levels, the community, the health system and the individual; encouraging the reorganization of primary care practice; and, importantly, promoting the transition to proactive health instead of reactive health.

In the STRIDE study, this included working with the community to identify resources to meet the needs of persons at risk for falls; working within the health system to help persons develop improved self-management skills such as techniques of motivation interviewing; integrating the role of the nurse falls care manager into the delivery of health services; providing physician support, and leveraging information systems.

These elements are all designed to work together to produce informed and activated persons and a prepared, proactive practice team that ultimately strengthens the provider-patient relationship and improves health outcomes. Next slide, please.

Components of the STRIDE intervention included a co-management model of care delivery; decision support algorithms; software that supported documentation of care plans, and this was created for the STRIDE intervention and allowed a standardized visit note to be generated based on assessment findings along with evidence-based recommended care plans consistent with the STRIDE protocols; the use of self-management support to improve consumer and caregiver engagement and activation, and linkage to community-based resources. On the following slides I'll describe these components in greater detail.

Co-management is defined as two or more health care providers jointly managing an individual's medical care to achieve the best quality and outcomes. This can include a physician specialist and a physician generalist working together, or it may include other health care professionals and a physician generalist. There's a good body of evidence that shows that co-management models can have great results for patients. In fact, it can double the rates of individuals receiving the recommended assessments and care for falls prevention. In addition to fall prevention, co-management provides strong evidence—that's strong evidence that co-management can decrease hemoglobin A1c levels, systolic blood pressure and cholesterol levels. Next slide, please.

In the STRIDE study, co-management was operationalized with a nurse falls care manager and a primary care provider jointly managing the individual's medical care specifically around fall prevention. The nurses' responsibilities include conducting a risk assessment; engaging the participants in self-management; co-creating a fall-injury prevention plan with the individual; obtaining care plan approval from the primary care provider; directly implementing recommendations that fall within the nurse's independent practice, such as a home safety
assessment and health teaching, and then communicating additional recommendations to the primary care provider, such as the need for medication changes. As we already heard, medications like benzodiazepines put the person at high risk for falls. And lastly, the falls care managers monitored and supported the individual's progress, including revising the care plan as necessary. Next slide, please.

Some of the key processes that were used for reducing falls in the STRIDE study included information gathering or risk assessment; engagement in self-management; a person-centered care plan formation; a person-centered care plan implementation over time, and monitoring and revision of that plan. On the following slides, I'll provide more detail on these processes.

In terms of information gathering, which was a central process that the nurse falls care managers used, the intent was to identify the specific risk factors for falls and to motivate the participant to take action to reduce those risk factors. The approach begins with scheduling an initial visit and mailing the participant a pre-visit questionnaire and a home safety checklist. Then, a pre-visit telephone call is conducted by the nurse. Next, an initial visit occurs where the nurse falls care manager reviews the pre-visit questionnaire and the home safety checklist, and then conducts a focused physical exam, including mental status and strength, gait and balance assessment. Next slide.

Another key process was engaging the person to develop more self-management behaviors. This begins with risk-factor identification that's linked to evidence-based intervention algorithms. The person at risk is engaged in self-management with strategies such as collaborative goal setting, and the nurse uses motivational interviewing strategies. Motivational interviewing strategies may include things like asking permission before providing advice and affirming, supporting and emphasizing the individual's autonomy and choice. As Nancy spoke of earlier, helping the patient to identify one or two areas of priority that they can work on and then, over time, modifying that plan as each success builds on a new success.

These activities lead to the drafting of an initial care plan that's been co-created between the nurse falls care manager and the patient. Next slide, please.

Decision support for the falls care manager includes evidence-based intervention algorithms. What you're seeing on the slide here is an example of an algorithm that helps the falls care manager generate specific recommendations, and this algorithm is for the risk factor of postural hypertension. I'm not sure how well you can read it, but in a nutshell, if the individual's blood pressure, for instance, does not drop more than 20 millimeters of mercury and their systolic blood pressure remains above 90, but the patient complains of dizziness on standing up, this will trigger the nurse to provide education for behavior changes, such as perhaps getting elastic stockings or increasing fluid intake or rising slowly when changing positions.

However, if there is more than a 20-millimeter drop in systolic blood pressure, then the algorithm directs the nurse to notify the PCP so that an evaluation for conditions like dehydration can be reviewed. And the nurse would also provide education for behavioral changes here as well.
And so, for each of the risk factors assessed by the nurse, an algorithm such as this provided decision support for evidence-based intervention. Next slide, please.

During care plan formation, the nurse falls care manager works with the participant to identify risk factors. The key here is what the participant wants to work on first. For instance, the person may choose to start an exercise program and modify their footwear, but they're not quite ready to remove the home safety risks.

For the risk factors that the participant does choose to prioritize, the care plan would be created, and the care plan would include the next steps to be taken and who's responsible for completing that step and a timeline. For instance, the nurse falls care manager might be responsible for sending the person a list of exercise programs in the area, and then the person would be responsible for choosing the exercise program that is most amenable to them. Once the care plan is written together, the person and the nurse falls care manager, it's reviewed by the primary care physician and documented in the electronic health record. Next slide, please.

After the care plan formation and approval, we move into implementing the care plan. The nurse falls care manager again uses motivational interviewing to support ongoing behavior changes and then can directly implement patient education and other non-medical recommendations, including some standing orders and referrals. The PCP manages any needed medication changes or requests for other referrals or tests. Next slide, please.

Key to the successful implementation is an understanding of resources both within the health system and outside the health system. It's necessary to understand who is available to support key aspects of the intervention, such as specialists, such as perhaps somebody who is a specialist in managing dizziness. Who are the outpatient physical therapists, for instance, who are familiar with the Otago program? And who are the home health providers who can champion the interventions that we're requesting?

And then outside the health system, understanding the community-based programs, such as who's offering tai chi in the community and where are resources that can be used for providing persons with home modifications, transportation support or for financial support. Next slide, please.

Finally, the nurse falls care manager provides ongoing monitoring and revision of the care plan. Regular follow-up visits are scheduled. Sometimes they can take place over the phone. A reassessment of risk factors is completed, and a revision of the care plan according to the patient's individual priorities is conducted.

I'll turn it over to Dr. Reuben.

David Reuben: Great. Thank you, Priscilla. Wrapping this section up, the first thing I'd like to say is that many—maybe most—falls are preventable. Not all falls are preventable, as much as we try. The quality of care provided to prevent falls currently remains poor, but there's hope on the horizon. Co-management is a strategy that may improve quality of care for falls. Once fall risks are identified, persons at risk can be engaged in self-management of risk.
We didn't have enough time to present some of the specific data, but in the STRIDE trial participants were able to select risk factors that they wanted to work on and then what they were willing to act on. Three categories of recommendations that they were willing to prioritize, select and work on were strength/gait/balance, which as Nancy indicated was probably the most powerful risk intervention we can do, Osteoporosis, which is also exceptionally important, and visual impairment. We're having more difficulty getting people to give up their benzodiazepines, but some do.

The results of the STRIDE study are expected a little more than a year from now. We're still adjudicating outcomes and getting data from Medicare on serious falls-related injury.

I'd like to end with a quote from one of my favorite authors, E.B. White, the author of *Charlotte's Web* and *Strunk & White*. He was writing a letter to one of his friends late in his life, and he said, "Stay on your feet. It's the place to be."

Thank you very much, and we'll turn it over to the commentators.

**Sachin Jain:** Great. Really appreciate the presentation. David, Nancy and Priscilla, bravo. That was a really I think *tour de force* performance as it relates to understanding some of the opportunities that we have to improve fall risk prevention in the health care delivery system.

I think what I'll just say is on a personal note, I think this is a very underappreciated topic in health care. I remember being in medical school and kind of yawning at the idea that I would be in a lecture about fall risk prevention, but years later, having seen two parents fall in the last several years, I recognize that prevention really is the best cure. I think there are extraordinary opportunities for us to do better for our patients through a real focus and delivered focus on applying the best science in the practice as it relates to fall risk prevention.

I'm the leader of CareMore Health. I'm an internist by training and practicing here at CareMore. Just by way of background and introduction on CareMore, CareMore is a 25-year-old organization. We have focused ourselves explicitly on the care of high-cost, high-need vulnerable senior populations. We operate many special needs plans in the Medicare Advantage space that focus on the care of patients with a high level of complexity, multiple comorbidities.

Throughout our history, because we operate on a prepaid model, we have always been interested in trying to understand ways that we can avoid problems before they actually happen. That was at the heart of our clinical foundation that was set by our founder, Dr. Sheldon Zinberg and something that has been core to our clinical philosophy going forward.

The average age of the members we take care of is 74. We have over 168,000 patients that we're now responsible for, but we take care of about 6,000 patients in the Cal MediConnect duals plan. What I'll just stress is that many of the patients we take care of are truly the sickest and most complex patients. In traditional health care systems, I think the emphasis is really on managing medical conditions we tend to avoid, considering social factors that may contribute to a patient's overall prognosis. But we at CareMore try our best to take a holistic view of patients and really
try to put into practice a lot of what the speakers talked about in their presentations. Next slide, please

CareMore operates a fall prevention program that is really focused on ensuring that we are really addressing the kind of core quality issues that were referred to in the previous presentations. Every single patient who joins CareMore goes through what's called a Healthy Start Visit, and these Healthy Start Visits are our version of the annual wellness visit, but they're incredibly exhausting, I think both for the person doing it and also for the patients and the families that go through them.

But they allow us to identify with a high level of granularity the risk factors that are actually contributing to that patient's overall wellbeing. In particular, there's a focus on falls. We are looking to really understand what the unmet needs are for those patients, optimize their medical care and get them really triaged to appropriate services.

There was reference made to fall-risk-inducing medicines. We have pharmacists that are embedded in our model, and there's a very significant emphasis on deprescribing. If there are patients who have had a history of falls, we actually refer them to our falls risk prevention program. Next slide.

These prevention programs are free. They take place within the neighborhood in which the patient lives. That's a critical part of our model. We believe that all health care is local, and so our care centers are located within three to five miles of where our patients live. And the focus is on creating a personalized care and treatment plan. We're assessing their medical history. We're assessing their medication; deprescribing benzodiazepines in particular is an area of focus for us. Assessing their physical strength. Checking on their mobility, vision and hearing. Making sure that patients are referred appropriately for bone density evaluations.

And there's a deep I think history on safety habits and understanding what the home situation is like for our patients, and, where appropriate, we will actually send a home-based care team into the home of patients. In Connecticut, where we're actually taking care of more than 2,500 Medicare and Medicaid dual-eligible, we actually operate a home-based primary care model that exclusively sees patients in the home, and I think that allows us to get much deeper context on what's actually happening for the patients. There's nothing like actually seeing it to be able to begin to intervene and help patients modify their risk factors.

I think one of the other key hallmarks of all of our clinical models is free and frequent toenail clipping. We offer monthly free toenail clipping within our care centers. We offer free transportation to our members. Because what we're really ultimately trying to do is limit the barriers that actually get in the way of them accessing their care. Toenail clipping in particular we find is an important preventative measure that we take to reduce fall risk for our patients, but it also is something that brings them into our care centers so we can stay close to them and understand how their chronic diseases are being managed. Next slide.

I think one of the most exciting parts of our program is Nifty After Fifty. Apologies to anyone here who's 50 who doesn't believe that they're at risk for falls. This is our gym brand that is
attached to all of our care centers. This is a company that was founded by our founder, Dr. Zinberg. We operate in partnership with Nifty After Fifty "Fall Free," which is a 12-week course consisting of 30-minute classes twice weekly, coupled with independent home exercises four times a week.

This is really a curriculum around fall and gait training and really developing the strength that our patients need to avoid fall risk. There are assessments like the 30-second chair stand. We're training patients on the arm curl, the two-minute step test, the chair sit-and-reach, the eight-foot up-and-go. I think one of the other speakers referenced this: A very, very key component to these programs is how social they are. They are individual programs, but if you were to visit one of our centers, one of the main reasons that our senior patients actually go to these centers is because it is an opportunity for them to engage socially. We do think that that is an important part of health more broadly.

I think I mentioned earlier, we are a fully prepaid medical model, which means we are at risk for all the expenses that our patients incur, all of the medical expenses that our patients incur, and so given that we actually take care of our members for an average of nine or 10 years, we have every incentive to make sure that they don't fracture their hip, every incentive to make sure that they don't have unnecessary falls that result in subdural hematomas.

I do think an important part of the national fall prevention story is how do we get into more prepaid models where health care delivery organizations are financially incented to do the right thing for patients and aren't just treating problems as they come up. I think that focus on prevention is what allows us to fund the exercise programs, fund the transportation program, and really do the things that are necessary from a clinical care and medical perspective to really avoid what are ultimately I think what Dr. Reuben called almost in every case an avoidable outcome for patients.

I'll stop there and pass it over to the next speaker. But I just, again, want to express my thanks to the previous speakers but also to the several thousand participants who've dialed in. This is such an important topic, and I'm glad it's gaining the traction that it is.

Chelsea Gilchrist: Great. Thank you. Good afternoon. My name is Chelsea Gilchrist, and I'm delighted to share with you today resources, programs and technical assistance activities to support your fall prevention efforts. Next slide, please.

First, a little background about the National Council on Aging. We are a national leader to help people 60 years and older meet the challenges of aging through innovative community programs and services, collaborative leadership with national partners and advocacy efforts. Our mission is to improve the lives of millions of older adults, especially those who are struggling. Next slide.

Within the National Council on Aging's Center for Healthy Aging, our goal is to increase the quality and years of healthy life for older adults and adults with disabilities. We are funded by the Administration for Community Living to lead two national resource centers. The first, the Chronic Disease Self-Management Education Resource Center, and the second, the National Falls Prevention Resource Center.
We also make efforts related to behavioral health, physical activity, immunizations and oral health. Next slide.

Our overall goal is to reduce the incidence of falls among older adults and adults with disabilities through our work in the National Falls Prevention Resource Center. We accomplish this by increasing public awareness about falls prevention, serving as the national clearinghouse for fall prevention tools and resources, and supporting and stimulating evidence-based falls prevention programs and strategies.

Since 2014, the Administration for Community Living has awarded grants to state and tribal grantees to implement and disseminate evidence-based falls prevention programs and strategies across the nation. In the next few slides, I'll share more about these evidence-based programs. The grants that have been awarded have been awarded to public and private non-profit entities, state agencies, community-based organizations, universities and tribal organizations, and many of these grantees partner with health plans to refer at-risk older adults into community-based, evidence-based falls prevention programs. Next slide.

At the Resource Center, our technical assistance activities include providing one-on-one support; hosting an annual conference; developing online tools and resources for both professionals and older adults and caregivers, and hosting monthly webinars. Next slide.

I mentioned earlier that part of our work is to support the dissemination of evidence-based falls prevention programs, several of which the other presenters have touched on during today's presentation. You see here on this slide a list of several evidence-based falls prevention programs. These programs have been proven to help older adults reduce their risk of falling and/or their fear of falling. These programs are available for older adults with low, moderate and high risk for a fall. Program content typically includes one or more of the following: cognitive restructuring, balance, strength and gait training exercises, home safety modifications and educational presentations from experts in the community, such as physical therapists to address gait and balance training, occupational therapists to address environmental hazards and pharmacists to address medication management. Next slide.

As Nancy emphasized earlier in the presentation, it's important to find the right program based on the patient's fall risk level. This pyramid here depicts the different types of programs available for patients with various levels of fall risk. One tool we recommend to assess a patient's level of fall risk is the CDC's STEADI toolkit, linked here at the bottom of the slide. Within this pyramid, you'll see that programs recommended for older adults with a low risk for a fall include Tai Ji Quan: Moving for Better Balance, Tai Chi for Arthritis, SAIL and the YMCA Moving for Better Balance programs.

For adults with a moderate risk for a fall, we recommend programs that include strength and balance and exercises as well as paired with educational components, including programs like A Matter of Balance and Stepping On.
And for older adults with a high risk for a fall, we recommend more on-one-on programs, such as the Otago program Nancy mentioned earlier, and CAPABLE. Next slide, please.

For a full listing of the evidence-based fall prevention programs mentioned during my presentation and information about program training, cost and resources, I encourage you to visit the link here under evidence-based falls prevention programs. To find a falls prevention partner or program in your community, we recommend that you connect with your statewide falls prevention coalition or an ACL falls prevention grant team.

A little background about the state falls prevention coalitions. There are 43 coalitions across the US, each with a common goal of reducing older-adult falls, fall-related injuries and deaths in your communities or states. These coalitions are typically interdisciplinary and include professionals in public health, aging service providers, brain injury prevention and many others. You're welcome to join your local coalition and engage in their efforts.

Other agencies you can contact to find a program near you include the local Area Agencies on Aging, senior centers and YMCAs. Next slide.

I mentioned that I wanted to share several resources available related to falls prevention. Here at NCOA, we oversee a fall prevention resource clearinghouse. Everything is online and searchable by audience, including older adults and caregivers, professionals and advocate, and by resource type, including documents, templates you can fill out with program information, webinars and more. A link to this clearinghouse is available on the slide. Next slide.

Examples of the resources you'll find in this clearinghouse are listed here. Some of our most popular resources include the Six Steps to Prevent a Fall infographic that outlines six easy steps older adults can take to prevent a fall. The information is based on common fall risk factors. Another popular resource is the Fall Prevention Conversation Guide for Caregivers, which was developed in partnership with the National Alliance for Caregiving, and its aim is to facilitate a conversation about fall risk factors and empower older adults and caregivers to develop a fall prevention action plan. Next slide.

Other resources you'll find in the clearinghouse will include educational videos for older adults and caregivers, such as the Six Steps to Prevent a Fall video and the You Have the Power to Prevent a Fall video, which highlights four evidence-based fall prevention programs older adults can engage in and the benefits they'll experience through them.

That concludes my presentation. Thank you so much for having us today. I'll now turn the presentation over to Caroline.

**Caroline Loeser:** Great. Thank you so much, Chelsea, and a big thank you to all of our speakers today, Dr. Reuben, Nancy, Priscilla and Dr. Jain as well, for your presentations. This has been incredible, and thanks for joining us today.

We have about 15 minutes or so for questions from the audience. At this time, if you have any questions for our speakers, please submit them using the Q&A feature on the lower left of the
We got quite a number of questions throughout the presentation. I'll start with one of the first ones, and, Priscilla, this came up during your presentation and the discussion of falls care managers. The question is, Do you recommend that plans have a designated falls care manager, or is this something that all care managers should be trained in?

Priscilla Gazarian: Well, I think it would be wonderful if all plans had a falls care manager, but having said that, I think it's really important that our falls care managers have specific training in conducting strength, gait and balance assessments and a number of other skills that not all nurses are fluent in. There is a need for specialized training, and I think that that's a really critical component. Does that answer your question?

Caroline Loeser: Yes. Thank you, Priscilla.

Priscilla Gazarian: You're welcome.

Caroline Loeser: And then, we had another question—actually, a couple questions that came in, and people wanted to know a little bit more about why using a walking aid doubles the risk of falling. Dr. Reuben, I know that this was mentioned in your presentation. I don't know if you want to comment on it.

David Reuben: I missed that. What doubled the risk?

Caroline Loeser: The use of a walking aid and how that doubles the risk.

David Reuben: Yeah, it's not a cause-and-effect type of thing. It's not that the walking aids—although I do have some patients who aren't using their walkers correctly. It's more of a marker that something's not right, that there is a problem there. Although it's very important to have—particularly physical therapists are terrific with this, is to make sure people are using their assistive devices correctly. The assistive device per se is not the risk factor.

Caroline Loeser: Great. Thank you for that clarification there. The next question, and I'll just open this up to the group, whoever wants to respond: Older adults have increased areas of depression or anxiety; what medication would be best to administer that would not increase risk of falls?

David Reuben: I can address that. The best medicine is no medicine. It turns out that there are a lot of cognitive behavioral interventions, CBT, which can be administered in person, on the telephone and even online. These have a fairly substantial evidence base to say that they're effective. The best medication treatment for anxiety is not medication.

Caroline Loeser: Great. Thanks, Dr. Reuben. The next question that I'll open up to the group is: Could you comment on fall risk for those who have Alzheimer's disease, dementia and those in long-term care? What are reasonable expectations for preventing falls among this population?
Sachin Jain: This is Sachin Jain from CareMore. I think all the things that we talked about today are really, really important, but I think that facilities really need to be on guard to be implementing space plans as well as I think architectural innovations around minimizing fall risk prevention. There's things that you see in various progressive facilities that really help orient patients with Alzheimer's and dementia to person, place and time. I recently visited a facility called Silverado, which is a memory care facility, and they place photographs of an Alzheimer's or dementia patient all over from various stages of their lives outside of their room to help them orient to which of the many similar-looking rooms look like their rooms.

I think it takes a very holistic approach to address these types of issues. I think there's a lot of facilities doing good work in this area, but more is certainly needed.

Caroline Loeser: Great. Thank you for commenting on that, Dr. Jain. I'm going to move on to another question. Nancy, this came up during your presentation about exercise. The question is: We often have people that cycle through skilled physical therapy and in our rec and wellness exercise programs. Can you provide further suggestions on how to keep our patients engaged in their exercise program?

Nancy Latham: Right. Well, I think that it is important to, first of all, find out from the patients themselves what type of exercise they might be willing to continue with and are interested in, to try to probe if they would be willing to join in with the community-based exercise program, which can provide that social reinforcement that we know is important. And identifying a program that they might like and that might—again, with their individual preferences, they particularly might find a dance-based program or a tai chi program or maybe a more traditional program might be something that they particularly would enjoy. There are many effective alternatives, but I think it's figuring out what will work for a person and what they can access.

If getting transportation to some of these great community programs is a problem or they're just people who prefer to exercise more on their own, to know that that is a great alternative as well, and making sure that they're set up properly with a good prescription to begin with from a physical therapist, using one of the evidence-based programs.

A strong recommendation of an exercise program from a primary care physician and checking in that people are doing that is something that's effective in getting people started and helping them to adhere. And just, no matter what the program is, seeing if you can encourage them to do it with somebody else. That social support is really key. It's key for all of us, actually, not just older people at risk of falls, to help maintain adherence to an exercise program.

Caroline Loeser: Great. Thank you, Nancy. Those are some helpful suggestions there, I think. The next question, Priscilla, this came up, again, during the discussion about the falls care manager. The question is: In a co-management model, the STRIDE used an RN falls care manager. What are their educational requirements? Based on the evidence for exercise/gait/balance, could a physical therapist be a key co-manager in this?
Priscilla Gazarian: Yes, we used RNs, and they were required to have a Bachelor's in nursing, and then they received additional training on being hired as a falls care manager. I'll let Nancy help comment on the physical therapy, and I think that it is possible that a physical therapist could be the falls care manager. Nancy, I don't know if you want to add to that.

Nancy Latham: I would just say that I certainly could imagine that going forward. Again, our training materials to date have been developed for nurses, and again, we are awaiting the outcomes of the STRIDE trial, so using this model, but I think that we certainly—I certainly think that we could make some pretty easy adjustments to the training that a physical therapist could be well positioned to take on this role.

Caroline Loeser: Great. Thank you both for that context. Now we have a question—Dr. Reuben, this came up during the discussion about quality measures and if-then statements. The question is: For the quality measure if-then-because, who is the best provider to do the basic gait, balance and strength evaluation? As a care manager, should I refer back to the primary care provider to complete this or refer to an occupational therapist?

David Reuben: Well, I would actually—since I'm a primary care physician, I would say the primary care physician. One of the things I do, I have a different talk that I give where I can teach a primary care physician how to do a fairly comprehensive falls risk assessment in two minutes. They can move very quickly. Gait, balance and strength can be assessed essentially within a minute.

The problem is that primary care physicians have 15 minutes, 10 minutes, 20 minutes if they're really lucky, to squeeze in everything. But I think that some of the other things that we do in primary care in terms of examination for older people, it's much more important to assess gait, strength and balance than it is typically to listen to lungs or feel the abdomen, things like that.

I think it's a primary care provider responsibility. Certainly you could refer to occupational or physical therapy, but I really think that it's a primary care provider responsibility.

Caroline Loeser: Thank you, Dr. Reuben. We have a couple questions about primary care's role in the falls prevention, so that was really helpful. The next question I have, this came up during the discussion of exercise. We had a couple questions about the option for entry-level yoga and whether or not yoga has been proven to help with strengthening in falls prevention.

Nancy Latham: I think that yoga can be a very useful exercise program to add in for overall strength and for other mind-body benefits. It has not been found to be effective on its own as a primary approach to reducing the risk of falls in trials that have been done to date, so I think it could be a good complement for people to add in to supplement some other fall prevention activities, but we would recommend that at this stage, the evidence suggests incorporating a program that has some more direct balance exercises. Tai chi, with the weight shifting that it involves, seems to be a more effective approach. Or other of the community-based programs that are out there.
I think it could be a great addition but is probably not enough on its own, at least from the evidence that we have at this time.

**Caroline Loeser:** Great. Thank you for that context. We have a couple more questions that came in, so I'm going to look through and see—we probably have time for just one more question. We have one question about motivational interviewing and if there's any information that the speakers have on techniques used for motivational interviewing or if there's anyone that can speak a little bit more about that topic.

**Priscilla Gazarian:** This is Priscilla. There are specific training programs, and I think that I would not do motivational interviewing justice to try to outline them in two minutes. We had a certified trainer come to train our nurses to use some of the techniques and consistently provided coaching and mentoring around those techniques, because it does take some time to develop. But there are programs that can be taken online, etc., to develop those skills.

**Caroline Loeser:** Great. Thank you.

**Chelsea Gilchrist:** This is Chelsea Gilchrist with NCOA. I can add as well that we have a few resources on our website I can share related to motivational interviewing to improve health outcomes among older adults, including a webinar and a tip sheet. I'm happy to provide those resources after the webinar.

**Caroline Loeser:** That would be great, Chelsea. Yeah, we will be putting together a pretty comprehensive resource guide that will include all of the resources that were mentioned throughout the presentation, and we have some resource lists at the end. So, our audience members can look out for those resources. Thank you, Chelsea. That would be great.

At this time, if you have any additional questions or comments, please email us at RIC@lewin.com. We'd like to invite everyone to visit our website to view recordings of our 2018 webinar series. These topics include palliative care, substance use disorders, person-centered care as well as additional topics on behavioral health in older adults and schizophrenia.

The slides for today's presentation, a recording and a transcript will be available on the Resources for Integrated Care website shortly.

As a reminder, additional guidance about obtaining credits and accessing the links to the post-test can be found within the Continuing Education Credit Guide in the resources guide on the left-hand side of your screen, or at the Resources for Integrated Care website.

Thank you so much for joining us today. Please complete our brief evaluation of our webinar so that we can continue to deliver high-quality presentations. If you have any questions for us, please email us at RIC@lewin.com.

Thanks again to all of the speakers. Have a wonderful afternoon, and thank you so much for your participation.