Teaching Nutrition Through Theater, Stories, and Cooking

Moderator: Alice Lockett, MS, RD, LD, Senior Nutritionist, Food Stamp Program, Food and Nutrition Service, U.S. Department of Agriculture, Alexandria, VA

Connecting with Kids: Using Live Theater To Communicate Your Message

Sandra Spann, MS, RD, Program Manager, South Carolina Department of Health and Environmental Control, Office of Public Health Nutrition, Columbia, SC

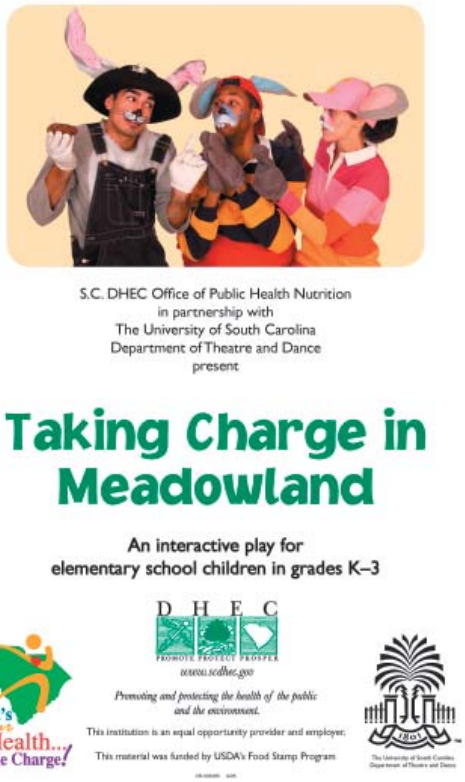
Good morning. The initiative that we started in South Carolina with Food Stamps Nutrition Education was part of our marketing campaign, where we used the "Take Charge of Your Health" material that was developed in Georgia. The process began when we hired a professional to conduct focus groups with middle school kids and WIC mothers. It was decided that our central message should be "It's Your Health...Take Charge!"

The goal of the campaign is to encourage South Carolinians to accept personal responsibility for making health food choices around nutrition and physical activities for themselves and their families; motivate individuals to make healthy choices by providing easily understood nutrition and health messages; and promote life-long healthy habits.

We used the following messages in our play:

- Take 5-A-Day;
- Take 6 or More Whole Grains a Day;
- Take Action.

The play, entitled "Taking Charge in Meadowland," incorporates these messages in a humorous story about two mice named Hugo and Chloe and a hungry cat. The play uses interaction, music, problem-solving, puppets, and lots of laughter to help convey the message. The objectives of the play are to communicate positive messages to children about nutrition and physical activity and food through live theater; increase the understanding that eating healthy foods and being active can be fun; and to sustain and reinforce the messages after the performance.



We partnered with the director of the Acting Department at the University of South Carolina as well as some of the students in the Department of Theater and Dance. The students provided experience in script writing, puppet making, and set design.

Before the play, we asked third graders how many servings of fruits and vegetables they needed every day, if they could identify a healthy snack, what food gives you strong bones, and how many days a week do you need to play or be active. A pretest, along with some posters, is sent to school about 2 weeks before we come in with the play. We have done this in five counties for about 18 months and we estimate that 13,000 students have seen the play.

The play begins with the narrator telling the kids he has a story about two mice that live in a faraway land. Hugo is not very healthy, but his friend Chloe is. Chloe tries to encourage Hugo to exercise by jumping rope, but Hugo is so out of shape that he can't. Then, Chloe criticizes Hugo for eating hamburgers, soda, and pizza. Hugo does not understand what is wrong with the food he is eating and, since most kids love these three items as well, they side with Hugo. Chloe continues to talk to Hugo about eating healthy things like apples and other fruits and vegetables. She gets the kids involved by asking them to name some fruits and vegetables. Chloe also gets the kids involved by asking them to stand up and tell Hugo to "take charge" every time she says "Hugo, it is your health." The kids really enjoy this part.

Then, the cat enters the picture and leaves out chocolate chip cookies to try and catch the mice. Of course, Hugo wants the cookies and when he goes to eat them the cat comes after him. Since Hugo is not strong, he cannot fight the cat, but his friend Chloe comes to the rescue. At the end of the play, the narrator comes back and says, "Please, I am giving you a proclamation. I hereby proclaim that every mouse in Meadowland will eat five fruits and vegetables a day." Then, he puts up snacks, vegetables, water, and milk for the kids to see.

After the play, the kids receive activity books and a play program that they are encouraged to take home and share with their parents. The activity book contains a recipe for trail mix which Chloe tries to convince Hugo to eat during the play. Hugo and Chloe help the kids resolve to walk to school, play and exercise every day, eat fewer cookies, and maybe more trail mix. They tell them everything in moderation; that teaches the kids the word "moderation." Even though it is a three-syllable word, they know what moderation is by the end of the play. At the very end, Hugo appears in his strong suit with a barbell, everything is wonderful, and they all live happily ever after.

There is also an after-the-play classroom activity. The teachers ask the kids how they liked the play, what their favorite part was, to name two things they learned, and to name two things they would change. Then, the children draw pictures of themselves using the concept, you are what you eat. They also draw pictures of foods that are good for their bodies.

We also give them a posttest to take in the classroom. We collect the test and enter them into EPI3. A few weeks ago, we entered 4,500 tests (pre and post). The preliminary results indicate a significant increase in the understanding of the nutrition concepts. For example, on the pretest, 31.6 percent of the kids answered the question on "How many servings of fruit and vegetables they need daily?" correctly. On the posttest, that percentage increased to 69.7. On the pretest, 81.9 percent answered the question about healthy snacks correctly. On the posttest, this increased to 88.8. Finally, on the pretest, 51.8 percent answered the question about playing correctly. On the posttest, this increased to 66.1. These results will be entered into the SAS Model for validation and mean results.

We also ask the teachers to complete an evaluation. We ask them to tell us:

- the valuable things that the students learned from the play,
- how helpful the educational materials were,
- if they think the students will retain what they learned as a result of watching a live performance and using the classroom activities, as opposed to watching a video or attending a class structure, and
- what they liked best about the presentation.

The comments that we received were that the reinforcement of the messages throughout the play were great; the interaction with the students was great; the live performance was

so much better than a classroom lecture; and that this was the best thing I have ever seen, every elementary student should see it.

We are developing interactive CDs that will be given to each teacher after the play so that they can watch the play again, stop it in the middle, and then do an activity. We are going to have a proclamation for the teachers and each child to fill out and put on the wall, and we are going to do some other activities. Also, each teacher will get a tool kit and an interactive CD for the children who have seen the play.

Nutritious Story Time: Teaching Nutrition to Children and Parents Using Story Books

Mary Stickney, RD, LD, Public Health Nutrition Supervisor, Florida Department of Health, Winter Garden, FL

Good morning. I am very excited to share Nutritious Story Time with you. I know that all of you know nutrition and how to teach nutrition, so what I am going to do today is share my expertise in early childhood education, and give you little tips on how to have a successful story time. In other words, how to gain cooperation from the little munchkins so it doesn't feel like things are out of control in your story times.

Before I begin, I would like to share a story. As part of one of the story time sessions, I passed out fruit and vegetable "Seedies" to the children as they came in. Moms and the children come into the story time together and all the children were seated, holding their "Seedies." I was getting ready to start and some families were coming in late and some children went way to the back and sat down. So, I naively tossed "Seedies" to the children in the back of the room. Since they were small I gently flipped them to the children. Before I knew it, I had the "Seedies" flying all over the classroom. Our first lesson today is that children model what their teachers do.

Why read to children in food programs? Teachers know that the early years, before a child even starts school, are critical to how a child will perform in school. They therefore need a stimulating home environment. In story time, I'm not trying to teach the children to read, I am modeling for parents how to read and how to provide literacy activities at home. We have a wonderful opportunity in food programs to provide parents with information for providing good nutrition to their children at home, and also providing the parents with the tools to provide those literacy activities. I have found that the parents absolutely love it. They love the extra attention that I give their kids and that they are getting information on what to do with their children to get them ready for school. This is especially important to our families in poverty. They know that education is the tool for their children to work their way out of poverty.

We have a wonderful opportunity of seeing these children before the schools ever see them and of providing the parents with information. Story time sets the stage for the learning environment. Attitude is everything in learning. I am going to show you how I sneak little nutrition messages into story time, so that the kids and the moms are listening to the story time, and they start getting into it. The parents are happy, the kids are having fun, and their attitudes start becoming more and more positive about being at WIC for this second nutrition education contact. Their attitude becomes more positive so that when I get to the education part of the nutrition for the moms, they are receptive and ready, and the children love it.

Sometimes I feel like Santa Claus at work because, when I go out to the lobby, the kids come running up and give me hugs and kisses and they ask if I'm going to read them a story. It is obvious that they just love the attention they get.

The other thing that has happened is that the staff enjoys story time. The nutritionists that I have trained say that at first, it is a little bit of extra work, but once they got it started and implemented, it has been easy to keep it as an ongoing program. One paraprofessional e-mailed me after I helped her with her first story time. She said, "It was the best thing I have done in such a long time. The little children hugged me afterwards. It was so rewarding. Thank you again for acknowledging me. You made my year."

What we are going to do next is go through what I call it the steps for story time. Step 1 is to invite the children and parents into the room for story time. You want to make the children feel welcome and comfortable, and one way to do that is by offering them a stuffed vegetable to hold while you are reading the book to them. I often say, "Here is a fruit or veggie friend for you to hold." I tell him that he can hold Mr. Celery while I read the story, but after that he will be tired, so he will need to go back in the basket for a nap. I try to make everything a game. Typically, if you tell children the rules right up front, you have gained their cooperation. Then, before I read, I ask them questions. The dialogue might be something like this. What are you holding?

AUDIENCE: Corn.
MS. STICKNEY: What color is your corn?
AUDIENCE: Yellow and green.
MS. STICKNEY: Have you tasted corn before? Have you eaten it before?
AUDIENCE: No.
MS. STICKNEY: No. Has anyone tasted corn? Can you help out? Who has tasted corn? What does it taste like or feel like in your mouth?
AUDIENCE: Sometimes sweet.
MS. STICKNEY: Sometimes sweet. It is good. Sometimes a little crunchy.

We call this, in education, "accessing prior knowledge." This is going to be more meaningful to the children when you start reading a book on Give Me 5, or 5 Fruits and Vegetables A Day. I go around to each child and ask them to identify what they are holding. If they don't know, I get the other children to help out. Then, we get started with the story.

Step 2 is to read the book to the children. You want to read with enthusiasm and get the children involved in the story. One way to do that is to ask them to hold up the fruit or vegetable when they see it in the story. One of the books I have been reading recently is called, "Give Me 5." It is a wonderful interactive book. The children can learn several things from this book. First of all, they can learn the 5-A-Day message that everybody needs to eat at least five fruits and vegetables every day. They can also learn some elementary counting skills, to identify certain vegetables and fruits, and to get up and be physically active. I think the book appeals to children because it is colorful, it has a lot of vibrant characters, and it really comes to life. Remember that children that establish good, basic eating habits early in life tend to continue the same good, healthy, basic eating habits throughout their lives and they will tend to be healthier.

You really want to read with expression. You can gain children's cooperation just with your voice. If you have a lesson plan that is interactive, you are reading with excitement, and making it fun, the children will behave in the classroom. Another way to get the children involved is a technique called dialoguing when you read. We have "Let's Eat and Feast for 10." I have read through this once uninterrupted and then go back. On the first page says, "One cart into the grocery store." I say this to the children and then ask, "What is he going to do next?" This gets them thinking about what is going to happen next and somebody always comes up with, "They are going to shop for food."

We were very happy with the success of the book. In fact, we did an informal survey of about 700 parents and asked them if their child liked the book, and if their child wanted the book to be read to them when they got home. About 83 percent said, yes, the child loved the book and wanted it to be read to them frequently.

I have another wonderful book entitled, "Let's Eat." If most of my class is Hispanic, I use this one. It is about a family gathering around a table for dinner and Mom trying to get everyone at the table to eat together, but somebody is always missing. I will ask the children, "Who is missing from the table now?" There is always an empty chair and there are little clues in the book. This encourages the kids to listen because they know I am going to ask them a question.

Step 3 is to play a game with the children to reinforce the message of the book. Step 4 is to make a craft with the children. For example, we often make paper plate crafts with five fruits and vegetables. Step 5 is to sing and dance. Sometimes, you can combine this with the craft. For instance, the children love to dance with paper plates. Step 6 is to pass out books to the children. They have said it was one of the best things about their children attending at WIC.

Another thing I do with the kids is have a little energizer break. It's another way to reinforce the kids' understanding of fruits and vegetables. I use a CD called, "Give Me 5 A Day." When the kids hear the word fruit those that are holding a fruit are supposed to stand up. If they are holding a vegetable they stand up when they hear the word vegetable. This is a

literacy skill. Literacy is speaking, listening, writing and reading, not just the ability to read. Plus, the active movement helps the child retain that information.

In step 4, it is critical to provide nutrition education during this time. I sit down on the carpet with the kids and the moms. We begin making crafts together that emphasize the theme of the book. This is when the nutrition education takes place with the moms. By then I have warmed them up, the kids are having a blast, and the moms are relaxed. At this time, I use the adult education techniques of anchoring and using a facilitated type of dialogue. For instance I will throw out a question like, "Where does everybody shop for their fruits and vegetables?" Or, "Is anyone having any difficulties with their child not eating fruits and veggies?" Then, I may ask someone, "What do you do when that happens with your child?" The purpose is to get the moms talking together. I am facilitating and guiding it, but it really turns into a moms' group. I find that the moms enjoy this and they learn. I'm sure that they learn more from this than from me standing up and lecturing them. There are interruptions, but you know that once you start, you need to be patient, have the ability to multi-task, and not mind being interrupted by the kids. There may be children asking questions or a little baby crying in the background, but, we work at a health department and with WIC so we expect that and just move beyond it.

My next step with story time is to begin training other nutritionists across the State of Florida on how to implement story time in their health departments. I recently received a grant from the FNS and I wrote a training manual this summer. Now, it is time for you to make a commitment to your next step. Go ahead and jot down an idea and, when you leave here, think about how you will implement it.

Do Children Eat Messages? Hands-On Nutrition Education with Fresh and Affordable Healthy Foods

Lynn M. Walters, M.S., Program Coordinator, Cooking with Kids, Santa Fe Partners in Education, Santa Fe, NM

Good morning, it is nice to be here. On your tables, you will find some apples. We are not going to do a tasting, but please just take them with you and enjoy them as a healthy snack later in the day.

I wanted to give you a couple of facts about apples. There are over 7,000 varieties of apples grown today and, of these, about 100 are grown commercially. If you go the grocery store, however, you will typically find less than 10 varieties. My point is that while some of us may lament about the lack of diversity of fruits and vegetables, they really are out there and part of my mission, as an educator and a person who loves fruit, is to help people experience tasting fruits.

I'm here to talk to you about our work in Cooking with Kids. The goal of this program is to improve children's nutrition and also to engage elementary school students in hands-on learning with fresh affordable foods from many different cultures. We currently serve the low-income, elementary school children of Santa Fe's public schools. These are children in kindergarten through 6th grade. Over 75 percent qualify for reduced-price meals; 72 percent are Hispanic; about 23 percent are Anglo; and the remainder are Asian and Native American.

Cooking with Kids' mission:

To improve children's nutrition through engaging elementary school students in hands-on learning with fresh, affordable foods from diverse cultures.

We serve:

- Low-income SFPS elementary school children
- 75% qualify for Free/Reduced price school meals
- 72% Hispanic
- 23% Anglo

Cooking with Kids™ FNS 2005

www.cookingwithkids.net

Cooking with Kids™ FNS 2005

Cooking with Kids was launched in 1996 in two elementary schools. The program was inspired by food acceptance research at Cornell. Antonia Demas cooked with half of the elementary students in one school; the other half of the students made up the control group. She cooked different types of foods from different cultures and then served them in the cafeteria in little cups. She found that the students who participated in the intervention ate 5 to 20 times as much as the control group.

As a restaurateur, I wanted to help to improve school meals and create situations where all children could have delicious and nutritious foods. Last year, we operated in 10 schools, with 3,900 children. We provided 1,930 hands-on classes. Cooking with Kids cafeteria meals are served now in all 21 Santa Fe elementary schools several times a month, and we have a number of community collaborations.

Cooking with Kids has three components: tasting classes, cooking classes, and cafeteria meals. Since the children do a number of different activities they are learning several things. We use real knives, but we do not hand them out--we have one adult supervising one child using a knife at a time. The children learn a respect for knives. The children also measure ingredients, so they are practicing math skills. Our curriculum is age-appropriate, currently for levels K-1, 2-3, and 4-6; it is bilingual in Spanish and English, and interdisciplinary, meeting academic standards in math, reading, science, social studies, music, and art.

The tasting classes are our sustainability component. They are taught by classroom teachers and provide sensory experience with fresh fruits and vegetables. The classes are about exploring preferences, i.e., it is okay if you like the Gala apple and I like the Honey Crisp. Children don't often get that chance to choose, so this is really fun. We provide teacher training on how to do the tastings. Our cooking classes are taught by food educators with teacher and parent volunteers. In the cooking classes, students prepare fresh, affordable food from different cultures. Lessons provide nutrition information, fruits in history, math, food general activities, and take-home recipes. Some of the foods include Fresh Green and White Fettuccine with Tomato Basil Sauce and an Ecuadorian potato dish called Llapingachos that we serve with New Mexico red chile.

Our program is all about looking for that balance that will work for food service and include as many fresh, home-cooked foods as possible. We have wonderful grocery store partners. We receive food for the cooking classes. Every grocery store in Santa Fe, with the exception of one, is willing to partner with Cooking with Kids and provide us with the supplies we need. It is amazing how much people care about children's health.

One of our other collaborations is a farm-to-school program. For this program, we worked for our public schools and our New Mexico Department of Agriculture to support legislation that would encourage schools to use local produce. Once the legislation passed, we assisted in the implementation. The program started in three schools and is now in eight.

One of our premises is that children are never required to taste the food; it is voluntary. During one of the programs, I had a third-grade girl who loved cooking but, due to allergies, would not eat a thing. This was OK and we never pressured her to taste anything we cooked. When she was in fourth grade her allergies subsided a bit and she started eating a few things. By the time she was in the sixth grade, she was eating almost everything. This confirmed for me the psychological benefit of not saying, "Just eat it because it is good for you." Or, "Take a little bite, try it."

Evaluation is a challenge. We have conducted classroom evaluations, annual teacher surveys, family questionnaires, and partnered with the Prevention Research Center. The teachers appreciate the partnership and provide us with positive feedback. One teacher said, "I would like to emphasize the benefits to every child at every age. The integration of social studies, music, math, science, and language is a teacher's dream."

This past year, we developed a family questionnaire that was different from what we have used in the past. We sent it home in envelopes with 3,100 children. While the return rate, which was quite low, doesn't allow proclaiming any final results we're impressed with the feedback that was returned. Over 50 percent of the respondents said that they used Cooking with Kids recipes at home and that their children helped cook. Over 95 percent believed that Cooking with Kids was a valuable educational experience for their families. In terms of behavior change, almost 78 percent reported that their children had shown greater awareness and interest in choosing healthy foods, 62.8 percent reported that they ate more meals at home together, and almost 65 percent reported that they eat more fruits and vegetables at home.

We have heard many anecdotes over the years from parents such as, "My child would only eat pinto beans, and now he really likes black beans." Parent comments also included: "Because of the program, my children love to try and make what they have learned. When we shop at the store, they remember ingredients that were used and enjoy shopping and picking healthy food. They also like to help cook and learn how to make whatever we are having for dinner for that night."

We worked further with University of New Mexico Prevention Research Center to pilot test more science-based evaluations. Our evaluation activities included not only models, but developing and testing the student assessment instruments. There were interviews with teachers, parents, food service staff, and others throughout the country that have used the Cooking with Kids curricula, and we conducted several focus groups. The focus group themes and student-level outcomes that emerged were that classes integrate academic and applied learning. They learned cooking and life skills. Students work together cooperatively and they have a great time doing it. Students eat new foods, and they gain pride and confidence.

Voices of the students

"See what cooks can do!"
"It tastes good because we made it."
"The green basil made the sauce taste good."
"I didn't think I was going to like the bell peppers, but then I did."
"There is joy in my mouth now!"

Family-level outcomes included the students sharing information about cooking with their siblings at home, families are using those Cooking with Kids recipes, and families now feel more confident that children can help at home. Families also feel empowered and valued and are, therefore, volunteering at school. We have heard from some principals that over half of their total parent volunteers come from Cooking with Kids classes.

Finally, I want to pass on some things I have heard at other conferences. Food preparation skills are an area that needs work. Role modeling is another that I think we all agree are important. I also want to pass along some of the challenges of using fresh food. It took me a long time to realize why everybody doesn't use fresh foods. Then, I realized that if it is perishable, you have to get the food, store it, and take care of it. However, I think that the advantages outweigh the challenges. Using fresh, healthy foods in classroom presentations invites enthusiasm, participation, and attention. Cooking together supports positive relationships among teachers, students, and parents. Having an active role in preparing and choosing food encourages positive feelings about healthy eating.

I would like to end with this quote from Tim Lang and Martin Caraher, who are researchers in England: "Cooking can be viewed as enslavement or freedom." I think we have all experienced both of those sentiments.

Thank you very much.

Energized in the Golden Years: Nutrition and Fitness Initiatives for Older Adults

Moderator: Sheldon Gordon, MS, RD, LD, Nutritionist, Food Distribution Division, Food and Nutrition Service, U.S. Department of Agriculture, Alexandria, VA

Characteristics of Older Adults Served by FNS Programs

Jenny Genser, MPP, Program Analyst, Office of Analysis, Nutrition and Evaluation, Food and Nutrition Service, U.S. Department of Agriculture, Alexandria, VA

I am going to talk to you about the participation of older adults in our nutrition programs. FNS offers a variety of nutrition programs. Many of them are targeted to pregnant women, infants, or children, but some are open to everybody and a few are targeted to older adults.

We have exhaustive data on food stamp participants. We don't have much on most of the other programs. So I will be providing a broad overview about who is served. I'll start with a laundry list of programs that are serving older people. Regarding the Food Stamp Program, in 2004, we had nearly two million. We estimate that about one million older adults are served by food pantries. A somewhat smaller number are served by food kitchens. That is considered part of the Emergency Food Network, which is something that FNS supplies indirectly by providing commodities.

The Senior Farmers' Market Program is a program that provides coupons so that older adults can shop at farmers' markets or food cooperatives and get fresh fruits and vegetables. That program has served, in 2004 and 2003, about 800,000 older adults.

The Commodities Supplemental Food Program, which provides commodities, used to be provided to children, infants, and pregnant women, as well as older adults; however, more and more of the first groups are being covered by the Special Supplemental Nutrition Program for Women, Infants, and Children, the WIC Program. So most of the people served by the Commodity Food Supplemental Program are now older adults and it is about 460,000.

The Child and Adult Care Food program is a program in which FNS pays for meals for day care centers. Ordinarily, you don't think of day care centers and older adults in the same settings, but we do serve older adults who are living in houses, but go during the day to a day care center, and we have 100,000 older adults.

The Nutrition Assistance Program in Puerto Rico serves about one million Puerto Ricans, but we have no data on the characteristics. We don't know if the number being served is 10 or 20 percent or some other percentage.

The Food Distribution Program on Indian Reservations serves about 100,000 Native Americans on reservations. We have a 15-year-old study that says that, at that time, about 15 percent of the caseload consisted of older adults. We don't have any reason to suspect that it has changed radically since then, because the overall numbers have not changed much, but we really don't know if that figure is still current. It could be 15,000, more, or less.

That is an overview of all of the different programs that serve older Americans. Now I am going to go into some detail to give you a picture of who these older Americans are that receive one of our benefits, which is the Food Stamp Program. One of the things that is most striking about the elderly, compared to other kinds of households, is that they tend to live by themselves. Most of them are women, about two women for every older adult who is a man, and so they tend to be widows or women who maybe never married or are divorced. Some of them are part of a married couple. Just a few of them live with children. Two-thirds of them, however, live alone.

When you look at average household size, food stamp benefits are given to a household, rather than to individuals, although individuals are covered. The older adult household will receive a smaller benefit because there are fewer people in it. By contrast, if you look at all other household types, the average household size is close to three persons. The majority of older Americans who receive food stamps receive some combination of Social Security Old Age Benefit or Supplemental Security Income (SSI). Only a small percent, less than 10 percent, don't have either of those income sources, and only about 1 or 2 percent have no cash income whatsoever. That compares to 12 percent of the overall caseload in general. So we have quite a different picture of income sources from the elderly versus other food stamp participants.

How poor are these people? Well, they are poor. They are not as desperately poor as some of the other participants. As I said, very few have zero income and compared to the rest of the food stamp caseload, not many have income below half the poverty. Eighty-eight percent have income below the poverty line. So we are talking about a poor group of people. We are not talking about middle-class people here. We are talking about people in need. And, of course, you have to realize too that these are people with higher expenses--medical expenses and difficulty getting around. So, they have challenges.

It is a myth that most older adults receive the minimum benefit. Only one sixth of Food Stamp participants over the age of 60 receive the minimum benefit. However, they do receive a smaller benefit than other people. The average benefit received, on a per-person basis, which balances out the difference in household size, was $65.00 in 2004, compared to $86.00 for the food stamp population overall. Not many older adults receive the maximum allotment.

The average age of an older food stamp participant is 71. Now, you realize we are including ages 60 to 64. Food Stamp Program rules consider you to be elderly if you are over the

age of 60 and, if you are elderly, you have some special entitlements. You are entitled to a higher asset limit. If you receive food stamps, there is an asset limit of $2,000 for most households. If one of the members is over age 60, the household can have an extra $1,000. We are going to talk more about assets in a moment.

One of the striking things about our older adult food stamp population, compared to other food stamp populations, is that they are much more likely to be foreign-born. Nearly 15 percent of all older adult participants are naturalized citizens who were born in another country. Another 12 percent are legally resident non-citizens.

The Northeast Region has the highest percentage of elderly participants. Next are the Mid-Atlantic and Southeast Regions. In the middle are the Midwest, Southwest, and Mountain Plains Regions. The region with the lowest percentage of elderly participants is the Western Region. One factor is California, which dominates the Western Region. If you receive Supplemental Security Income, instead of getting food stamps, you get a larger SSI payment. It is called Cash Out. So, you don't have any SSI participants in California who also receive food stamps. As a result, there is a much smaller elderly population in California. It also might reflect the age distribution of the country. An interesting point is that there is a low rate in California and a high rate in the Northeast.

We have been talking about participants, but we know that many low income elderly do not receive food stamps, and this is a discussion of some of the reasons why. A major reason is that many of them do not qualify for food stamps. I mentioned that "asset test." The "vehicle test" is not much of a problem with elderly people and, in fact, it is even less of a problem now since we have relaxed the "vehicle test."

When you look at cash, a lot of elderly people have squirreled away money for years and years and this thriftiness has come back to bite them because they don't qualify for food stamps because of their assets. We estimate that about a third of low income elderly are asset ineligible, compared to between 15 and 20 percent, of everyone. Even if you don't have the assets and you are eligible, the participant rate among the elderly is half that of the U.S. population as a whole; fewer than half. About one quarter of all older adults who are eligible for food stamps receive benefits, compared to 55 percent of the rest of the U.S. population.

Why is that? There are some reasons. One is that they qualify for small benefits. We have some data showing that if you look at all eligible older adults who do not receive food stamps, half of them qualify for only the $10 benefit per month. So maybe the $10 benefit isn't received by a majority of food stamp participants, but it certainly would be received by a large chunk of those who are not participating. Two-thirds would qualify for a benefit under $50.00 per month.

There are also other reasons for not participating. That can include a perceived lack of need, which may be tied into the small benefits. You might think $10 won't help me that

much—"I can get by without $10"--whereas if they qualified for $150, maybe they would feel that they needed it more.

Another reason is difficulty in applying for benefits. Maybe you can't drive, you are in poor health, you lack transportation, or it is hard to get to the food stamp office. You might be old and tired and not want to wait in a waiting room with screaming kids. There are a lot of factors like that, especially if you are only going to qualify for $10 or $25. Older adults are less likely to be food insecure than other adults, and finally, there is a tradition of wanting to rely more on themselves. Again, you have the fact that they are more likely to have more assets than other low-income people.

Where did I get this information? The statistics came mostly from the National Data Bank, which is data administered by FNS. How many people participate in a Child and Adult Care Food Program and, of them, how many are in adult day care homes rather than children?

Food stamp figures came from the 2004 Food Stamp Quality Control Data, and we have a report with the characteristics, which includes some statistics on elderly. That should be released by the end of the month depending upon how fast printing and distribution occur.

We had the data that came from the participation rates. There is a report, "Participation Rates in the Food Stamp Program," that you can access through the research section of the FNS website. This report compares the participation rate of older adults to others. And finally, we have the Emergency Food Assistance System Study. Thank you.

Formative Research on *Eat Smart, Live Strong*: A Nutrition and Physical Activity Intervention for Older Adults

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DR. MIDDLESTADT: My job this afternoon is to talk to you about the formative research involved with designing an intervention for older adults, both for eating and physical activity.

I have two main points. My first main point is to describe to you how the Academy for Educational Development (AED) BEHAVE framework can be used to select and design interventions. Then, I will present some results from a piece of formative research, a "promising practices review," that we used to help develop an intervention.

Our charge that guided the formative research was to design an intervention to promote healthful eating and increase physical activity--we were primarily thinking about fruits and vegetables at this point in time. Our target audience was low-income adults between 60 and 74 who were participating in the FNS programs.

We took traditional formative research steps. We did a literature review and a promising practices review. We received input from stakeholders based on some conversations on the telephone and lots of meetings, and we put them all together into recommendations for an intervention.

First, let me describe the AED framework. It is very simple. It puts, in four columns, the four major decisions that you need to make in terms of designing an intervention. AED has developed this framework for use in providing technical assistance to design interventions. To design interventions, you need to describe the who, the what, the why, and the how. The reason we used the framework is that it captures the four decisions. Something happens during intervention design--people often jump to the tactics. For example, let's say that we want to design an intervention for young kids. Many times people will say, "Let's do a poster or a t-shirt." We call that a rush to the tactics, a rush to the activities, without thinking of the logic of who we want to do, what, and why.

What we found, if we lay out the intervention logic of making four decisions, is that the decisions of the activities, the last decisions, are more likely to be based on the earlier three decisions. The BEHAVE framework helps capture the decisions. It helps organize and summarize the research results. It gives you a lens. Look in the research for the who. Look in the research for the what. Look in the research for the why. Look in the research for the how. It provides you with an organizing framework. It helps with discussion. It often happens with interventions that are just based on text that people have a different idea about what is going on. If you summarize it on a sheet, then you say, yes, now I understand what you mean. Most importantly, it helps you tease out the logic. This is who I am approaching, this is what I want them to do, these are the factors underlying that behavior, and therefore, these are the activities.

BEHAVE Framework

Who	What	Why	How
Priority Group	Behavior/ Action	Key Factors/ Determinants	Activities
Who is being addressed?	What we want the priority group to do?	What factors are causes of this behavior in this group?	What activities can improve the factors and thus facilitate the behavior?

So again, it is who, what, why, and how. Who is our priority group? What do we want them to do? Before you decide what you want to tell people, we need to decide what we want them to do. The BEHAVE framework makes you be very specific about what action you want the target population or the priority group to take. Once you have that, then you look for causes, key factors, determinants. What are the things underlying this specific action in this specific target population? Once you have those three, then you can move to activities; so that your activities can fit the factors.

If you have an activity and if the underlying factor involves certain skills, you need some kind of activity where people can build skills. You shouldn't have just a communication, which doesn't necessarily teach skills. Once you know these three, then your activities follow.

Has anybody heard of Wheeling Walks? This is an intervention that was implemented in Wheeling, West Virginia. It was for sedentary folks, 50 to 65 year olds, that didn't walk or do any kind of physical activity. The action was not to do moderate exercise, but walk 30 minutes on most days. By the way, they could do 10 minutes at a time. The factors that we found in the literature were a lack of time. Lack of time is probably a barrier to many kinds of healthy things that we should be doing, but it certainly comes up in physical activity. A place to walk is another one.

There was a comprehensive program with several activities. One of the activities was a paid media campaign emphasizing that you have the time. The paid media tried to tell the audience that you can do 10 minutes at a time, and that helped people get over the barrier of the lack of time because they had just 10 minutes. The other thing Wheeling Walks did was not only work on the perceptions, the inside stuff, but the campaign worked in the community to get some better trails and to get some places for people to walk.

How many of you have used the term "promising practices?" It is a way of doing formative research. It is increasingly being used in national programs to help design interventions. The challenge with doing promising practice reviews is how to organize the findings. You read all of this research and you need to figure out how to organize it.

What I will discuss is a process for doing a promising practices review and how we used the BEHAVE model to help us organize the findings. First, we had to answer the question, "What is a promising practice?" A promising practice could be an individual program component; just an individual activity. At the next level, a promising practice could be a program with many activities in it or an intervention. The third level of promising practice could be even more general. It could be a general principle that comes out of many intervention studies. Our definition for the purpose of this project was an integrated program of many components.

In fact, the exact definition was: "An integrated multifaceted program or intervention that is made up of several component activities and materials that has been demonstrated to be effective at improving behavior and/or behavioral determinants."

The point is that a promising practice has multiple components and that it is effective. We chose this level because that is what the literature looked like. Next, we identified articles, we scanned them for effective interventions, we described them using the BEHAVE template, we rated the interventions on 12 criteria, and then we did a synthesis. I am going to take you through each of these steps: identify, scan for effectiveness, describe, rate, and synthesize.

We looked at the 82 published articles. We reviewed them to make sure that they reached low-income older adults, that they targeted eating fruits and vegetables, walking, or some physical activity, and that they had demonstrated impact. We were only looking at interventions, promising practices, that were demonstrated to be effective. Through that we identified 18 studies. We took these studies, described them with the BEHAVE framework, and ended up with a two-page summary.

The two-page summary template included: (1) the name; (2) the goal; (3) the intervention described with the BEHAVE model with the priority group, the behaviors, the key factors, the activities; (4) the study description, including the number of people who were studied, the methodology, the effectiveness in changing the key factor, the behavior, and the health status.

We then rated that study template with 12 criteria. We had two independent raters, one representing the program community and one representing the research and evaluation community. They assigned points with three different levels (0, 3, and 5). For example, a zero was assigned on rigor if there was no comparison group. Three points were assigned if you had a comparison group. Five points were assigned if you had a random assignment comparison group.

We summed them to create the overall rating. The criteria included evidence of effectiveness, rigor of design, and various other criteria. Then, we synthesized the findings and matrixes. We synthesized the characteristics of the priority group, the characteristics of the behavior that were examined, what was learned about effectiveness, and what was learned about activities.

We also looked for unpublished descriptions. We talked to program people and asked "What works in your community?" We found many of those, but we didn't find those examples where people had data about effectiveness. Since effectiveness was one of our criteria for promising practices, they didn't get included in this review. We used this information to find activities that we might use, but we didn't put the information into effectiveness, into the data summary. We also found some published review articles that included principles, and we integrated the findings. When we did the synthesis, we integrated the findings from the review articles and the 18 studies of the 18 interventions.

I am going to use the BEHAVE framework to summarize the findings. The priority group that was given to us was low-income Americans, 60 to 74, program participants of FNS programs, and basically healthy. But, we learned that there was variety and that we needed to make

sure that our programs would work with that variety. So, we decided to test the materials with a range of races, a range of rural and urban, the South and Northeast, male and female, and to test for those living alone as well as those living with others.

Our primary behavior was to eat at least five servings of fruits and vegetables every day. This was all done with the 2000 *Dietary Guidelines* in effect. We were talking about servings of fruits and vegetables in those days, and the secondary behavior was participating in some form of physical activity. We thought it might be walking, but when we did the promising practices review there weren't many studies that looked at walking. So, we figured that maybe that was not feasible with this population. We stepped back from walking and used just engaging in some physical activity. We modified.

We found that the "eating fruits and vegetables" worked--many people did it. They have lots of ideas of how to do it. So, that was a good behavior. But the secondary behavior, walking, didn't work--there weren't enough studies of it. So, we then changed it to participating in some physical activity.

On key factors or determinants, when you are designing an intervention, you need to find the causes of the behavior so that you can address your activities to the cause. We divided them into psychosocial, things in your head; environmental, things in the structure out there; and a category I call antecedent behaviors. Antecedent behaviors are behaviors that need to take place before the direct health behavior. For example, in order to eat something, you have to shop, buy, and prepare it. There is a whole classification of determinants that are determinants of other actions you need to take and, in the area of eating fruits and vegetables, that was very important. Knowing how to shop and having self-efficacy for buying and preparing were important determinants of eating fruits and vegetables.

Among the psychosocial determinants are the benefits--it is pleasurable to eat. There are also barriers--I have to give up my traditional foods, and eating fruits and vegetables can be boring. Also comes the normative beliefs from what doctors think should be done. The doctor's view was very important to this older adult population, both doctors and friends. What friends thought about older adults eating fruits and vegetables was important.

Then, there are environmental aspects: lack of transportation, the cost, access, digestion and health problems, spoilage, and the lack of social networks. Those are the factors underlying eating fruits and vegetables.

The factors around participating in physical activity were, on a positive side: it makes me feel better, it is fun, and I get some social benefits. On the negative side: I worry about injury, I might be embarrassed, and it hurts. Again, a doctor's recommendation is important for this population. Barriers include lack of time, demands, lack of skills, health problems, lack of social networks, and some antecedent behaviors.

We looked at the who, we looked at what we wanted them to do, we looked at the key factors, and we tried to summarize the activities into types of activities that were components of successful interventions. One intervention could have five activities. We tried to look at the successful interventions and pull out the activities that many people seemed to use in their interventions.

Most everybody used some kind of didactic session. But everybody used something beyond the didactic session. All of the principles, all of the review articles said you need to do something besides just didactic work. We learned that we needed to go beyond just talking heads.

These are some of the activities that are beyond. Goal setting; asking people to set some goals either with input from a professional or sometimes their own goals. Those were used both for eating fruits and vegetables and for physical activities. You had a self-assessment tool and you got an exercise prescription from a professional.

Many of the interventions that were successful tailored the activity and tailored the content to where you were. The intervention was based on readiness. Tailored individual counseling was done about which fruits and vegetables or about how to shop or about how to engage in physical activity. So, it was tailored to you and based on a theory.

Many of the interventions had components in them about keeping a record of how much you did, such as counting your steps, counting your food, doing a color chart, submitting your minutes on a website. Feedback and monitoring was part of what made it successful. Many of the interventions use rewards such as coupons, prizes, and incentives--lots of things to give some immediate rewards at the time of the intervention. Many of the determinants, especially about the skill at buying, shopping, and preparing, required activities to build skills and build your power and your assessment that you could do it.

For many older adults, an intervention brings a lot of stimulation into their life. Providing games, diaries; roll playing; and tasting made the intervention activities positive. Social support came from two areas, both from professionals, in terms of reminders and telephone supervision, and social support from peers. Some of the successful activities of the successful interventions included different types of exercise sessions.

Many of the interventions changed not only the individuals, but also the environment. They might make a structural change to the environment in order to help facilitate long-term change, like creating a walking trail or having meal and eating programs available for more people.

There were other more short-term ways of addressing barriers by having food baskets around, a supermarket tour, and an accident prevention session.

I would like to turn this over to Ann and Tom to discuss the BEHAVE framework.

MS. JIMERSON: As Susan pointed out, we know that interactive activities can be much more beneficial than just presentation of information and data. The framework, when we developed it, really began as a sentence. During the planning process, the sentence reads like this: "This is how you present your logic to one another while you are planning a program. In order to help this group to do this behavior, we will focus on these determinants of that behavior." That is where you get to organize the results of your formative research, through these kinds of activities.

Susan pointed out that, when we first began working on this, we were talking about five servings, and then we moved to about 3-1/2 cups of fruits and vegetables. That is the behavior that we are promoting, to eat at least that amount every day. We obviously had figured out some determinants to focus on. We did this through a series of activities, and what we are going to present today is a little bit about session two out of a four-session intervention.

In session number two, which was called "Challenges and Solutions," we were helping older adults to think through some of the challenges to eating 3-1/2 cups of fruits and vegetables every day. Tom and I will take turns running you through each of the pieces of that 30-minute session. Just as with the programs, this intervention includes many different kinds of activities. One of the first activities, during the 30-minute session, is that they review the behavior and the benefits of the behavior.

In each session, we remind them about the behavior and that this is the reason they are there. We tell them that it is not just a general information session about nutrition, but that they are there to learn about a particular behavior. We don't talk just about health benefits. We also talk about how they are going to feel, and the fact that they will have more energy. We talk about regularity, which was big on their minds, as an advantage of eating fruits and vegetables. We also talked to them about the color, taste, and variety that they will get if they eat more fruits and vegetables.

MR. LEHMAN: As Susan mentioned earlier, the way we usually use the BEHAVE framework when we are developing an intervention and what we did when we were developing this one, is to work from left to right. What we are doing now is checking the logic.

Everyone who has worked on developing a program or an intervention knows that, at times, when you are at the end, things get added and things get changed. That may or may not be relevant to what you are originally intending and what the behavior was that you were actually trying to influence to begin with.

At the end of the development of an intervention, we check the logic to make sure that everything that is in the curriculum, and that ends up in the final program or intervention, is appropriate and is addressing a key factor or determinant that we suspect will encourage the behavior of interest with the population that we are interested in affecting.

The second activity in session number two was a report on progress. In session one, participants were asked to reflect on how many cups of fruits and vegetables they currently ate in a given day, in the day before, and they were asked then to set a goal for the next week as to how many cups of fruits and vegetables they would eat each day. They were given a log, for 7 days, to keep track of how many fruits and vegetables they were able to eat each day. There was also space on the log for them to take notes of any challenges that they ran into, and to share their successes or insights.

During this session, we were asking them to share how they did with the group. Did they reach their goals? If they did, on how many days did they reach it? What were some of the problems they encountered? What were some of the solutions that they came up with to address some of the problems?

I hope I did an adequate job of explaining what that activity is. What key determinants do you think that that activity was meant to address?

FROM THE AUDIENCE: Public commitment.

MR. LEHMAN: Exactly. One of the parts of this group activity is to make the public commitment. They not only set the goal themselves personally, but they share it with the group. They did that in the first session and they are now doing it again in the second session. There is also a sense of social support--the normative beliefs from doctors and friends. When they actually share, that is the normative beliefs from friends part of it

Along the way, they could also address some of the other factors. When they are talking about some of the other challenges they run into, that could be across environmental factors. They could also share how they bought food or that they were able to prepare food differently to reach their goal.

MS. JIMERSON: Thanks, Tom. The fourth column, the third activity in session three is to play a word game, like "Wheel of Fortune," where we have identified a series of barriers and we want them to focus on the solutions. Our intervention decided not to have just an open-ended discussion, but to play a fill in the blank word game like "Wheel of Fortune." The problem is that fresh fruits and vegetables spoil too easily, so we would have them guess letters.

So, we are coming up with a list of solutions. For example, if they say "I'm diabetic" or "I have a health problem and I'm afraid to eat certain fruits," the solution is "Speak with your doctor or nurse." Or, if it is too hard for me to prepare vegetables due to my arthritis or other restriction, then I would buy ready-to-go vegetables. This way, we are giving them a series of solutions. What is the determinant for why we do that activity? The problem is spoiling, and so you are coming up with solutions. Trying new foods is another determinant that would make this an important activity. What is happening as you give people solutions? What does that do to their sense of their ability to actually do the behavior?

MR. LEHMAN: We then showed them a list of the solutions. A lot of them are the solutions to the challenges that they just solved, and it is a checklist of sorts. The group discusses each one and they are asked to look at the list and to pick one of the solutions, or at least one of the solutions, that they are going to try in the next week.

For instance, some of the solutions were trying out a community van service, if they hadn't done that before; shopping with a friend or asking a neighbor or friend for help when they shop; and buying frozen or canned fruits or vegetables when they might not have done that before. When you are thinking about the determinants, which determinants do you think that this activity is affecting? I think some of the things discussed were environmental, asking friends for help, issues around transportation and such.

During this activity, making the public commitment is a factor as well, because they are asked to decide which of the solutions they are going to try and then they discuss it with the group. So again, we are trying to get the public commitment in there.

MS. JIMERSON: Finally, we send the participants home with a card which we have dubbed a "prescription card." It says, "Take this to your nurse or doctor and ask the nurse or doctor how would I benefit from eating 3-1/2 cups of fruits and vegetables every day and are there any that I should avoid?"

We send them home with a card and ask them to use it to initiate a conversation with a nurse or doctor. What is the determinant? Normative beliefs from the doctors, which turned out to be a very important factor. Thanks.

Preview of *Eat Smart, Live Strong*: A Nutrition and Physical Activity Intervention for Older Adults

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We have heard all of this good information--from Jenny about the program statistics and how participants in our programs are older adults and how many participants are older adults; and on the process for developing this intervention. I think that sets a great stage for describing what the actual intervention is.

Eat Smart, Live Strong is FNS' nutrition and physical activity intervention for older adults. The purpose is to provide a behavior-focused intervention for able-bodied, low income, older adults 60 to 74 years of age. The key behaviors are to increase fruit and vegetable consumption to three and a half cups per day and to participate in 30 minutes of physical activity on most days of the week. It is important to note that the development of the intervention was significantly impacted by changes in the 2005 *Dietary Guidelines*.

Susan mentioned the 5-A-Day message as the key communication message for earlier versions of the intervention. The new communication message is based on the minimal recommended intake for the least active members of the target population, sedentary women.

I will provide an overview of the formative testing that we did with educators and participants, the intervention plan and the guidance, which you will soon know to be the leader's guide and the activity kit. The concept, development, and testing included a review panel, site visits, materials testing and, very soon we hope, a field review.

For the review panel we received responses from 11 reviewers, which included two university academics, four Federal or State government agency employees, and five FNS regional office staff. They included open- and closed-ended questions. The review panel was to consider the low-literacy needs of the population and, in this consideration, we also note those who don't speak English as a primary language and those who might have various disabilities; for example, poor eyesight or hearing problems. These factors need to be considered in the development of the materials.

Most of those practicing in the field have a limited amount of time with participants, and for those that might have a little bit less time, we want to consider their needs and provide some options for them. One of the key motivators to changing behavior is encouraging social interaction, particularly for this age group. Jenny mentioned the number of women in the population who live alone or are by themselves, and participating in the nutrition assistance programs, particularly at those sites, for example, where groups come together for meals--this is a key way for them to interact.

We provided some tools and strategies that may assist educators in providing a quality nutrition education experience. We provided take-home materials for them to practice the behaviors at home and included suggestions about delivering sessions to people with special needs.

We also did site visits and this, again, was an opportunity to do a reality check. We have provided a great deal of information about what is in the literature, about approaches in developing interventions for specific populations, but the reality is there is much variation out there in the programs. We needed to have that insight before we actually went forward in developing the final intervention.

The visits included a Commodity Supplemental Food Program, Senior Farmers' Market Nutrition Program, and, of course, the Food Stamp Nutrition Education Program. During the site visits, we learned that we needed to make the sessions flexible for a variety of settings. As I mentioned, there are a lot of resource restrained situations and people need to be able to adapt these activities for these situations; to keep it simple and appropriate for low literacy.

Eating three and a half cups of fruits and vegetables and participating in 30 minutes of physical activity were viewed positively. However, educators and participants were resistant to the amounts of fruits and vegetables.

Multiple sessions with the same participants may be impractical. We recognize that people flow out and into these programs for a variety of reasons, so we need to be cognizant of program situations that can't necessarily provide a series of sessions as many of the Food Stamp Nutrition Education Programs do. So, there was the flexibility of using this as a standalone option or providing it in a series of sessions.

Materials testing is the last phase that has been completed in the formative testing process. Thirteen providers or educators were interviewed and, in addition, 44 low-income older adults participated in small group discussions in the following locations: Atlanta, Georgia; Athens, Georgia; Franklin, Kentucky; Tennessee; Warrenton, Virginia; Keyser, West Virginia; and Denver, Colorado. The representation across the country was difficult to obtain for different reasons--financial constraints as well as staff access to various locations.
The behavioral approach was well received by program cooperators and educators. The incremental approach to changing key behaviors was preferred. Taking that approach, looking at the determinants and providing activities that allowed them to focus on these two key behaviors, were strongly received.

We saw the desire to see information about the upcoming *Dietary Guidelines*, which we did not necessarily consider in the early development of this process. As a result of this feedback, we have incorporated a great deal of information that will help educators walk participants through using MyPyramid.gov. Noticing that people are not necessarily literate and that people have limited access to computers has created an opportunity to have

educators walk them through this key education tool that FNS and HHS have created. This will be very useful to many of the educators who use these materials.

In general, people welcomed the new materials promoting good nutrition and physical activity for this audience, noting that they weren't aware of a lot of information out there specifically for them.

After all of this talking, we created the Activity Kit. There is a Leader's Guide for lessons focused on the two key behaviors. The Leader's Guide provides guidance and tips about using the sessions and motivating older adults.

As Susan, Ann, and Tom have mentioned, the different determinants of behavior, the different activities, accessing MyPyramid.gov, and identifying resources for older adults are all especially important. This program and this conference has talked about cross-program communication and so you will note that there are references to the other programs and how to work together--how to work as cooperators, collaborators, and partners.

We included a standard outline for all of the sessions. They include objectives, a session overview, the motivators, preparation, materials, optional warm-up physical activity, the actual session activity with the related handouts, optional cool-down, and feedback forms. These feedback forms should assist educators in getting information on whether or not the materials worked for their audience.

Session one, "Reach Your Goals, Step by Step," includes goal setting, monitoring progress, and peer support, which was recognized as a key motivator to facilitating behavior change.

Session two, "Challenges and Solutions," includes challenges and solutions in achieving the two key behaviors and focuses on building skills and self-confidence and facilitating health provider support. As Ann and Tom mentioned, the Smart card, which starts the conversation with the healthcare provider about the types of things that can be done to address the key behaviors for this intervention, is also a major part of Session two.

Session three, "Colorful and Classic Favorites," is essentially helping people look at traditional or classic ways that they have always prepared meals and enhancing them by adding a variety of fruits and vegetables to increase the intake of fruits and vegetables in their diet. It is also shows the "try and like it" philosophy. People may not have thought about using cranberries in their oatmeal or adding tomatoes to their meatloaf, but this session discusses different ways they can combine fruits and vegetables with classic dishes.

Finally, "Eat Smart, Spend Less" focuses on awareness, skills, self-confidence, and peer support. This addresses one of the key challenges for this audience and that is the ability to stretch their dollars to include fruits and vegetables in their overall meals. This walks participants through a number of budget exercises and cost-saving strategies so they can stretch their budget to include a variety of fruits and vegetables in their diet.

It is important to note that every one of these sessions includes an optional cool-down and a warm-up physical activity. We are going out there and stretching ourselves by introducing what is really the first FNS publication to combine both of those activities for this population.

The next steps are the field review and, hopefully, many of you will participate in that field review to finalize the materials and to market them to appropriate audiences. We have mentioned several of them--the Seniors Farmers' Market Program, Food Stamp Nutrition Education, and the Commodity Supplemental Food Program.

Successes and Challenges in Delivering Nutrition Education to Low-Income Older Adults

Mary L. Meck Higgins, PhD, RD, LD, CDE, Associate Professor, K-State Research and Extension, Kansas State University, Manhattan, KS

I will be talking about some of the successes and challenges in providing nutrition education to older adults. We have talked a little about tailoring the nutrition message and the program for older learners. Certainly, it involves planning behavior change intervention programs that are based on effective older adult principles. And you have to do the rest. It is great to do all of the planning, but then you actually have to see if it is going to work with your audience.

I will start with the literature. We have a series in the Journal of Nutrition for the Elderly, from 2003 to 2004. There are seven different review articles that talk about nutrition education for older adults, and this was part of a series of 26 articles that addressed various practices, as well as the research base for providing education to older adults.

Today, we will talk about some of the barriers that educators and older adults have in nutrition education, some of the characteristics of an effective program, characteristics of older learners, and then the processes that you would go through to educate older adults. Some of the barriers that educators come to when they start doing programming with older adults are ageism, prejudice, and stereotyping. This is not a put-down of the individual educator. But you have to evaluate your own behavior, your own practices, and what is happening in your community. A positive behavior change will not necessarily improve health status. If somebody is "too old," they are "over the hill," and it is "too late for them." That is ageism and stereotyping. "Older folks are too set in their ways. You can't teach an old dog new tricks." That is a myth.
There is an incomplete understanding of the nutrition concerns of older adults. Sometimes we think they are all malnourished and underweight.

There is a lot of difficulty in recruiting older adults. When you go to a school setting, most of the children are there, unless they are home schooled, which is a pretty small percent of the population. But older adults don't have to go to any particular place. So, finding them is

oftentimes difficult. Sometimes I think we should go to the bowling alleys and recruit those league members because they are the ones who need the most nutrition information.

Since there is not necessarily a steady stream of funding for this age group, inadequate funding is another barrier for educators in providing education to older adults. Older adults also face some of those same barriers and stereotypes, but then there are other barriers for them to implement the message that you provide with nutrition education. We mentioned some of these already, such as lack of facilities and inadequate transportation.

Another one is suspicion of an outsider coming into the community. And everyone has been young, but not everybody has been old. You could have a really vivacious, young educator who is gung-ho and the older adults might be suspicious of that person. That educator doesn't understand this. You may also have an educator from a different culture who doesn't understand, or even someone who has grown up in a city and who is going to a rural area or who is not from that part of the country. So, there are lots of ways that someone can be an outsider.

Another barrier can be a belief that they are already doing the practice that you are teaching about. They may think that they are already eating enough fruits and vegetables or getting enough physical activity. So part of the process is making them more aware of what they are doing and the need for the education.

Another barrier to implementing is that many older adults are not assertive about their own health needs or about speaking up. They may seem "disrespectful" if they were to engage in a dialogue or disagree with the educator.

Other barriers are caused by their senses. They may have poor vision, may be poor readers, may not be able to hear well, or may have problems with mobility or flexibility, chewing, swallowing, tasting, or smell. This can deter them from engaging in that pleasurable activity of eating fruits and vegetables.

An individual might not have any of the personal barriers we've talked about, or they may have all of them. There is a lot of variation among your audience. Somebody might have total loss of hearing, but have excellent vision. This means educators need to do a lot of personalization and tailoring.

You can make adjustments based on the barriers. You can use a loudspeaker. Facing the audience will help them read lips if they have hearing loss. You can also have a caregiver or a friend come along to help them understand the lesson so that they can talk about it later. Just remember that if you are grouping people by their chronological age, you may miss out because people vary. This means you need to group people more by their needs and their interests. Simply providing the correct grouping can help improve the education.

Addressing those barriers, both from the educator and from the older adult, and motivating the older learner are important. If cost is a barrier, increase their financial resources. Sign

them up for a food assistance program and promote the pharmacy benefits, the housing, and energy costs programs. There are ways to help give them a bigger pool of money if they are lacking resources. You can certainly accommodate for their physical deficits. Advocate for them to bring a caregiver or a friend to engage with during a session. This will provide peer support. Consider having the audience themselves brainstorm about how they can address community deficits. Furthermore, you can capitalize on which foods to include so that you are having a positive message instead of just telling them what food to avoid. You can also capitalize on their interests. Keep in mind that older adults are very much attuned to maintaining their health.

Effective programs are going to include communication and educational strategies, behavioral change strategies, individual and community level involvement, environmental interventions, and community activation. The individual needs to feel like they can make a choice. They have to feel in control of the process.

We discussed one behavior, eating fruits and vegetables, and there are four different modules in this new program. If you are doing a lesson on fruits and vegetables, you are going to probably have more than one session. If you are doing a lesson on the Food Guide *MyPyramid*, the tendency that I have seen is for educators to have one session covering grains, the next session covering fruits, the next session covering the dairy. The disadvantage of this approach is that if you miss one session, you have missed an entire food group. If you combine sessions to give multiple sessions on the fruits and vegetables and dairy, for instance, and they miss one session, they just miss part of the information.

An interactive format is very important. We have discussed this in great detail. The main thing to remember is to match those materials and tailor the program to meet the needs and interests of your particular audience. You have eight lessons and, at the beginning of a session of multiple series, you could have your audience pick six of them or four of them and give them some ownership.

Make sure you understand their language skills, cultural experience, and reading interests. This will ensure that you do not alienate them or provide them with information they do not understand. Low literacy is an important issue for older learners. About 40 percent of older adults read at a fifth grade or lower level. Teaching seniors with low literacy involves determining their needs by asking them questions, using paraprofessionals perhaps, common language, certainly games, visual tools, and demonstrations that allow you to assess a skill and ensure they understand the message. You don't want to simply rely on paper and pencil. Having them set a goal verbally is as important as having them write it down.

Since older learners serve as great resources for each other and they have as much to teach as well as to learn, use group sharing. Their role in society is to transmit traditions and be involved in guiding the next generation. Therefore, you should try to enhance

that developmental goal for them in your programming. Have them go and teach their grandchildren or involve somebody in a cooking-at-home project.

Older learners also receive the least amount of instruction, but they often have the highest amount of motivation, and so it is a paradox that we don't tap into this audience as much. Most people engage in lifelong learning. It is not a for-credit situation and certainly not a school classroom environment, but they are engaged. They are involved in their crafts or their genealogy. Because they eat, nutrition is something that they are doing every day and they are therefore interested.

There are three steps that I would like to go through. First, encourage behavior change using education and the empowerment strategy, addressing barrier reduction, and addressing their educational needs. They might know a lot, but they might not be able to put it into practice. But, you have to get everybody to the same level. Incorporate their own life experiences and their expertise or use a problem-oriented learning approach, not just a didactic approach.

The best way to encourage this audience to change their behavior is to have them share their expertise, identify the barriers and social and emotional supports, and then problem solve with them. Don't just be the know-it-all in the front of the room, but have them engage in the conversation. What they can do to change their own behavior is to help someone else who is having a problem. This creates opportunities for them to reflect on their own goals and choices. There are a whole host of tools and strategies that you can use for mentoring--oral presentations, cultural story telling, etc. A lot of the things that you might use with children work very well with this group.

Secondly, collaborate and form partnerships. Some examples of older adult agencies that you might collaborate with include senior centers, area agencies on aging, councils on aging, Cooperative Extension services, food pantries, faith-based organizations, libraries, and veterans groups. You can see how these groups, which already have a mechanism for distributing information, can help to reinforce or pass on a health message, and sometimes they just haven't thought about it. It might not be on their radar screen to think nutrition, but when you introduce the idea, they could put a little paragraph in each newsletter or post something on their bulletin board.

Thirdly, evaluate the effectiveness. There are about 35 older adult nutrition education studies that have been reported in the literature in about the last 10 or 12 years, and most have demonstrated that there are statistically significant outcomes. So, you can teach older learners new things.

The real problem has been that different outcomes that are measured are not standard. There are knowledge, attitudes, and self-efficacy. There are intentions to change, perceived change, verified change, and physiologic health outcomes. Data for long-term follow-up with this age group are scarce, so if you are into research, that would be an important part to do.

Examples of different changes that have been reported by older learners in various literature studies include:

- They ate breakfast more often.
- They had more servings or a better variety of different foods.
- They compared prices or planned meals more often.
- They improved their confidence in their ability to prepare a healthy meal.
- They increased their physical activity.
- They improved attitudes about the importance of nutrition to health.

There are certainly some difficulties in evaluating nutrition education. Some of the methods might not be very precise or sensitive. You can see, anecdotally, that there have been changes, but your pre- and posttests don't indicate any change. That is frustrating because you know the program is working. This just means that the tools aren't sensitive enough. Quality of life is a measure that is often measured, but it is poorly defined and hard to assess. The self-assessment tool may not be reliable and you may need something you can verify.

More difficulties include that older adults are oftentimes averse to a paper-and-pencil method. But that is the first thought, to give them a little pretest with a paper and pencil and then a posttest. They may have low literacy. They may be against wasting their time with what they consider irrelevant and time-consuming questions and, so, they just refuse. If you have worked with older adults, you know they are more likely to get up and leave the room than an elementary school child is. Therefore, consider something that is more experiential in your evaluation. Make it fun and unobtrusive so they don't realize that they are actually giving you data.

To summarize, we have talked about barriers to teaching and barriers to implementing health behaviors. We have talked about some of the characteristics of effective programs and of older learners and then the process for educating adults. Encourage positive behavior change, emphasize the positive parts, collaborate and form partnerships to reinforce your goals and to get the message out more effectively, and then evaluate. Make sure you publish your results so that when we are doing these reviews of literature, we have that information and our programs can become more successful.