

AIR
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CMMI DUAL ELIGIBLES WEBINAR

OPERATOR: Good day Ladies and Gentlemen, and welcome to the *Evidence-Based Interventions to Reduce Avoidable Hospitalizations of Nursing Home Residents* webinar, sponsored by Medicare-Medicaid Coordination Office and the Center for Medicare and Medicaid Innovation.

The full presentation, slides and audio, are available via the web. If you do not have computer speakers or prefer to listen via phone, please call the following phone number: (888) 776-9631. Then enter the passcode 9100747. A few housekeeping items to remember before we get started:

All participant lines are in listen-only mode throughout the presentation. You may submit questions via the chat feature at any time. Look below the slides, in the field next to "Message to Moderators," and there, you may type in your question and hit send. Your question will only be visible to the moderators. As there will be many more questions than we will have time, we will be answer selected questions at the end of the event, following the conclusion of the slide presentation.

With that, I'll turn it over to Evan Shulman from the Medicare-Medicaid Coordination Office of the Centers for Medicare and Medicaid Services. Thank you.

EVAN SHULMAN: Thank you Rachel, and thank you everyone for joining us. We're very excited about the content that's going to be reviewed today, and very excited about the initiative that was announced a couple of weeks ago.

On March 15th of this year, the CMS Medicare-Medicaid Coordination Office and the Center for Medicare/Medicaid Innovation announced an opportunity called the initiative to reduce avoidable hospitalizations among nursing facility residents. This initiative is targeted at long-term state residents of nursing facilities who are enrolled in Medicare and Medicaid. Studies show that approximately 45 percent of these hospitalizations among Medicare/Medicaid enrollees can be avoided.

Through this initiative, we are seeking to identify evidence-based interventions that can reduce these avoidable hospitalizations. For more information on this initiative, please access the link shown on the first bullet on Slide 2, which is now on your screens. This is the same link that was in the invitation for this session.

Today's presentation will not be about the technical aspects of the solicitation I just mentioned. Rather, we will be reviewing a few types of interventions that have shown to reduce avoidable hospitalizations. These will serve as examples of models or components of models to help educate entities who may be considering applying for the initiative.

Also, entities may be interested in implementing these models or parts of these models, whether they are participating in the solicitation or not, as we're all working to improve care in our respective environments. So again, CMS will not be discussing or answering questions regarding the technical requirements of the initiative. For example, we won't be answering questions on eligibility or how to apply.

Questions on the technical aspects of the initiative can be submitted to the email address which is again on Slide 2, where we are now, in the second bullet. And also we're working on posting a set of frequently-asked questions on the same website, and hopefully that will address any other questions that would come up during this presentation.

Finally, this presentation is being done by industry experts. The views expressed in its presentation are the views of each speaker, and do not necessarily reflect the views or policies of the Centers for Medicare and Medicaid Services.

The material provided is intended for educational use, and the information contained within has no bearing on the participation with any CMS program. With that, I'd like to introduce our moderator, Dr. Lewis Lipsitz.

He's a Professor of Medicine at Harvard Medical School. He's the Vice President for Academic Medicine and Director of the Institute for Aging Research at Hebrew Senior Life, and Chief of the Division of Gerontology at Beth Israel Deaconess Medical Center. So with that, Dr. Lipsitz, I turn it over to you.

LEWIS LIPSITZ: Thank you, Evan. As our attendees have heard, the purpose of today's webinar is to review promising interventions to prevent unnecessary hospitalizations of nursing home residents. Our goal is to prevent interventions that are supported by scientific evidence or extensive professional experience.

As you can imagine, there has not been much research in this area. However, after culling the medical literature, I was able to identify four promising areas that are listed on the slide in front of you. Each of our expert panelists will briefly describe interventions in each of these areas, and leave time for questions after everyone is finished.

Just briefly, as you can see on the slide, these areas are first: care protocols and staff training. Dr. Joseph Ouslander will discuss these, and perhaps the best investigated example of these are the Interact-2 program, which has been shown to reduce hospital admissions by 17 percent.

A second type of intervention are professional staff models. These rely heavily on collaborations between nurses and physicians, and Dr. Alice Bonner will be addressing these. One good example of that model is Evercare, which has been successful in reducing hospital admissions by 47 percent and emergency department use by 49 percent.

A third type of intervention includes medication and pharmacy interventions, which will be discussed by Dr. Joseph Hanlon. These interventions rely on consultant pharmacists to review medications, and advised more proper use of medications in nursing facilities.

Finally, we will be discussing organizational changes. Dr. Mary Jane Koren will address this particular topic, and introduce you to the Advancing Excellence in Long-Term Care Collaborative, which is available through the website shown.

There are many other ancillary strategies that have not been rigorously tested. These include staff and caregiver education, telemedical support, electronic medical records and alerts, and advanced care planning.

But I think the most important point in this slide is the last bullet that indicates that all of the above interventions, together or in various combinations, are probably most successful in reducing unnecessary hospitalizations among nursing home residents. With that, I'd like to turn it over to our speaker of the morning, of the afternoon, Joseph Ouslander.

Joe is a Professor and Senior Associate Dean for Geriatric Programs at the Charles E. Schmidt College of Medicine, and also a professor at the Christine Lynn College of Nursing at Florida Atlantic University. Joe, the floor is yours.

JOSEPH OUSLANDER: Thanks Lew, and welcome everybody. I'm very excited to be presenting on this webinar. This is an important initiative, and I think by working together we can really meet the goals of improving care and reducing unnecessary hospital transfers and hopefully some of those savings can be shared with providers, to further improve the quality of care.

So I'm going to talk about a program that I've been involved in developing, INTERACT, which stands for Interventions to Reduce Acute Transfers. This is a quality improvement program that is designed to improve the care of nursing home residents with acute changes in condition.

Next slide. The INTERACT program includes evidence and expert-recommended clinical practice tools and strategies to implement them, and related educational resources. The basic program and the tools are publicly available on the website that is shown in this slide.

Next slide. The origins of INTERACT were initially at the Georgia Quality Improvement Organization, in a special study supported by a CMS contract, the first phase of which was to look at, look carefully at hospitalizations of nursing home residents in Georgia.

And as part of that contract, we did a detailed review of 200 hospitalizations. An expert panel used a structured review tool, and we got nursing home records, emergency room records and hospitalization records.

Some of these, ten of the homes had high hospitalization rates and ten had low hospitalization rates. This was all hospitalizations, both from short stay and long stay residents, and after that structured review, we asked the experts given what you know, from the record review, do you think this hospitalization was potentially avoidable? Yes possibly or no.

You can see on this slide that two-thirds of those hospitalizations were rated as definitely or probably avoidable for a whole variety of reasons.

The next slide. This slide, the data may be a little hard to see on this slide, but it comes from a CMS-supported project that is cited in the RFA, and which looked at all hospitalizations of Medicare dually-eligible beneficiaries in the year 2005. This was not only from nursing homes, nursing facilities, but it includes short stay nursing facility residents, long stay nursing facility residents.

But they were dually-eligible, which is one of the primary targets of this initiative. What was done was a list of diagnoses were developed by a panel of clinicians, with the thought that sometimes hospitalizations for these diagnoses could be avoided.

What is a little hard to see in this slide is of the hospitalizations that occurred in 2005, almost a million hospitalizations, 40 percent of them were for one or more of these diagnoses, and the cost of those hospitalizations was \$3 billion.

Next slide. Now having said that, it is very difficult to define what is a preventable or avoidable or unnecessary hospitalization, and the reason is that there are many factors that go into the decision to hospitalize an individual person. This is a very person-centered decision. Some of the main factors are

listed on this diagram, which include resident and family preferences, care planning and advanced care plans of infrastructure that's available in the facility, and financial incentives as well as concerns about legal liability and regulatory liability.

So it's very hard to, using just administrative data, define what is preventable. However, if you look at the evidence in this area, most experienced clinicians would agree that there are certain diagnoses, there are certain situations where management in the nursing home is safe and feasible and often in the best interest of the resident and their families.

Next slide. So if we can meet the goal that's shown in the center of this slide, to safely reduce unnecessary acute care transfers, it will increase the quality of care. It will decrease morbidity from hospital complications and decrease costs. In order for that to happen, there needs to be the infrastructure and incentives in place for nursing homes, and I think the really exciting thing about this initiative is that's what this initiative can provide, is the infrastructure and the incentives.

Go back one slide please. But in order to do good quality care, one needs quality improvement programs in place and tools that people can use in every day practice, and that's where the INTERACT program plays a role.

Next. So the strategies that are used in the INTERACT program are basically three. The first is to identify conditions early, and prevent them from becoming severe enough to require hospitalization. So for example, if someone isn't eating and drinking over the course of a few days, by identifying that early you could prevent severe dehydration and hospitalization related to that.

Second, is that we know that these residents are medically complicated, and they are going to have acute illnesses. Some of them that meet certain criteria can be safely managed when they are identified. An example of that might be a lower respiratory infection that's not associated with unstable vital signs, hypoxia or delirium.

The third is a different strategy, and that is by improving advanced care planning. Many times, nursing home residents go back and forth to the hospital for the same condition, and a comfort care or palliative care program may be appropriate as an alternative to hospitalization for some of them.

Next slide. I want to emphasize, though, that the goal of the INTERACT program is to improve care and not to prevent all hospital transfers. In fact, trying to prevent all hospital transfers might lead to unintended consequences, and if you look carefully at the INTERACT protocols, they can help nursing home staff identify people who actually need to be transferred faster. So there's explicit criteria.

So this is a program to manage acute changes, and a benefit of the program is to reduce unnecessary transfers when that's safe and feasible.

Next slide. So as I mentioned, this was originally developed in a project supported by CMS, and tested in three nursing homes in Georgia, and then revised based on the input from staff from several nursing homes and national experts. So there's been a lot of input from direct care staff, as well as national expert clinicians.

Next. There are four basic types of tools involved, that include communication tools, decision support tools, advanced care planning tools and quality improvement tools. The next slide shows how these tools are meant to work together. Again, all of the specific tools are available at Interact2.net.

So when, just to go through this diagram briefly, when a resident is admitted or readmitted, that is around that time is the time to reevaluate the care plan and the goals for care, and the advanced care planning tools can be helpful in that situation, as well as when someone has an acute changing condition.

Often, the Certified Nursing Assistants are the first ones to notice a change in the resident, and we have an early warning tool or what's called a stop and watch tool for that purpose, to structure communication between the nursing assistant and the licensed nurse.

Many facilities have had other front line staff use these tools, rehabilitation therapists, dietary staff, housekeeping staff. Some facilities even train family members to use the tools.

Once a licensed nurse is notified about a change in condition, there are decision support tools that include care paths for six common conditions that precipitate transfer, and acute changing condition file cards, which are really based on the American Medical Directors Association practice guideline on communicating changes in condition, that provide very specific guidance about when to notify the medical provider immediately versus non-immediately.

And as part of that process, there's an SBAR form and progress note form, which is based on the situation, background assessment recommendation method of communication that is a structured communication tool, and it also serves as an acute changing condition progress note.

If an acute care transfer is necessary, there is a checklist of documents that should go to the hospital, and that can be put on the front of the envelope that the documents are put in, to document what's been sent, and a standardized transfer form that has been reviewed by emergency room physicians and nurses, when they were -- in the context of what is it that they need to make a rapid decision about whether the person needs to be admitted or not.

And finally, there are quality improvement tools. INTERACT is an overall quality improvement program, and if you're not tracking an outcome and doing root cause analyses, you're really not doing quality improvement.

So there's a transfer log that would help facilities transfer, track their transfers over time, and a quality improvement review tool, which is essentially a mini-root cause analysis, to look back at the transfer and say what happened, what did we do and what can we learn from it to improve care.

Next one. So we have support of the Commonwealth Fund. Mary Jane Koren is going to be speaking with you, and was very instrumental in helping us with this project.

The way we implemented this program was that we enlisted ten nursing homes in three states, Florida, New York and Massachusetts, and we actually went to each site and trained a facility-based champion who was intended to implement the program at that facility, as well as met with facility leadership and as many other staff as we could gather, and provided them, we physically provided them with the tools in this project.

Then collaborative phone calls were conducted with an experienced nurse practitioner every two weeks, to look at what challenges were encountered and how they overcame those challenges. We asked the facilities to document whether they were doing the quality improvement reviews.

The next slide shows the results of this project, and I'll just point out that in the facilities that -- in the 25 facilities for which we had complete data, there was a 17 percent reduction in all-cause hospitalizations. In the facilities that we felt were engaged in the project, there was a 24 percent reduction.

So we think that this is not evidence from a randomized trial, but it is, it was a very systematically done evaluation. So we feel that the INTERACT program was associated with a reduction in unnecessary hospital transfers, and on the slides that are available on the website is my email contact if people have questions. We do have a curriculum to train staff in implementation of the INTERACT program. If people are interested, they can contact me.

LEWIS LIPSITZ: Thank you very much, Joe. We'll have some time for questions later.

JOSEPH OUSLANDER: Okay.

LEWIS LIPSITZ: I'd now like to turn the presentation over to Alice Bonner. Alice is the Director of the Division of Nursing Homes, Survey and Certification Group at the Center for Medicare and Medicaid Services, and she will be addressing professional staff models to reduce unnecessary hospitalizations. Alice?

ALICE BONNER: Thank you, and good afternoon everyone. This section of the webinar is going to present some historical and current models, primarily related to using Advanced Practice Nurses and physician extenders, and external primary care teams, and also we're going to present some practical ideas for how to get started with collaborative practice.

So why might you consider enhanced team models and roles for your facility? Well, there is a growing body of evidence that long term care residents benefit from these kinds of models, specifically improved clinical outcomes, lowered hospitalization rates and decreased costs.

So the question is what do these models look like, and what are ways that Advanced Practice Nurses and physicians can collaborate, and what are the challenges to implementation? Lew mentioned some of these models and some of the literature, and we do have a number of them in the references for you to take a look at.

In particular, a couple of studies in 2003 and 2004 are important, and these relate to the Evercare program. This was a managed care product using nurse practitioners specifically in nursing homes, a capitated product, and Cain, Bob Cain and his team found that the incidence of hospitalizations was twice as high in the control group, versus the group of residents managed by the Evercare nurse practitioner and nurse practitioner physician teams.

This pattern held for preventable hospitalizations as well, and these were related to pneumonia and dehydration, hypertension and UTI. There was a savings of \$103,000 per year in hospital costs in 2003 dollars, and the findings were that there was more efficient care and comparable quality of care.

So you heard Dr. Ouslander talk about the INTERACT program, and this later work, he built on the Evercare studies. As you can see in the expert panel that Joe talked about, the contributing factors that many of the experts thought were important, in terms of potentially avoidable transfers, were things like better quality of care would have prevented the transfer, because of preventing the acute change in

condition, at least the severity of the change. One physician visit might have avoided the transfer. Better advanced care planning was important.

And when we asked the expert panel when they were asked what are the resources needed to manage people in the nursing home, as you can see, they responded very much related to physician extenders, advanced practice nurses, registered nurses as opposed to LPN as well, were found to be important, and the availability of lab tests and therapy with intravenous.

But the majority of the responses focused really very much on enhanced collaboration. So we wanted to talk a little bit about this concept of collaboration, because it is at the core of many of these models of care and coordination.

So a definition of collaboration might be that collaboration is a joint and cooperative enterprise that integrates the individual perspective and expertise of various team members.

Some of the common themes with collaborative relationships include a focus on collegial relationships, team work, open communication, recognition of one another's expertise, respect and trust. Now in the slides that are available on the website, we provide a number of slides that talk about the advantages of collaborative practice, and these are fairly well documented and well understood.

So we didn't include them here, in the interests of time. But there are a few barriers to collaborative practice, or practice with external providers coming into the nursing home, and those can be things like a lack of understanding about the roles, questions about how to integrate with existing care teams, and uncertainty related to regulatory processes or reimbursement systems. So clarity is important.

In developing a collaborative relationship specifically with advanced practice nurses, it's important to know that the majority of nurse practitioners do work in states that require something called a collaborative agreement with a physician. Now that doesn't mean that the physician must be physically present when the nurse practitioner sees patients, and for some of you on the phone, you work in states where there are many nurse practitioners in nursing homes, so you're very familiar with a collaborative practice agreement.

But for some of you, there may be very few nurse practitioners practicing in this long term setting in your state. So the collaborative practice agreement provides the structure for how nurse practitioners and physicians operationalize that relationship, and again, it's guided very much by the Nurse Practice Act, and regulation through the Board of Medicine and the Board of Nursing in most states.

So it's important to know that the collaborative practice agreement should establish the roles and responsibilities of all the parties, optimize the roles of each and build on the strengths of the nurse practitioner and the physician, and what each of them can bring to the roles.

So there's a few helpful hints for structuring collaborative agreements, and they include keeping the guidelines fairly general, but avoiding specifics except where there's procedures involved. So if the nurse practitioner's going to be doing suturing or something like that, there needs to be a specific procedure.

Avoid setting time frames that are just too constrained, but you may want to put some time frames in there. Making it realistic. Read, sign and know what the agreement states, and that everyone is adhering to it. Documenting evidence of adherence. So for example, if it says in the collaborative

agreement that the physician's going to review a nurse practitioner's narcotic-prescribing, which is fairly common, then there needs to be a way, a process for demonstrating to regulators that this is happening.

So knowing the scope of practice for the NP in that state; providing documentation of NP skills when there are specific procedures, and making sure that nurse practitioners are added and physicians are added in collaborative practice agreements when they're hired.

So ultimately, this is really about communication, and communication is the key to effective collaboration. When new providers are going to be working together, particularly external providers coming into a facility, it's so important that everyone talks about who's going to do what, where the responsibilities and the accountabilities are.

For example, things like on call and coverage issues. Who's going to take calls at certain times? How are sign-outs going to be done, vacations, etcetera? What are the practice philosophies and how well-aligned are the providers who are going to be working together?

Is a provider going to be available for consultation say during the middle of the day, perhaps either the physician or the nurse practitioner is busy in the office? Are they going to be able to go out to the nursing home to see someone, and working out who's going to go on different days, etcetera?

Communicating frequently on clinical issues, and including the Director of Nursing and administrator in all these types of discussions. As the primary care team, those providers walk out of the facility, but the administrator and the director of nurses are still there overseeing the care in the facility.

So it's very important to think broadly that the providers, the medical team, is part of the larger interdisciplinary team, and that everyone is working together and keeping one another informed.

So people very often ask in getting started well, what are the variables? How do we know how many residents a nurse practitioner and physician team can follow together? How do we know how many nursing homes they can go to?

So there's a number of these types of factors that may influence the design of a collaborative practice, and these are things like, as we said, the number of facilities, how much travel time is involved, working outside of the long-term care facility if there's an office practice as well.

The quality of facilities. How much time does it take because of additional needs to do, to spend time with the nursing staff, explaining about specific care for an individual resident, and if there's a lot of turnover, perhaps needing to do that with many different staff members, etcetera?

The number of physicians that one nurse practitioner needs to communicate with during the day and vice-versa, the number of nurse practitioners that a physician needs to communicate with can influence the amount of time that it takes, the training and background of physicians or of advanced practitioners.

So are the individuals specially trained in geriatrics and nursing home medicine, or are these individuals who are learning from one another about this care setting, where their background may be more in terms of family practice or non-nursing home settings.

The number of residents that will be cared for and the acuity of the residents. So long-term stay residents, it may be possible to care for more individuals than if there's a very busy skilled nursing facility or a rehab component.

The receptivity of the facility to actually have a collaborative practice, and have nurse practitioners and physicians coming in from an external practice is very important. Getting a sense of how the administrator, director of nurses and really how the nurses themselves and other staff, rehab and others, feel about having external providers come in, and then cultural background of nurse practitioners and physicians, meaning the practice culture, you know, mutual respect and working on teams and learning together, those kinds of factors.

So in designing a model for either a full-time or a part-time practice actually, there's a number of employment structure issues that people sometimes are thinking about, and you may be considering some of these issues.

So employment structure could include that the nurse practitioner or physician are employed by a group or individual practice, or in their own independent practice. It could be that the nurse practitioner and physician are employed by a management company, a company that places teams in entities such as nursing homes.

It could be that the nurse practitioner or clinical nurse specialist or physician's assistant, and by the way, these slides are for the nurse practitioners, but they can apply equally to other physician extenders, are employed by the facility or perhaps they're employed by the facility and the physician is still employed by a practice.

The physician extender and physician could be employed by a management care organization, or by a university in a faculty practice.

So these are a number of the different models that exist and have been tried, and it's important to consult any contracting laws in your state, particularly with these relationships.

So just a couple of notes about the role of the medical director. The medical director plays an important role in nursing facility practice, and the medical director should be aware of any new provider seeing residents in the facility.

Probably will review credentials and practice guidelines, and have the information on supervising or collaborating physicians and nurse practitioners, and an idea what the coverage schedule is in case questions arise.

The medical director also needs to understand what the employment relationships are, particularly if someone is employed by the facility, but also these relationships where people are coming from external groups. Probably he or she would want to meet with the practitioners and review practice guidelines and expectations, and it's a good idea to periodically review with the teams how the teams are doing, what the sample documentation, check in with residents, family and staff to see how things are going. These are all roles that the American Medical Directors Association and other groups have delineated for the medical director.

So just in wrapping up, some other thoughts on how to successfully integrate external providers into the nursing facility. Think about establishing preferred provider relationships with hospitals, medical

practices and other provider organizations. Those relationships often prove very helpful. Adopting a closed medical staff model is a way to control the number of providers who come into the facility, and that can be helpful in terms of consistency.

Developing a teaching nursing home with relationships to academic medical centers for teaching and research. Providing career ladder opportunities for nursing home staff and mentoring by external advanced practice nurses and other physician extenders and physicians who are coming in, and then that dotted line accountability and really seeing yourself as part of the team with the nursing home medical director and the director of nurses and the administrator. And then, as we said, creating these interdisciplinary teams.

So in summary, external providers may play an important role in providing timely quality care to residents in nursing facilities. As you heard from both the first speaker and from this presentation. Other roles may include staff development training and quality improvement, and a number of different models have been tried.

So it may be helpful for you to think about the facility culture and what would be the best fit for the individual facilities where you are practicing. With that, Lew, I will turn it back over to you.

LEWIS LIPSITZ: Thank you so much, Alice. We're now going to move up a level and talk about organizational changes in nursing facilities, that can go a long way toward improving quality and reducing unnecessary admissions, and our speaker for that is Dr. Mary Jane Koren.

Dr. Koren is Vice President for Long-Term Quality in the Quality Improvement Program at the Commonwealth Fund. Mary Jane, I'll turn it over to you.

MARY JANE KOREN: Thank you so much, Lew, and thank you for calling in and listening on this webinar. What I'd like to tell you about today a little bit is about a quality improvement initiative that currently involves about 8,400 nursing homes across the United States, and kind of show how some of the work that it's doing can really help to safely reduce the admissions and readmissions to hospitals for nursing home residents.

On the next slide is just a quick overview of what Advancing Excellence is. It's been around for about five years, and one of the things that's been very interesting about this campaign is as we track the data, we were actually able to show that there was a campaign effect. So we know that this was a model for quality improvement that nursing homes could join. It was completely voluntary. But then it actually did work.

The kinds of targets that we've selected as goals really track national priorities, and what Advancing Excellence does to help nursing homes is to give them free educational resources, to lead them through and to guide them through a quality improvement effort, so that they can in fact perform these changes themselves.

On the next slide, you'll kind of see the conceptual model that we've used for Advancing Excellence, and what we really believe is that the organizational workforce practices are really fundamental to any kind of quality improvement within a nursing home. The other thing is to talk to residents, find out what their goals for care are, so that you can really integrate all of these factors. It's only through these steps that you really get to the kinds of outcomes that you particularly want to see.

On the next slide, you'll see the new goals for Advancing Excellence. We've updated them, and as you'll see across the top, the first three, staff stability, consistent assignment and person-centered care planning and decision-making, really are going to be key to the accomplishment of all of the other goals that then come below.

As you can see, one of the new goals that we're working to develop is going to be on safely reducing hospitalizations.

The next slide talks a little bit about the two areas that we've been focusing on particularly, staff turnover leading to the staff stability. One of the things that we really know is that turnover rate in nursing homes, generally speaking, is so high that it's practically impossible to do a meaningful quality improvement effort that has lasting impact and is sustainable.

If we look at CNA turnover rate, we realize that it's actually 20 percent higher in nursing homes than that of other service workers, such as people who work at McDonald's.

So we're looking at an area where the turnover rate, not just for nurse's aides but also for the nursing staff and for the administrators, is extremely high.

Research is really starting to demonstrate that there's a very close link between staff turnover and quality, and the higher the rate of that turnover, and this is from some of the work that Nick Castle at the University of Pittsburgh has done, the higher the impact it is on quality.

The other thing to really remind ourselves is that turnover is not the only staffing characteristic that's important. We need to worry also about vacancy rates. Many nursing homes just never even have enough nurses there, or CNAs there, to fill all of the slots that are available.

Call-outs, people calling in sick unexpectedly, and another thing that's particularly pernicious, I think in the nursing home arena, is the use of agency staff. That's calling an agency to bring somebody in who doesn't know the facility and also doesn't know the residents. So what we're looking for is enough staff, competent staff, caring and compassionate, and also consistent with the residents.

The next slide shows the reasons that aides leave, and while everyone sort of immediately says oh, the pay is too low, in fact there are many other reasons that nursing assistants go and leave that job. If you talk to nurse's aides, and this has been some of the research that's been done, they will tell you that they love the work, that they hate the job.

So very often they move between nursing home to nursing home, not between nursing homes to McDonald's, and that's one of the things that we always say. It's oh, they just go to McDonald's. No. They often go to other nursing homes, hoping to find the kind of conditions that will enable them to do the kind of job that will meet their expectations for high quality.

In many nursing homes, there is no opportunity for them to advance, and they are very dissatisfied with the supervision that they receive, from both the LPNs and from the RNs.

The next slide sort of is a way to kind of look at how this is a vicious circle, that the turnover leads to vacant shifts, poor outcomes. It's a huge financial burden to facilities. Many nursing homes spend 35, 50 thousand dollars a month on agency staff, trying to fill vacant shifts. Also, working short continuously

means that there's a lot of resentment built up by staff, and they become very anxious, and this stress leads to errors in judgment, and it also leads to injuries.

One of the things that we don't really realize is that nursing homes really very dangerous places to work. The only place that's a little bit more dangerous than a nursing home is a foundry, and nursing homes are more dangerous to work in, if you look at the number of claims per million dollar payroll, than mining, firefighters or tool manufacturers. So having people who are stressed leads to injury on the job.

The next slide shows that there actually are ways to achieve improvement without just paying them more money, although many of them certainly deserve it. What matters the most to employees when you talk to them is that the management cares about them. For example, some places will start a daycare program, so that the employees can bring their children there and know that they're being well taken care of.

The management listens to them, buys them the equipment they need. Sometimes that may be certain kinds of bed lifts. Certainly, the supervisor cares for them as a person. Just having a supervisor who knows that person's name, and saying thank you when something is done well, is in a sense invaluable to keeping staff and keeping people there.

Next slide. The other thing we talk a lot about is consistent assignment, and what we have been very curious about is how many nurse's aides actually touch the resident in the course of a month? If you think about the way you could calculate it for shifts, if there are three shifts five days a week and one person for each of those shifts, basically three people could take care of that resident during the week, and then another three people over the weekend.

So it would be theoretically possible to have only six to eight nurse's aides over the course of a month. What we really have tried to do is think about this from the resident's perspective.

If you are very elderly, have dementia, a great deal of memory problems, to have even six or eight people providing the most intimate care for you is really something that feels very dehumanizing.

So we've tried to think about how we can give nursing home residents this consistency of the person who's taking care of them. The reason also this is important is if you talk to residents, they say the most important thing to them, is the relationships that they have with their nurse's aide. Likewise, if you talk to nurse's aides, one of the key factors for them that leads to job satisfaction is having a good relationship with their residents. So consistent assignment is win-win on both sides.

Next slide is the home page for the Advancing Excellence website, and this is a website that is done under contract through CMS to the Colorado Foundation for Medical Care. And as you can see, it has a whole number of resources that people can go to.

If you go to the next slide, what you can see is the kind of package that appears for any one of the goals, and this goal happens to be staff turnover. Each one of the goals that we have gives the nursing home who's joined the campaign information through the implementation guide, which is very structured. It's sort of a PDSA cycle thing. Interventions, tools for calculating their rates, and also some webinars and other materials that have been archived on the website so people can do it.

The other thing that you will see is that we have fact sheets for both consumers and for the nursing home staff, so that they understand and can participate in the quality improvement efforts of the facility.

The next slide is an example. This is the kind of thing that's in the implementation guide, and then very carefully goes through and explains for each of the goals, how it is that these different boxes can be filled in and what are the things to look at.

The next slide. Well, you can't read it very well, essentially is providing information for the nursing home, so that they can see the evidence base that is behind some of the recommendations and some of the processes that are being suggested to them, to improve these particular areas.

The next slide is an example of the instructions that we put on each one of the data collection tools that are on the website for each of the goals. We even have done this for some of the clinical goals, because while nursing homes can get their data through the MDS and the quality measures, that is often so delayed that it's really not useful for active quality improvement processes.

So for each of the goals, there's an Excel spreadsheet that by putting in their data, the nursing homes can actually start to track their performance, and if you'll look at the next slide, you can see that not only are they able to track their own performance. They can also compare themselves to national benchmarks and also state benchmarks. All of this, in some of these cases, is using public information. So there's not anything secret about this particular thing.

And on the last slide, as I said, we consider sort of the workforce practices to be fundamental to quality improvement. Staff's ability, consistent assignment. These are in a sense the preconditions for doing the kinds of things that Joe was talking about and that Alice has been talking about, because if you don't have people who are there and can become part of this process, you're always having sort of revolving door of strangers coming in, and you really can't do some of these more sophisticated interventions, in order to keep people safely in the nursing home. I really want to emphasize that term "safely."

So this is a new goal for Advancing Excellence. It has to do with safely reducing hospitalizations, and what we're trying to do is to show that nursing home staff have to be prepared and have the necessary resources available to them to do this properly.

We also want to emphasize that in some instances, we need to ask the residents do they want to go to the hospital. Some of them do want that, and so one of the things we want to look at in this is to not compromise the resident's well-being or their wishes.

One of the things, for example, that's very interesting about INTERACT is it's not just about reducing hospitalizations. It's about getting people to the hospitals more expeditiously when a hospitalization is required.

So we have to look at both sides of this equation. So this will be the goal that Advancing Excellence will be using starting in the new few months, and we're really hoping that the nursing homes will see this as a way to kind of get into and then partner with hospitals and other providers, in order to be part of the whole effort to decrease unnecessary hospitalizations. So that's it.

LEWIS LIPSITZ: Thank you very much, Mary Jane. We're now going to turn our attention to drugs, one of the major reasons that people end up in the hospital, and for that discussion, I'd like to introduce

Dr. Joseph Hanlon, who is a Doctor of Pharmacy, Professor of Geriatric Medicine at the University of Pittsburgh, and a health scientist at the Pittsburgh Veterans Administration Hospital. Joe?

JOSEPH HANLON: Can you hear me okay?

LEWIS LIPSITZ: Yeah.

JOSEPH HANLON: Thanks so much for asking me to participate in this program. To start off with, I think it would be useful to take a look at what we're talking about here when I talk about medication-related hospitalizations, and up here you can see sort of a Venn diagram slide. On the left-hand side of your slide is the typical medication use process that happens in institutional settings.

Somebody diagnoses a problem that might lead to prescribing. The order gets communicated to both nursing and pharmacy. Pharmacy dispenses it, nurses administer it, and we're all responsible for the monitoring of these things. Hopefully, that always goes right, but unfortunately it doesn't. When a problem happens in this medication use process, we call those things medication errors.

Now not all medication errors actually cause harm to patients. When they do, we can refer to those things as medication adverse patient events. Some people sort of capture that as adverse drug events, but I don't like using that terminology so much, because it's sort of very confusing with adverse drug reactions, which means something very specific.

So in terms of adverse drug reactions, those are the most common problems that people can have because of medication errors. It's in reviewing this again, it's really sort of scary that there's really no good data about hospitalization of nursing home patients due to adverse drug events or medication-related adverse patient events. So you know, to fix the problem, we probably need a little bit more of the natural history.

But we can say, talking all comments from the community and nursing homes, that up to 16 percent of all hospitalizations for all the people, which you know, is a considerable number of people, are probably related to medications, adverse drug reactions, which what I'm referring to is an extension of the usual pharmacological effect.

Sometimes we say that only half of those things are preventable, but in reality, if you look at it from a pharmacology point of view, it may be as high as 95 percent. The five percent you can't probably do anything about is when people have allergic reactions, you know, that are immunologically mediated.

So things that we don't talk about so much, because you know, it's not sort of considered like adverse drug reactions, are therapeutic failure and adverse drug withdrawal events. I mean sometimes when we're trying to do the right thing in stopping somebody's medication, if we, with certain classes of drugs we do that too quickly, that could actually lead to people either having an exacerbation of an underlying disease that we didn't think they had anymore, or a physiological response at the receptor level, at which they are reacting to having that medication taken away.

Then sort of on the same line, but not quite, is therapeutic failure. So a great example of that would be somebody that is hospitalized due to congestive heart failure, that didn't have an ACE inhibitor or ARB, and didn't have a contraindication to any of those medications, and between those two, those things can happen anywhere from 1 to 10 to 12 percent.

So overall, 25 percent of all hospitalizations that come from the community, which would include the nursing homes, probably related to something that's going wrong in the medication, and something in that medication use process. So I mean that's, I think, a potential opportunity to try and deal with unnecessary hospitalizations.

So moving to the next slide here, so how often do these things happen? Well, there's been very few studies, but some of the bigger ones have been done more recently by Jerry Gurwitz at U. Mass-Worcester, and you can see the rates of adverse drug events in a typical 100-bed nursing home in a month, is anywhere between, you know, two to ten, and I've talked a little bit about the preventability there. Again, you see it's about half, but it's probably maybe higher.

But most of the problems are in the ordering of the medications or prescribing and monitoring errors, according to these investigators. So this is an interesting sort of single studies that used sort of this concept term "ADEs" to sort of describe everything. That's why I said I don't like it, because the reasons why are different for each of these events.

So this is one of the early studies that Ken Bookbar and colleagues did. They looked at 87 nursing home patients who were transferred to the hospital and then came back. They did chart review and they had a couple of doctors look at the medical records, to see whether they thought it could be due to some problem with the medications.

What they found in that group of people, that 14 people had adverse drug events. Now sort of surprisingly here, the biggest category was actually adverse drug withdrawal events, and you know, what one wonders is where that actually happened. They didn't describe that. Did that happen that they were discontinued off of medications in the nursing home, and that's what led them to the hospital, or were they in the hospital and then they had medications discontinued and went to the nursing home? So it's really not clear there.

Adverse drug reactions was the next most common thing, and therapeutic failure sort of came in there. Early on is where these things sort of happened, usually within the first couple of weeks of a med change, and as most of you know, that when people get to the facility, oftentimes it's just sort of trying to get the medications that are most important until people can actually work up the patient a little more, get some labs and vitals and that sort of stuff. And then, you know, during that first few days, maybe more medication changes might happen.

So that means that, you know, waiting a month to do a drug regimen review, which we'll talk about, you're going to miss a whole lot of these, especially with more and more people coming in for short stays in rehab. It's almost like you have to be in the facility on a regular basis, I mean at least weekly, looking at new admissions, and not just sort of taking everybody as they come.

Some interesting things: They found one seizure medicine with two of the more common drugs. That's a little odd, because they ain't that commonly used, and big surprise, you know. The more co-morbidities they had, the more problems they saw.

So what kind of medication errors are there out there? It's interesting. There's very few studies that have actually looked at the whole medication use process. But this is actually one from the UK. 55 care homes. They randomly sampled 256 patients, and they found 70 percent of people had something wrong in that medication use process.

Now again, not all these things actually caused problems, in terms of patient harm, but they're not correct either. You can see, you know, as we mentioned previously, the biggest problem is in the prescribing phase. They found some amazing stuff with dispensing, and I think part of that is that because of their laws of sort of trying to put labels on small packages that don't fit and put all the auxiliary labels.

Because if you look at the dispensing errors in the U.S. for nursing homes, you know, it's less than a couple of percent. I was really blown away by their med administration errors, you know. In this country, we have sort of a guideline that, you know, things have to be less than five percent, and here it was 20 percent.

But again, a lot of that was timing stuff, you know, when you say gee, this medication was given more than 30 minutes from when it was ordered. But for most medications, you know, the timing of things isn't that important.

As I mentioned, low potential for harm, but I think sort of most important is, you know, as has been mentioned by other speakers today, it's sort of like well, who's in charge, and how can we better communicate with each other, so that we all know what's going on at one time and we can help each other sort of avoid these things.

So what has been done to try and improve prescribing and monitoring, since those are the biggie areas in terms of things. So my colleague and I, Zach Markham, just published a paper a couple of years ago, and there's been a bunch of reviews in the last year or so, looking at well rigorously-designed studies, randomized control trials, that looked at people in nursing homes.

And you can see we actually did find 18 different studies. There was one that used pretty much everything but the kitchen sink. Two of them actually used computers, where physicians were given decision support systems at the time of ordering. Some had education. One was sort of multidisciplinary, where they took a geriatrician, a nurse and pharmacist and did things, and five of them had to do with clinical pharmacy.

So what did they find? Well, I can tell you the punch line, is none of them, not many affected hospital use at all. There was one that did, as you can see on the third slide there. Maria Carotti from a study from Australia. What they did was they used a pharmacist that was sort of a transition coordinator from hospital to nursing home, and they used an instrument called the medication appropriateness index to measure the quality of prescribing.

Clearly, it got better over that time period, and there was a relationship with decreased hospitalization and rehospitalization, I guess, would be the right way to say it. But the odd thing was that it had nothing to do with adverse drug events, which again makes me wonder well how, you know, what was it in play there that actually was doing it?

Some others again have looked at hospitals. Germanski looked at hospital. Furnace looked at hospital. Again nothing, no major changes, even though the quality of medications were improved. How about if we have a bunch of doctors do things, in this case two from Scandinavia. When they talked to the primary physicians, it resulted in a bunch of changes, but didn't change hospital use or adverse drug events.

If you do specific, you know, therapeutic class, like antibiotics for UTI, the choice of agents, the dosing of agents is way better, but it didn't change the number of people that went to the hospital for their UTI or not. Jerry Gurwitz and company have done a couple of different things, one of which was a study where they actually went to two nursing homes and they set up computer systems which, as you know in nursing homes, they don't have as many computers as they might have in a hospital situation.

You can see it was a pretty huge study. I mean, you know, we're talking about 1,100 or so people, and they put together alerts for doctors for renal dosing and use, avoiding potentially inappropriate drugs and trying to use better psychotropic drugs. All that seemed to work pretty well. But what it didn't change was adverse drug events.

And you know, prior to that, I think could be some of the things we'll talk about later on, about you know, alert fatigue and how they measured adverse drug events too. And as one of the other speakers mentioned, this SBAR-type approach that we take from the military, where we sort of organize our thoughts slightly different than what we learned as soap notes, what's the situation, the background, the assessment and the recommendation?

So they went after actually a group of type of medication that's a major cause of adverse drug reactions in nursing homes, which is warfarin. And, you know, it didn't change how many tests, I&R test measure how much anticoagulation was going on. But it actually did put them in range, the desired therapeutic range of I&Rs more often, and there was a trend, but not statistically significant decreased adverse drug events.

And so again, prior to the issue with these studies is even though it seems like 1,000 people is a big size, it's not, because let's just say that you had 20 percent of the people go in the hospital. Well, in a best case, 25 percent of the 20 percent were due to medications. If you're just looking at hospitalization, it's really hard to find.

There's a couple of newer studies. Somebody used a new software program that was put out by the American Society of Consultant Pharmacists. Nurses and pharmacists sort of screened for delirium that they had through the wraps and falls and the like, and looked at medications that are good cause and then tried to adjust those things.

It looked like it did decrease falls and delirium in that trial, and there was again a trend for decreasing hospitalizations due to adverse drug events, but it was not significant, and really all they used was ICN codes, which is not a good enough way to do that.

Finally, we threw everything at them, sort of a multidisciplinary drug review, and it, you know, improved the drugs but not hospitalization. So there's been a fair amount of work trying to improve the quality of medications in nursing homes, and I think there's been a lot that has been promising.

I think the tricky thing here is to have larger sample sizes to do these sorts of studies, and that you're probably going to have to use a combination approach. So I'm fortunate enough to be working with a colleague of mine, Dr. Steven Handler, on an AHRQ-funded project. We're actually using a pharmacist intervention that's IT-enhanced, where in real time, laboratory values are -- abnormal laboratory values go to a pharmacist, where they actually get a message in real time simultaneous with it, is are they on a medication that could be related with that abnormal medication?

Then after they review the case, they communicate directly with the physician, share that alert with them, and then help them try and resolve the situation, you know, and the idea would be that we could reduce the number of serious adverse drug events that end up in hospitalization. But that's, the answer to that is a few years away.

So I thank you for your attention, and I guess I'll turn it back to the moderator. Thanks.

LEWIS LIPSITZ: Thank you very much, Joe. So we've now reviewed several promising interventions, and I'd like to turn the line over to Evan Shulman to address some of the questions our participants have raised. Evan?

EVAN SHULMAN: Thank you, and thank you to all of our presenters. Briefly, Courtney or Rachel, could you put this back on Slide 2 for a moment? So a couple of other footnotes here. The information from this presentation will be available at the link that's been typed into the general chat box, and we also plan to have a recording of this session on there.

On this Slide 2 in the first bullet, you'll find the link that has other information about the initiative, such as the full funding opportunity announcement, and also information from a previous webinar that was on April 3rd. So you know, please feel free to access that website.

As I mentioned earlier, we won't be answering questions that are about the technical requirements of the initiative that was announced a few weeks ago. Those questions can be submitted to the email address that you see in Bullet 2.

With that, I'm going to start off by asking a couple of questions of our presenters that have been coming in. I apologize for those of you that we will not be able to get to everyone's question, and again those questions that are more technical in nature towards the opportunity, please submit those to the email.

So the first question is to Joseph Ouslander. In your presentation, you mentioned that there was something about a curriculum that we can follow in implementing INTERACT in our facilities. Can you mention specifics related to that?

JOSEPH OUSLANDER: Yes, I can. Thanks. We were supported by the Retirement Research Foundation, to develop a curriculum, an implementation curriculum which is a distance learning curriculum. It consists of multiple modules one each aspect of the program, and we can track online participation, as well as award continuing education credits for the program. We're working on upgrading the curriculum, to make it more interactive, and fun for staff to participate in.

So again, my email address is on the slide, and if people are interesting in that, they can send me an email. Thanks.

EVAN SHULMAN: Great, thanks. Next question is for Alice Bonner. How much time does the NP or physician extender or physician actually spend in the facility, and what happens when there's a change in condition at night or when they're not there?

ALICE BONNER: Thanks, Evan. So it really depends on the specific way that the collaborative practice is arranged. There could be a number of different ways that that might occur. So in some practices, the nurse practitioners or physician extenders may take call during the night on a rotating basis. So the

person covering that resident may or may not know that individual resident. It might be the resident of another nurse practitioner or physician on the team.

There may be arrangements with telemedicine services. We didn't really talk too much about that in the presentation today, but there are telemedicine services that provide off-hours coverage using either emergency department physicians or geriatricians or physician extenders. So that might figure in. So those are all really good things to consider. Who is going to respond when there's an acute change in condition during the day time, during office hours? Who's going to respond in the evenings and at night time, and who's going to respond on the weekends?

So there's a variety of ways to set it up. But it's an excellent question to consider at the very beginning of a new practice.

EVAN SHULMAN: Great, thank you, and I'd like to remind everyone, feel free to submit your questions through the general chat box. We're getting plenty of them in, but I just want to make sure everyone has an opportunity.

Next question is for Mary Jane Koren. Is consistent assignment possible, or is even desirable for residents with severe behavioral disorders? So in this situation, consistent assignment might cause staff burnout, and thereby actually increase staff turnover. Is there a way to have consistent assignment?

MARY JANE KOREN: That's actually a very interesting question. What we like to do is we like to think about behaviors as communication, that there's some resident need that's not being met, or that we're just not understanding what it is that they're trying to communicate to us. It may be that they're in pain, it may be that they're hungry, it may be that they need to use the toilet.

So very often, many of these behaviors are ways that residents with severe and profound dementia, just aren't able to communicate. What we do find is that when you have consistent assignment, very often because the aide knows that person really well, they very often know what it is that the problem is, because you know over a few days, they've kind of tried this, tried that, asked them if they wanted something to eat, taken them to the toilet. So they start to understand what these behaviors are communicating.

The other thing that many nursing homes do who are using consistent assignment is they let the aides decide among themselves which residents they're going to be working with, and if there are some residents that are particularly difficult, often the aides will agree among themselves all right, so you have six instead of eight, or you have seven instead of nine, whatever.

But again, we have found that when the nurse's aides really get to know the residents, usually the behaviors are much modulated and much dropped off, because again, they pick up on what's really being said with a lot of these behaviors.

EVAN SHULMAN: Great, thanks. We're going to move on to Joseph Hanlon. So it seems that a medication review is something that can help prevent hospitalizations. But since the pharmacist cannot write the orders, and may not know the provider, how can they convince the NP or physician to make changes?

JOSEPH HANLON: So you know, for sure, typically pharmacists can't write orders for medications or labs. But it's interesting. One of the things we're doing in our study is working with states. There's

actually a collaborative practice happening with our intervention pharmacists and the physicians. They've come up with agreement about what the interval ought to be for laboratory monitoring that's recommended by CMS in nursing homes.

And they set that up on an automatic basis, and as part of this intervention, improving communication between pharmacists and physicians, in the process of communicating with the physician, if they say okay, I recommend, you know, that we stop this medication and the physician agrees, they're actually able to implement that as an order for the patient.

That's not the real world, though. In the real world, people do monthly drug regimen reviews. It by law has to happen. I think the difficulty is that all these studies show, you know, very advanced, well-trained pharmacists that their only job had to do with, you know, providing the intervention for the study.

In the overwhelming majority of the states, the people that are consultant pharmacists are also the distributing pharmacists, and it's from a financial point of view, more money is made actually dispensing medications than it is doing the drug regimen review. Historically, people have undersold the amount of time that it takes and money that is required to do a good drug regimen review.

So for a typical 100-bed home, most consultant pharmacists probably don't spend more than eight hours per month in there. When I did consultant work, where it was a collaborative relationship with our medical director was also faculty. I mean for every new admission, I had to spend 30 minutes to do the work-up, and for every return patient took me 15 minutes. So I spent at least an eight hour day, if not longer, every week in the facility, and used varied times during the week to achieve those time periods.

Well, if you actually, you know, price that out, that's 10 to 15 thousand dollars a year in consultant costs. I can tell you that that's probably almost as much as ten times what most people do. The reason for that, I think, is that the payments for consultants actually doesn't come from CMS.

It actually comes out of the net profit for the nursing home, and given the margins of being so small, there's a lot of tension there, you know, not to overcharge, because if you lose the dispensing business, then you know, it's not worth it just to do the consultant stuff.

So it's sort of a complicated situation. I will say that there has been some movement and talk about disentangling consultants from dispensing pharmacists so it couldn't be the same company. That hasn't been passed completely, but at least it has been discussed this year and was out for comments, and I'm not sure what the final outcome on that will be.

EVAN SHULMAN: Okay, great. Thanks. Excuse me. I have two-part question for Joseph Ouslander. The first one hopefully is short. Both INTERACT and INTERACT-2 were mentioned.

Could you distinguish the difference, and then how do long-term care organizations demonstrate the value of INTERACT or any other long-term care evidence-based practice that they put into place in their facilities? How do they demonstrate the value of that to hospitals and health systems? Dr. Ouslander?

JOSEPH OUSLANDER: Yes, I'm here. I'm sorry. I had to turn my phone off mute.

EVAN SHULMAN: I'm sorry.

JOSEPH OUSLANDER: Thanks for the questions. The first question relates to the fact that the INTERACT program has been evolving over time. It started out as a tool kit, and we revised the tool kits, called the tools INTERACT two tools. And that evolved into an overall quality improvement program.

So we called the overall quality improvement program INTERACT, and the specific tools INTERACT-2 or the second version of the tools. We are going to be updating and improving the tools in the very near future. With regard to the second question, it's a very good question and it's central to this initiative. There needs to be close partnerships with hospitals in order to achieve the goals that we've been talking about.

So and I think that part of this initiative has to involve nursing homes meeting with key staff in the hospitals, and developing some better communication, mutual respect and deciding on what quality indicators they would like to see from each other, and just like I mentioned the quality improvement tool, which is a root cause analysis tool, learning from mistakes, learning from and not blaming each other, which is very common now, for problems.

But looking at situations where care could have been better, and working together to identify ways to improve care, and some of that involves objective measures by tracking specific transfer rates, etcetera. But there are many other aspects to it.

EVAN SHULMAN: Okay, great. Thanks a lot. The next question is for Alice Bonner. So if a resident does need an emergency room evaluation, how can the NP or physician extender or physician intervene, help establish a care plan or inform the ER team about what can be accomplished in the nursing facility, and potentially avoid an admission?

ALICE BONNER: So Evan, one of the really important things is to communicate with the emergency department, to let them know what is possible in the facility if the resident were to be transferred back and not admitted, or not admitted even for observation status. So if the facility is able to, you know, give IV medications, if they're able to get follow-up X-rays, for example.

It is not always true that the folks who work in acute care necessarily know what every nursing home can provide, and some small long-term care facilities are very different from subacute facilities, and we have facilities that have many more ways that they can care for people.

So communicating with the emergency department right up front, calling them and letting them know how to reach you as an advanced practitioner, how to reach the physician, how to reach the family, is all critical. Providing that data to the emergency department may make the difference between the person getting admitted, or being able to be transferred back to the nursing home, particularly the communication with a family member if the resident is too ill to be able to communicate well with the emergency department staff.

I'd also, if I might Evan, I just wanted to make a comment in response to one of the participants who has been putting information into the chat, the general chat section here on the site. It's an important distinction to make.

This was someone who was talking about the collaboration and supervision requirements with advanced practitioner, and she was pointing out that there are many, many states where nurse practitioners are practicing autonomously, and there's not a requirement necessarily for collaborative agreements or supervision.

So I agree completely with that, and it's very important to begin with, to check with the Nurse Practice Act and the Board of Registration and Nursing in your state. So I just wanted to make sure all the folks listening got an opportunity to hear that. So thanks.

EVAN SHULMAN: Okay, great. Thanks. I'm going to ask a question. Actually Lew, I may direct this at you, but it's really for anyone on the panel. Certainly, the primary focus of our discussion today and our initiative has been on long stay nursing home residents.

But a question came in that I want to ask, is are you aware of these concepts being applied in a home care or any other non-nursing facility type of setting, whether it be, you know, other congregated housing such as assisted living, or even just home and community-based services?

LEWIS LIPSITZ: Well maybe I'll start with that. Certainly, the concepts that we've talked about today, particularly the protocols, care protocols are relevant to conditions that people in a variety of home-based settings and community-based settings could experience. They certainly are relevant to people in PACE programs, for example, or for people in SCO, Senior Care Organizations that capitates the care of Medicare and Medicaid patients and provide that care in the home or in the community.

I think what I mentioned in my very first slide, when I had the bottom bullet, all of the above, is that it's difficult to do any of these care protocols if you don't have the trained staff to actually implement them. So in the home setting, we can certainly train families to be very effective in many of these types of interventions, but a lot of them really do rely on the trained staff to prevent the acute hospitalizations, because this is when a patient gets acutely ill and requires a higher level of professional involvement.

But I think as ACOs develop and as physicians and nurses begin to do more home-based care, they can come into the home or into the community center, and certainly deliver a lot of these interventions. I think the professional staff models we discussed are certainly more relevant to nursing facilities, as are the organizational changes.

Certainly, medications can be reviewed in communities. There are brown bag reviews that are often done in community settings to advise patients about how to talk to their doctor about their medications and make certain changes. So I do think that some of those interventions are definitely relevant to settings outside of the nursing facility. Would other people like to comment on that, Joe or Alice?

MALE SPEAKER: No, I think that's fine.

MALE SPEAKER: Lew, I think I don't have anything to add to that.

ALICE BONNER: Agreed.

EVAN SHULMAN: Great, great, thanks, and again, you know, we're primarily focused on individuals that are in nursing facilities right today, which is what this presentation is on, and what the initiative is on. But that doesn't detract at all from all of our interests to help people remain in their current setting, which may very well be hopefully at home, and keep them there for as long as possible. So I think that question hits at another core interest topic for all of us, which is keeping people in their original settings.

Probably we'll just have time for one more question, which you know, maybe we can also fan out to some of the other presenters, and this is for Joseph Hanlon. Have any studies been done with electronic

alerts and computer order entry systems, or alerts from the dispensing pharmacy, to prevent adverse drug events and hospitalizations?

JOSEPH HANLON: So I think I mentioned on one of the slides Dr. Jerry Gurwitz from U. Mass. actually did put together an implementation, a computer decision support system, and Alice probably can talk more about it than I can. My understanding is that they developed a rule for these alerts, and then implemented them and made them available to physicians to receive them.

I think one of the issues with alerts is that they're just that. They're an alert, and without having all the other information to, you know, weigh the benefits and risks of paying attention to that alert, sometimes you can just get alerts that aren't very helpful to you, and get fatigued by them.

I think that's part of, I think, the problem of trying to improve quality of prescribing in nursing homes. I mean we have sort of an odd system in this country, where you know, there's guidelines for surveyors, but the quality is not sort of a team responsibility. It's the nursing home's responsibility, and yet you know, the communication between things are not, you know, not what we would like to see it.

And then many of the sort of the quality measures, especially for medication stuff, you know, nobody's ever tested to make sure that if people have a problem with that issue, that it actually leads to bad outcomes. I was just recently involved in the updated DeBeers criteria, for which CMS has pulled some of these things.

And it was striking to me that we ended up removing almost 25 of the pre-existing criteria that would have been carried along, in many cases for decades, because when you actually went to look for rigorous evidence that supported the recommendation, it just wasn't there. You know, I think that what's nice about this particular group that you can find online at the American Geriatric Society, is that it actually provides all the references and the evidence-based tables for why they made the particular recommendation, given the strength of studies and the evidence for it, and also strength of the recommendation.

I think we need to have more transparency about that, you know, before we start plugging things into computers, because if what we're plugging in there isn't particularly helpful, you know, then it doesn't matter that you're getting it in a more convenient, easy to use way.

You know, the most important and easiest thing that we learned in hospitals is that renal drug dosing would be a good thing to do, you know, in hospitals. There was a subacute study that was done at Kaiser Permanente at the pharmacy level for outpatients, and the way it worked was if they were on one of 20 or so drugs, they're primarily renally cleared.

They couldn't actually print the label to dispense the medication until they actually checked their renal function, and made sure the dose wasn't too much for that person. So I think as we're able to merge lab and pharmacy and MBS data in real time, like we're trying to do in some of our studies, I think there's potential to be able to do that in the future at the pharmacy level as well.

EVAN SHULMAN: Great, thanks Joe. That's going to conclude our session for today. I want to thank everyone, but especially our presenters, who made special arrangements to be available and prepare and to do their presentations. We really appreciate your interest and look forward to a continued partnership and collaboration with you.

For all others, again the links and email address are listed on your screen right now and on Slide 2 of this presentation. Please send your questions to that email address and access the information through that link.

Thanks again, and looking forward to more communication about this initiative, and just in general about improving the care of the lives of the residents within the nursing facility, and those that are not in them. So thanks again, and have a great day everyone.

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