

**DR. HODGES:** Okay. Well, welcome, everybody. And today, we are going to talk about health literacy, which really is a 21st century asset. And part of what we're going to talk about is why it's become so important in the 21st century. I am Dr. Bonni Hodges. I am the Professor and Chair of the Health Department at SUNY-Cortland in New York.

And before I start, I would like to acknowledge several people. This program was funded and developed through the generous support of the United Health Foundation in Minnesota. At the United Health Foundation, Dr. Reed Tuckson and Shelly Espinosa were instrumental in marshalling this project along and in helping to create it. And at NEA HIN, Jerry Newberry and Nora Howley have been instrumental . . . introduction.

You might be asking, what is health literacy? We're going to look at a couple of definitions to begin our introduction. The first one comes from a report from the Institute of Medicine that came out in 2004, and you can take a look and see that it says, the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.

The second one is a little bit different, but very, very similar. The National Health Education Standards, the 2007 version, talks about health literacy as the capacity of an individual to obtain, interpret, and understand basic health information and services, and the competence to use such information and services in ways that are health-enhancing. So that should give us all a little bit of a perspective of what it is we're talking about when we say health literacy.

If you think about those two definitions a little bit, they're really saying pretty much the same thing. And a couple of points I want to remind you of is they're saying that health literacy is more than just knowing something, okay, that you need the ability and the confidence to use the knowledge appropriately and effectively, and that the use of this knowledge is dependent on skills and context with which the knowledge is going to be used. So if you keep that in the back of your minds, you'll hear it again, but if you keep that in the back of your minds, it's going to help with the exercises that we will do as part of this workshop.

This summer, in June of 2010, the Department of Health and Human Services released its national action plan to improve health literacy. The vision of this plan is that the United States will be a society that provides everyone with access to accurate and actionable health information, that in the United States we deliver person-centered health information and services, focused on people as individuals, not the large institutions and organizations, and that we will support lifelong learning skills to promote good health. That sounds great, and it's a great vision, but we're not there yet. It's something we need to work toward.

All right. As we go through this workshop, we're going to be talking about the Rodriguez family. The Rodriguez family consists of the grandmother, Maria, who's 65 years old. Spanish is her first language. She understands very little English. She lives alone in a small apartment. She has adult-onset diabetes, she is insulin-dependent, and she has Medicare.

Her son, Raul, is 45 years old. He's employed in the service industry. He's hypertensive, has high blood pressure, he's overweight, and he has pre-diabetes, not quite diabetic yet, but he has a lot of the markers that, if not taken care of, will turn into

diabetes. He has employer-based health insurance, but the type of health insurance he has has very high deductibles and high co-pays when he connects with healthcare. He has some college. He's somewhat bilingual, but Spanish is his first language.

His wife, Anna, is 38 years old. She works part time as a custodian in the local school district. She's overweight. She smokes tobacco. She's somewhat bilingual also, with Spanish as her first language. She has a high school diploma.

They have two kids. They're teenagers, Guillermo and Sonia. They are high school students, like I said. They are somewhat bilingual, but English is their first language. And both of these teenagers have asthma.

The Rodriguez family lives in the lower middleclass suburb of a major city somewhere in the United States. And so, this family, you get to know them a little bit, and we'll come back and visit them as we talk about health literacy and how it affects them.

All right. We think about what health literacy is, we looked at a couple of the definitions, we talked about what it might mean a little bit, as far as, you know, what it means for context and knowledge. So what does it impact? Well, the level of health literacy that one has has an impact on why and how we navigate the healthcare system. The more health literate folks are, the better able they are to navigate the healthcare system. And this also includes, this navigation, how and what we communicate with our healthcare providers and if we communicate anything with our healthcare providers.

It affects how and how well we perform necessary self-care behaviors, how and well we perform necessary chronic disease management actions, how well we understand concepts that have to do with health, but also, global concepts, like risk and how risk applies to health. And it also affects our health-related decisions, those decisions we make about how we behave, how we engage with the healthcare system, the actions that we take every single day that affect our health.

A little bit more about importance. We know that today the health information that comes out and the health services that we interact with are increasingly complex. If you think a minute about all of the sources that are out there for health information, how quickly the information might change, and how many of those sources may or may not be valuable and valid sources of information, but they're still out there. How do we decide what's appropriate information, what's valid information, what applies to us, what applies to those folks that we take care of? Very complex.

Think about, for a second, your healthcare services and what you have to do in order to take care of yourself on a day-to-day basis, even something as simple as having a well checkup, like yearly checkup. Very often, it involves numerous steps. We might have to go get lab work done first. You might be responsible for getting the lab work to the appropriate physician's office. You have to know to schedule the lab work, and then, schedule a follow-up appointment. And then, how much lab work do you need, all sorts of things like that. It's very much not one-stop shopping healthcare these days. It gets complicated.

The importance of health literacy comes from the fact that there are both more opportunities and responsibilities for self-management today, self-management of your own health and of your family's health. The way that the healthcare providers and the insurance companies are creating systems these days, there's a much greater expectation that we are taking on more responsibility for our own health and our own

health actions than how it might have been previously. There's some shifting going on there.

We know that the health of students has an impact on academic performance. And so, the more health literate we all can be, the healthier students can be and the better that they can perform academically. And the idea of understanding and using health-related knowledge to improve a number of different factors makes health literacy important.

Health literacy is important to make informed decisions about healthcare, health actions, and our own behaviors, and the environment in which we live. Am I in an environment that needs to change to be healthier, to foster the health of those who live in this environment? Well, how do you make those decisions? What do you need, in order to make a decision about if something needs to change, if you need to advocate for that change? Think about that part, advocate for yourself, but also for others, others in your community, others in your family, others in your state, others in . . . okay.

Healthy People 2020. Healthy People is a process whereby the Department of Health and Human Services generates health objectives for the nation. There are new health objectives every ten years. The very newest set of objectives related to health literacy focused on ensuring that all children graduate with the skills to help them live healthier throughout their lifespan. This is the first time we have seen an objective that clearly links the school systems with the development of health literacy.

A paper that was written as part of a summit that pulled healthcare providers, educators, public health officials, and others together to talk about health literacy, talked about the goal of achieving critical health literacy is that it's consistent with the skills that students need to function and succeed in work and life in the 21st century. Another good way to say that is, the skills to promote health literacy, the skills of health literacy are really not new skills or additional skills that have to happen in the schools. They're skills that schools are already doing and need to be doing with students.

So Donald Nutbeam, who's been working in this area of health literacy for the last decade, talks about health literacy as an asset to be built and not a problem to be solved. It's a way to think about how we go forward with building health literacy, as opposed to thinking of it as a problem with a lot of barriers that need to be taken down.

For the rest of this workshop, we're going to work in basically six different sections. We're going to talk a little bit more about what health literacy is in depth. We're going to spend some time working with and talking about the role of schools in creating a health-literate population. We're going to take a look at the National Health Education standards as the basis for building health literacy. We're going to talk about the infusion of the National Health Education skills across disciplinary areas and take a look at some examples of how the health education standards can be infused in some other areas. We'll talk about how you all can get started creating health-literate schools, and I'll share some resources with you.

A couple of things to look for as you go through this professional development experience. When you see the light bulb, that means you need to stop, and reflect, and brainstorm about the questions that you may see with the light bulb. When you see the glasses, you need to refer to the attached materials.

So once again, what is health literacy? You've seen these two, the degree to which individuals have the capacity to obtain, process, understand basic health

information and services needed to make appropriate health decisions. We talked about that one. The capacity of an individual to obtain, interpret, understand basic health information and services, and the competence to use such information and services in ways that are health-enhancing.

All right, let's look at a couple more . . . the achievement of a level of knowledge, personal skills, and confidence to take action to improve personal and community health by changing personal lifestyles and living conditions.

One more. The cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand, and use information in ways to promote and maintain good health. Guess what? They're all basically saying the same thing. Once again, health literacy is more than just knowing stuff. It's more than just knowing facts. People need the ability and the confidence to be able to use the knowledge and the facts, and the confidence and the ability to use the knowledge and facts are dependent on the skills and context that they have and in which they find themselves.

All right. We're going to think about the Rodriguez family to whom you have been all introduced. Think about, how would health literacy come into play for the Rodriguez family in trying to manage its family members' diabetes? So take a few moments and think about this question, and write down your responses.

All right. Everybody has thought of some examples of how health literacy would come into play for the Rodriguez family. You might have identified, and this is not an exclusive list, you might have identified that the Rodriguezes might not be able to understand the written materials provided by the healthcare provider. They might not understand them because they are in English, and some of the members' English is not very good at this point. But it also might be that the materials that are provided, whether in English or Spanish, is using terminology and vocabulary words that are beyond the average person's ability to understand.

You might have listed that the Rodriguez family members could not understand any of the various forms that they might have had to have filled out to sign up for health insurance or additional health insurance or any other type of service. We know, from taking a look at people's actions and health literacy, that, very often, if we don't understand the form, we just don't fill it out. So we may not be having access to a service or a treatment or something that we would have access to if we filled out the form.

We cannot calculate appropriate dosages of medications that we need to take or foods, sometimes if we're using food as a way to treat something, we cannot appropriately calculate that. That's going to have an impact on development and progression of a condition. They might be poor at assessing the validity of websites where they're going for information and so may be getting information that is incorrect, perhaps even dangerous, because we don't have the ability to assess whether or not this is a good place to get information.

Perhaps the Rodriguezes healthcare providers talk too fast for them. If they're talking in English and they're talking too fast, and Spanish is the first language, that's kind of a double barrier for them to overcome. And the healthcare providers may be using too many big words for them to truly understand what they're trying to say.

All right. Maybe they cannot read a food label, and so, they may know that, as a diabetic they have to pay attention to certain nutrients and other things with regard to what they are eating, but if they can't read or understand the food label, they're not going to be able to take action on those recommendations that they have.

Afraid to let on that they didn't understand. One of the things that we see with people with low health literacy and people with low literacy is, oftentimes, a kind of a shame to let folks know I don't understand that. And so, we don't say anything. We just let it go.

And you also might have put down the suggested foods. We're suggesting that you eat these types of foods. They're not available where the Rodriguezes live. They're just not accessible to them. And, in addition to that, they may not be accessible, but the Rodriguezes don't know, if they're not particularly health literate, how to go about and address the problem of the fact that the foods that they're being told that they need to eat aren't available to them. Those are just some of the things that you might have identified for how health literacy affects the Rodriguezes.

So if the Rodriguezes are low health literate, they have low levels of health literacy, what might that result in over the long term? Well, certainly, poorly managed diabetes, poorly managed hypertension, and poorly managed asthma. They are sicker. They have more complications than people who might be more health literate, and are able to use the system and use the knowledge better. The food selections that they make could contribute to and compound their health conditions.

Increased healthcare costs. If my conditions are worse, if I'm not managing them very well, I'm going to be engaging with the healthcare system much more often, and I'm going to be engaging with the healthcare system in a way that, most likely, costs me and the healthcare system more money.

If I am showing up in an emergency room, as opposed to having regular visits with my physician, that costs everybody more money. And it may continue to engage in the health risk behaviors that served as the groundwork toward the conditions that they have, and continue to allow the conditions to progress and be poorly managed. Again, some of the possible outcomes of the result of low health literacy.

So what do we know about what contributes to poor health literacy? We know that one of the contributors to poor health literacy is the very poor way that health and safety information is communicated. Communicated by healthcare professionals to patients and clients, communicated by patient educators, communicated among each other, we know that that's one of the contributors to poor health literacy.

We know that the increasing complexity of the healthcare systems is contributing to health literacy. One of the things that we're going to take a look at, as part of this workshop, is the concept that some very highly educated people are not necessarily health literate. And part of what we know about that is, as the healthcare system becomes more complex, it becomes difficult for many people to be health literate, even if they are literate.

The increasing complexity of healthcare tasks. In order for me to manage my chronic illness, there may be multiple tasks that I need to understand and that I need to engage in, in order to be able to manage this condition that I have.

Rapid development of technology, both technology in treatment and care, but technology in regard to communication, and technology from the idea of how many

different technological channels are we getting health information from, and do they all agree? How do we wade through that?

Low general literacies in adult populations and in youth populations contribute to poor health literacy. Low general numeracy skills contribute to poor health literacy. The idea that we discussed before of shame of having low literacy skills of any form contributes to poor health literacy, if I'm not trying to communicate that I don't understand, if I'm not trying to improve the literacy problems that I have.

And lack of health literacy skills development, which is what we are going to spend most of the rest of our time talking about, specifically, how we can do that. So those are the areas that we know from the research that is out there that contribute, in some way, to the idea of low health literacy.

All right. It's time to take a look at tasks, tools, and skills related to health literacy. This is not an exhaustive list. This is merely some examples of how this might look. So we have a task. I need to locate the appropriate health services for myself, for a family member, for a friend.

What are some tools I might use or I might need to use to locate appropriate health services? Perhaps you've moved to a new community, perhaps you need to change healthcare providers, whatever it is. Some tools, you might use a website to do this, you might use a phone book to do this, you might need to be able to read maps, so that you know how to get to wherever it is you need to go.

So what sorts of skills do we need to use those tools? We need to be able to use an index for that. We need to be able to ask for and follow directions to get where we're going. We need to be able to use appropriate search terms, and we need to be able to evaluate websites, which is one, small example.

We think about the task of applying for health insurance. We might use health insurance booklets or websites to help us figure out what our options are. We have to be able to read and navigate application forms. In order to apply for health insurance, we need to be able to complete the forms accurately, legibly, appropriately.

We need to be able to read for relevant information. Does this part apply to me? Does it not apply to me? What are they really asking for, with regard to information, in this particular part? I need to be able to read and use charts. Which option is most appropriate for me, based on the number of family members I have, my income, my employer, those sorts of things. And I need to be able to calculate and compare costs. Skills I need.

And the last example, I need to provide information. We need to provide information to someone, in order to help with our health in some way. Tools to provide health-related information, we have family history forms, we have medical history forms, we have interview forms that might be tools for me to provide information.

I need to be able to ask for clarification if I don't understand a question or what's being asked of me. I need to have some familiarity with medical vocabulary and formal kind of language. I need to have some oral communication skills. I need to be able to fill out the forms, and I need to be able to use descriptive vocabulary words to explain and express what it is that's going on with me. Just an example of the tools and skills we need.

Bigger picture. When we take a look at health literacy and outcomes of poor health literacy, poor health outcomes, in general, the American Medical Association has

gone on record, so to speak, to talk about the idea that health literacy is important for improving the health of the population. The estimated cost of limited health literacy in the United States is somewhere between \$1.5 to \$3.6 trillion United States dollars. In addition to that, direct costs, the indirect costs from such things as chronic illness, treatments and management, disability, lost wages, and a poor quality of life increases that, but we currently have no good way to estimate that part.

The annual healthcare costs for those with low literacy skills, general literacy skills, is four times higher than for those with higher general literacy costs. There is a very strong connection between general literacy and health literacy.

Studies that have been done with those adults who have low literacy and how it translates, with regard to health-related actions, we know that adults with low literacy make more medication and treatment errors. Might result in ending up in the emergency room, might result in unintended deaths, might result in escalation of symptoms and mismanagement of problems.

Those adults with low literacy are less able to comply with treatment regimens that they have been given. They lack skills to successfully use the healthcare system. They show up in the healthcare system at much later stages of disease, and so, have poorer outcomes to the treatment of the disease and cost more money to treat. And they are at a much higher risk for hospitalization from anything.

We take a quick look at the state, if you will, of health literacy in the United States. The most recent national assessment indicated that there are over 75 million adults in the United States who have only basic or below basic health literacy. That's a lot of folks.

The average health literacy scores of United States-born adults with a high school diploma indicate that they only have very basic health literacy and that points to the connection between these folks having difficulty with completing a broad range of health-related tasks. So those with high school diplomas are not very health literate. They have some level of health literacy, yes, but they don't have the level of health literacy with the complexity of information, and services, and actions that is required at this point to be truly as functional as they could be. So once again, health literacy is an asset to be built and not a problem to be solved.

All right. So here we are, all three of these systems are responsible for health literacy. The healthcare system needs to be more health literate itself, meaning that it needs to be more accessible, less complex to the clients and the patients that it has. Individuals need to become more health literate. They're part of helping make this work. And the educational system needs to be more health literate itself in many places, but also needs to take a role in actively creating health literate individuals.

We're talking about the educational system because that's what the National Education Association is about, so we're only focusing on the educational system. So talk about what the role of schools might be in creating a health literate population? The first thing we need to point out is that schools are, by no means, solely responsible for improving health literacy across the United States, all right. But creating literate populations is one of the primary functions of schools, numerically literate, reading literate, functional literacy. Whatever literacy you want to talk about, schools have a role there.

And we would contend that creating health literate individuals is a role that schools, classroom-based health education and infusion of health literacy across discipline, and building activities across the variety of subject areas and disciplines within schools is really the nucleus for developing health literacy and health literate populations. So it's not just about school health educators. That's what they do. Everyone has a role in creating health literate individuals.

I mentioned previously about the vision of the National Action Plan to Improve Health Literacy. The Action Plan has seven goals. Three of those seven goals are directly applicable to educational institutions and educational systems. Those three are to incorporate accurate, standards-based, and developmentally appropriate health and science information and curricula in childcare and education through the university level. That is one of the seven goals.

To increase basic research and the development, implantation, and evaluation practices and interventions to improve health literacy. Educational systems should be trying to figure out, what are the best practices for improving health literacy development in schools?

And the third one that's directly applicable to educational systems is increase the dissemination and use of evidence-based health literacy practices and institutions. Those who are pre-professional educators, who are training professionals, need to talk about evidence-based health literacy practices and interventions. Those who are pre-professionals themselves need to learn about best practices in health literacy and interventions. And those folks who do the research need to evaluate and figure out what are the best practices.

So we've talked about health literacy in a rather general way. If you really think about what's involved in being health literate, we see that it includes basic literacy skills related to reading, writing, speaking, listening, basic mathematical skills, and conceptual knowledge skills. If you think back to the examples of the tools and the skills that you need to be able to use the tools to address a health-related situation, you refer back and take a look at that, you'll see that you needed reading skills, communication skills, listening skills, mathematical skills, those sorts of things.

We harken back one of the earlier definitions of health literacy. We look at the ability to read, understand, and act on health information in everyday life. In order to act, you need to be able to communicate, you need to be able to write, speak, listen, do math, and apply the conceptual knowledge.

Health literacy has been embedded in the conceptual framework of the 21st century skills movement. Health literacy is one of the overarching themes of 21st century skills. We'll take a moment to do very brief review of 21st century skills. They're built upon a foundation of core academic areas and 21st century themes.

The core academic areas include English, reading and language arts, math, world languages, art, economics, science, geography, history, government, and civics. Those are the core disciplinary academic areas. The 21st century themes are global awareness, financial, economic, business entrepreneurial literacy, civic literacy, health literacy, and environmental literacy.

The 21st century skills, the skills that all folks in the 21st century need and are essential to function in the 21st century, are grouped into three areas. The first set of



skills are learning and innovation skills, for example, critical thinking, problem solving, communication skills, and the ability to collaborate with others.

The next group is information, media, and technology skills. Again, some examples, information literacy, media literacy, information, communications, and technology literacy. And the third group of skills are life and career skills, things like initiative and self-direction, social and cross-cultural skills, leadership and responsibility skills.

Time to think. Which of these 21st century skills would help the Rodriguez family better manage the family diabetes situation? And once you've thought about the 21st century skills, what are some examples of how these skills would help?

All right. So you think about the Rodriguez family once again, and how would proficiency in the National Health Education Standards help Guillermo and Sonia Rodriguez manage their asthma?

All right. Some possible responses you might have come up with about Guillermo and Sonia, they could advocate, use their advocacy skills, for improved environmental conditions, improved environmental conditions, in general, and where they live, in the school they go.

Understanding asthma, core concepts. Understand its development, understand its triggers, and then, they're able to recognize the early signs of an impending asthma attack and perhaps engage in some behaviors that would fend off the asthma attack or, at the very least, make it a smaller attack than it would have been normally.

Communicating, using their interpersonal skills to communicate with their parents and with their teachers when they need care. I feel this coming on, I need, something has to happen.

Complying with healthcare practitioner behavior recommendations, that's the healthcare behavior. If they have the skill, they understand, they know how to do that behavior, they're going to comply with behavior.

Going through a decision-making process and deciding not to smoke. They have some good decision-making skills, that's their decision, clearly refuse cigarettes when offered. They may be able to do that, if they've had the appropriate instruction in the National Health Education Skills.

And goal setting of reducing emergency room visits due to asthma attacks. If they had been in the emergency room once a month, maybe they have a personal goal of trying to manage their asthma well enough that they're only in there four times over the course of a year.

We've talked about what health literacy is and what that involves. We have talked about structures, related to school health, that can help support and provide a foundation for teaching health literacy in the schools.

So next, we're going to talk about infusing health literacy skills across discipline areas. We certainly, in the context of this rather short professional development workshop, can't do an exhaustive discussion of how do we infuse? But provide some examples and hope to get everybody to think about some ways that you can do some in the future.

So health literacy can be developed in each of these areas, the core discipline areas, as well as it intersects with the standards in the areas. Many health and health literacy concepts and skills can be infused across disciplines. And when we do this, it

provides a strong, unified message about the importance of health literacy and health literacy skills. And it also provides for repetition of those skills and concepts, which certainly makes it much more likely that they will be internalized, learned, and used.

So let's talk about a situation, an upper elementary middle school-kind of a situation that we have. We were working with a concept of preventing disease transmission. The idea here is to get our students to understand the impact of getting a disease and transmitting other diseases, and to create the idea of a perceived threat. I can get infectious diseases, I can give infectious diseases. And this is potentially a bad thing for me and it affects my family life, my schoolwork, all sorts of things. So we're going to focus on communication skills, accessing information skills, and health-enhancing behavior skills.

So you work in social studies, the social studies folks might have a lesson on the effects of pandemics in history, all right? The economic impact of pandemics on history. They might provide some knowledge concept skills and accessing information skills as they are studying the effects of pandemics on history and the economic impact of pandemics. Some assignment that asks students to go access information related to these areas.

In the ELA, English and Language Arts, the folks are going to read a story about the effects of an epidemic or a pandemic on an individual or a family. We're going to see in ELA kind of what we see there and read about is supporting what we're studying in social studies about the effects of pandemics. It kind of illustrates it in a more personal way, perhaps.

In math, they're using basic epidemiological rates to teach this idea of percentage. Epidemiology is the study of the distribution and determinants of health conditions, and . . . and information, and that sort of stuff. So if we have to teach students how to calculate percentages, does it really matter what content we're using to teach them? So by using health-related content, we kind of support this idea of disease transmission and the effects of pandemics.

In physical education, they're providing instruction of what to do if someone is bleeding, blood, body fluid-borne pathogen skills. All of this ties together and relates to this idea of disease transmission. We're seeing knowledge skills, accessing information, communication skills, and instruction.

So we talk about Sonia and Guillermo again. They have had infusion in their school system, they have had health literacy skills taught and reinforced across a number of discipline areas. So they learned about respiratory function in science. Sonia has asked her doctor to explain asthma to her. Guillermo did an online research project on asthma for a science project. Their physical education teachers worked with students with asthma to help them engage in appropriate physical activity. And Guillermo worked with his social studies class on an advocacy campaign to improve school air quality.

Health literate. What might that have resulted in? Well, Sonia and Guillermo now have fewer visits to the emergency room. They are missing school less often because they're better able to manage their asthma. They're more physically active, which might have some impact, if there was an election, predisposition to developing diabetes, like their parents. And the family healthcare costs have decreased because they have fewer healthcare visits.

We took some time in the schools, we have a unified message, we're teaching and reinforcing skills across discipline areas, we're creating health literate youth that are having an immediate impact on their lives and the economic lives of their family.

We talked about Maria, the grandmother. She's been working with Sonia to write down questions for her doctor. When she goes to the doctor, she brings Sonia or Guillermo with her to the doctor's appointments because she understands that she needs to be able to communicate, but that she's not particularly good at that.

And Sonia and Guillermo, because they are more health literate, and have good interpersonal skills, and some level of knowledge about their grandmother's health conditions, are able to have a good conversation with the healthcare providers. Maria asks the doctor to slow down when she cannot understand what the doctor is saying or when the doctor is speaking too quickly for her. And Maria has Sonia use her math skills to help her with figuring out doses of her various meds and with amounts of food that she needs to eat.

Maria, she's managing her diabetes very well in this health literate context, and she, too, has had fewer visits to her healthcare provider because she's managing her diabetes better.

We take a look at Anna, she's been reading nutrition labels. Her children taught her how to do the math, so she can help track her and her family's intake of calories and other sorts of nutritional information that they need to track. After Anna's friend had a heart attack, she went to the library to look online about cardiovascular disease. She read materials in Spanish, because they were there, and she learned about the connection between weight and smoking. And she has decided to try and stop smoking by the end of the year.

She's more physically active since she cut down on smoking. She's saving money by buying fewer cigarettes, and she knows that when she stops smoking, Raul will pay less in health insurance for his family, because that's the way the health insurance rates have been set up. And she's lost ten pounds.

Raul went to an employer workshop about health insurance, and he learned that it would cost less if he did not develop diabetes. He's had pre-diabetes. He learned that if he didn't develop diabetes, it would cost him less. So he went back to work and he advocated for a 15 minute longer lunch break, so employees could exercise during lunch, a 15 minute longer lunch break.

And he worked with the family on trying to make some of their favorite Mexican dishes in a much more healthy way. Raul has lost ten pounds, and he has decreased his blood pressure. He is healthier, the family is healthier, they're interacting better with the healthcare system, and it's costing them a whole lot less more money than it was.

So how do you all get started? By increasing the school's role in creating health literate folks. First thing you need to do is ask and answer a number of questions. Has your district identified health literacy as a desired outcome? Does your school or school district use a coordinated school health program model? Has your school conducted a School Health Index to assess the implementation of your coordinated school health program? And if it has done a School Health Index, what's the action plan, and is the action plan being carried out?

Who's on your wellness team in your school, in your district? Does your wellness team include administrators, because you need administrative support to do a lot of this

work. Does your wellness team include teachers from a variety of disciplines or does it just include the health and physical educators? Does your wellness team include students, parents, community members? Does this wellness team meet regularly?

Which of the National Health Education Standards and 21st Century Skills do you already include, directly or indirectly, when you are teaching in a particular discipline? Do you use health context at all to teach your own discipline area and your own discipline skills? Are there places in your own curriculum where you can easily use a health context to teach a skill that has to be taught?

Ask and answer those questions as a place to begin to start thinking about how you, your school, and your district may be able to improve health literacy of its students. And after you've asked, and answered, and investigated on those questions, you want to advocate.

What you're advocating for is certainly going to depend on the answers to the questions that you asked yourself, but you might be advocating that health literacy become a priority outcome across disciplines. You might advocate for health literacy skills infusion across disciplines or some sort of activity, where disciplines take a look at which skills they already need to teach.

You might advocate for professional development training in health literacy, health literacy skills, health literacy skill development. And you might advocate for the implementation of a coordinated school health program model. Those are just some of the pieces that you might advocate for that will begin to move your school and district toward health literacy outcomes.

And finally, I'm going to present and show you, and you can investigate, if you like, a set of resources. Let me get started. We have the 21st Century Skills information, the National Health Education Standards, the Institute of Medicine's Health Literacy Report, a white paper on the role of 21st century schools in building health literacy, a health education curriculum analysis tool as a place to start looking at whether or not the school health curriculum is delivering the National Health Education Standards, a health education assessment project, another tool to help the school health educator people begin to take a look at what they're doing, and then, the School Health Index. Thank you.