

Clinical Education Initiative Support@ceitraining.org

THE ROLE OF GERIATRICS IN HIV CARE

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The Role of Geriatrics in HIV Care [video transcript]

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Welcome to Physicians' Research Network. I'm Jim Braun, the course director of the monthly meetings of PRN in New York City. Since our beginning in 1990, PRN has been committed to enhancing the skills of our members in the diagnosis, management, and prevention of HIV disease as well as its co-infections and complications.

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We hope this recording of the presentation by Eugenia Siegler, The Role of Geriatrics in HIV Care, will be helpful to you in your daily practice and invite you to join us in New York City for our live meetings in the future.

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PRN is a not for profit organization dedicated to peer support and education for physicians, nurse practitioners, and physician assistants. Membership is open to all interested clinicians nationwide at our website prn.org. Now allow me to introduce Eugenia Siegler, Medical Director of Geriatrics Inpatient Services at the New York Presbyterian Hospital/ Weill Cornell Medical Center, Mason Adams Professor of Geriatric Medicine, and Professor of Clinical Medicine at the Weill Cornell Medical College in New York City.

[00:01:00]

I have several objectives today and some of this, as you were warned, is a little bit overlapping but I hope to dive a little bit deeper into some of the concepts you were introduced to. We'll talk a little about the epidemiology of HIV and aging, talk a little about geriatric assessment and aging related syndromes, and then give you a couple of practical tips about trying to access the aging services network. I'm coming from the point of view of a geriatrician and how I can try to help you work with your older patients.

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HIV care and geriatrics have a lot in common and it was one of the reasons I think I have found it so easy to work with HIV care providers. I want to again start with what you've seen already which is that the population of HIV is growing older.

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I love this slide because it projects populations from all over the world, not just Europe and the United States. And you've seen this one already.

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I won't belabor it but we will be seeing the vast majority of our patients with HIV not only over 50 but most of them will be over 60. Another point that again has been brought up but I will reiterate just to



give us a baseline to start with. We know that older people with HIV not only have more diabetes or more we know renal disease, but they have more multi-morbidity.

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That is, at any one age compared to HIV uninfected, they have more co-morbidities, at least in this case, multi-morbidity being defined as three or more. You're not only just dealing with seeing a disease more frequently, you're dealing with seeing multiple diseases in any individual more frequently. And as a result, these are data from Biraldi.

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If you look at comparing HIV-infected and HIV-uninfected individuals, these are depicting the costs and in this case, the orange bar is the costs of antiretroviral therapy and the blue, the cost of noninfectious co-morbidities. At any one age, you will see that the cost of non-infectious co-morbidities is higher in those with HIV than those without until you reach the age of 60, when the cost of caring for comorbidities exceeds the cost of caring for the HIV. So, having said that and having had a lot of discussion about co-morbidities, one of the points I want to bring up is the co-morbidities are really only the start here. And I want to talk more about aging and I want to talk more about about what we have in geriatrics referred to as geriatric syndromes but which some of the patients I've worked with bristle at the term geriatrics, so we call them aging-related syndromes. In terms of functional and other impacts, oftentimes the aging-related syndromes have a higher impact.

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So, let me first talk a little bit about aging and that of course this is a lecture in and of itself. It's difficult to define but we can characterize it. And here is one definition which is a process characterized by a progressive loss of physiological integrity leading to impaired function and increased vulnerability to death. Now that's not very specific but one of the reasons I like to provide it is the word disease doesn't come into this definition at all. It may leave us vulnerable to diseases. But those people who study aging are actually not looking at individual diseases. And so, if you want to examine whether someone is aging faster or has started to age earlier, there is consensus about what you should be studying. And some of these are probably very familiar to you.

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Changes in telomeres and genomic instability and epigenetic changes and so on. Some of them are a bit newer and under a lot of observation. If you want a guide to it, there's an amazing article in The New Yorker not too long ago about how Silicon Valley folks are trying to find a way to stop aging. And it's an amazing story for two reasons. One is what these folks are doing and paying for and how they think they're going to arrest aging. But the other is that it gives you a wonderful overview into the science that people are placing their bets on. But the key thing is that unlike when I got into this business, there actually are well-described phenomena. And I think you will be seeing, in the next five years or so, studies that look at HIV's effect on these phenomena and how they then relate to susceptibility of disease is a whole separate area.

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Not being a basic scientist, I want to focus on how aging manifests clinically and what you may see or what you may not see. And again, I think I'm echoing a lot of the themes that were brought up in the first lecture, perhaps from a slightly different frame of reference.

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My first rule of thumb when I talk to people about aging is that everybody ages differently. And not only does everybody age differently but in general, different organs can age in different ways. So, we assume, for example, that presidents age faster than others do. There really is no evidence for that. We also make assumptions about generally about sexuality and as people age. This is a study that was published a few years ago showing that even in a clinic for high risk individuals, a STD clinic, age was a risk factor for not being screened, everything else being held constant. So, one of our concerns, and I am happy I'm speaking to an audience that takes care of those with HIV and those without HIV, is that we are subject to our own biases about whether or not we should be testing. And our patients are subject to their own biases about whether or not they're at risk.

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Prevention and early diagnosis are the key for older adults just the same way they are for younger adults. These are data from the CDC and 15 to 20 percent of new HIV cases are in the 50 and older age group and five percent are in the 60 and older age group. They do remain sexually active and they don't get pregnant anymore and they oftentimes are unaware of the risk that they are posing to themselves by not using safe sex practices. And we are doing the same. For those of you who are interested in particular in providing patient information, there is a website called age is not a condom, which provides information as well as posters and other things that you can have in your clinic.

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Aging with HIV differs from acquiring HIV later in life. Here's a couple of studies I want to show. One is a recent one from PLOS which is looking at those who have aged with HIV and those who have, in the green, acquired HIV at a later age. What we think we are seeing is that having HIV for a longer period of time increases the risk of certain co-morbidities but not necessarily of others. These are data I graphed myself from the CDC and it's comparing in the blue bars, the incidence of the AIDS versus all of the new HIV diagnoses and showing that the older you are when you're diagnosed, the more likely that diagnosis is going to be one of AIDS. We don't think of it and oftentimes the diagnosis happens in the hospital. Again, thinking to prevent and thinking to make the diagnosis earlier is something that our, even as a geriatrician, my own ageism is working against.

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The second point that I want to make is that environment and genes influence how we develop and how we age. And this is a study by a gerodemographer by the name of Vaupel who looked at the annual probability of death of East Germans and West Germans before and after the fall of the Berlin Wall. And what he documented very clearly was that those death rates merged within ten years of the reunification of Germany, which I think is actually one of the most exciting and interesting studies for those of us who care for people aging with HIV in that if there are ways to improve the social situation, if



there are ways to change the environment, they may have an enormous impact on mortality. Just have to figure out how to do it.

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Third point is something that you've seen in the prior lecture and I'm sure that you're aware of. Aging leads to diminished reserve. This is a graph of renal function. And in general, although not for everyone, renal function declines with age. The other point I bring is that we sometimes miss it and are not aware of it because the creatinine may remain stable even as the GFR is declining because body mass, of course, is changing as well.

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Another point is that aging changes often cause uncommon presentations of common diseases. And these are data about people who present with myocardial infarction based on age. In this particular part of the study, the fraction of this age group who presented with an MI actually were given a cardiac diagnosis and how many of them presented with chest pain. And the older population were less likely to be diagnosed and less likely to be present with common symptoms, just as they were more likely to present with heart failure. So again, everything that you think about with a 45 year-old or a 50 year-old, you have to think twice about whether this person is presenting the same way with the same symptoms or is presenting oddly. And of course, one of the challenges I have is what is old when you're infected with HIV. The other concept I want to bring up is that of homeostenosis.

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One of the points that I want to elaborate on with Todd's graphs is that he shows graphs where people decline with each event. And I think all of us in our lives have had some medical problem. We've had surgery, we've had fracture, we've had pneumonia, we've had something then we've bounced back. And that because we are built with a certain level of physiologic reserve. We are capable of having an illness and coming back functionally, physically, cognitively. But as physiologic reserves decline, the ability to bounce back from a stress also is reduced until at some point, you cannot bounce back from that stress. The graph that you were seeing was really describing two things. One, it was describing a person who was declining dramatically but it's also describing someone who does not have the physiologic reserve to bounce back from illness. So, what we are interested in is not just preventing the illness but also in trying to figure out a way to maintain reserve.

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The other point that I made earlier was not only do things present uncommonly but geriatric syndromes, or aging related syndromes, may become much more common and more important than the diseases themselves. So, a syndrome is almost always sort of a bizarre thing to try to contemplate. And in these case, in a geriatric syndrome, there are things that don't just fit into discrete disease categories and cross organ systems and boundaries. And falls are an example of a geriatric syndrome, frailty is, we sometimes consider delirium as one, dizziness is another.

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They differ from traditional syndromes in that if you think about it, we don't think about what AIDS means anymore but it was a syndrome in the classic sense. We knew it was rare and we didn't know what the cause was. It had multiple manifestations. Geriatric syndromes are different. They are common, they have multiple causes, and they have cross-disciplinary manifestations. So, the term of syndrome is almost backwards but that is how we define it and that is a very, very common problem that we're dealing with with our patients.

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Frailty is an example of a geriatric syndrome. We talked about it a little bit in the prior lecture. Let me go into it a little bit more. So, it's characterized by diminished strength and endurance. It can be measured in a variety of ways. And the first measurement, as we heard, was Linda Fried's frailty phenotype where she defined frailty and she put frailty on the map. She was the first person to sort of take what was a very nebulous concept and try to define it and she made it phenotypic. Others have worked on that and there's some spirited debate in geriatrics now about exactly what frailty is. So, we know that it increases the risk of dependency and death. We know that it can be measured in a variety of ways and we think it's treatable.

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Aging without question increases the risk of frailty but frailty's not disability, it's vulnerability.

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You've seen, I think we've seen these slides. Frailty and HIV are synergistic and survival is dramatically reduced if you have both. HIV increases the risk of frailty even after antiretroviral therapy was introduced. And the other point of this slide that I want to bring up is the lower your CD4 count, the lower your nadir, the greater your likelihood again of being frail.

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San Francisco, which is about five years ahead of us in terms of geriatric care of HIV patients-- Meredith Green's done some wonderful work there and runs a clinic there-- have published their findings about people who are older people infected with HIV in their UCSF Silver project. And I want to bring up a few things. How many of them were smokers, how many medications they were on, how many had fallen, 40 percent had fallen in the past year. A third had some cognitive impairment and a third were lonely and a quarter were depressed. Only half of these individuals had normal social supports. If you break it down into the 50 to 59 and the 60 plus, as you might imagine, those who were 60 and over more frequently had balance problems, less frequently had excellent or very good health, more often had slow gait speed but had better medication adherence. This I think is some of the first data coming out. One of the concerns I have is that being 50 or older may be a bit too inclusive and at least when I am evaluating individual patients, I think those who are 60 plus are different from those who are 50 to 60. I will also tell you that we got some foundation support from the Samuels Foundation. They didn't want to hear about anybody under 60. So, if you are looking at this population or you're asking other people to help you look at this population, 50 to 60 doesn't sound old and patients who are 50 to 60 don't think



of themselves necessarily as old. We oftentimes talk more about preparing for aging than dealing with aging.

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Health care for people aging with HIV is more than just managing the viral load and the co-morbidities. There is the physiologic burden. There are the aging-related syndromes like frailty but the psychosocial stressors are our key and often intractable. We also are very, very interested in functional and effective and cognitive status. And while I think that my colleagues are great at getting healthcare proxies, they have often, I think, relaxed a little bit about actually getting specific advanced directives because death has been put off. And so, sometimes one of the things that I can help with is start that conversation back again. When I first started working with CSS, one of my colleagues said that one of the things that I did was give them permission to stop, to peel back. Some of the relationships, doctor-patient relationships, nurse-patient relationships had been 25 years. And so, beginning the conversation again about what do you want? How aggressive should we be? was a relief for everyone. If you're thinking about caring for older patients, what do you do?

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Well, if you talk to a geriatrician, you're going to begin with the fundamentals of geriatric primary care. So, comprehensive assessment, creation of a plan of care, coordination of care, and promotion of active engagement are what Chad Boult has talked about geriatric assessment is. It sounds very familiar. I'm not telling you things that you're not already familiar with. I'm slanting them a little bit. I wanted to talk a little bit about assessment tools that are available.

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And as you begin to think about how you want to care for your patients, one of the things to ask is well, there are dozens and dozens of these things. What have I seen in the patients I take care of and what might I want to begin to implement in my office? The first thing from a geriatrician's point of view that we do is assess function.

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And function comes in two flavors in geriatrics: the basic activities of daily living and instrumental activities of daily living. The basic activities of daily living are can you bathe, can you eat, can you dress, sort of the basic things of just taking care of your body. Ambulation is a controversial part of activities of daily living there. Many instruments like the Katz don't have ambulation. They have transferring but from the point of view of many of the instruments, they don't care how you get from point A to Point B only that you can. And transferring becomes a hugely important measure of safety because if you can't transfer from your bed to your chair, you can't be home alone. Transferring saves your life. Transferring gets you from one position to another safely. It's less important that you can walk to the kitchen than that you can transfer safely from the bed to your chair. The instrumental activities of daily living are measures of higher order functions. Can you manage your finances? Can you prepare your food? Can you shop? They are, however, very socially biased. I used to tell people that my father was dependent in all of his IADLs all of his life because my mother took care of them for him. And so, you need to think



about what they're measuring and sometimes it may be something as simple as are you still going to work? Other times a person who has never cooked and is never going to cook may nonetheless still be playing a mean game of poker. And so what is it that the brain needs to do IADLs and how am I going to make sure that this individual is not at risk? So, as you might recognize, the instrumental activities of daily living are the ones that tend to be more vulnerable to cognitive problems whereas the activities of daily living in someone is cognitively impaired decline much later, but in someone who has a major physical disability, they may go first and the IADLs may still be intact. Christopher Reeve could direct a movie when he was completely paralyzed but he needed someone 24/7 to take care of his body. So, they are they are measuring very different things although individuals may have a predictable decline based on what is wrong with them. The second thing that you may wish to measure is health and wellbeing. The SF-36 is a measure of health. My concern about health measures is that most of these things are very long and very unwieldy. And so, what I've taken to do is just asking someone How's your health? Is it good or is it fair or is it excellent or is it very good? And how a patient, how an individual feels his health is is a predictor, again, of mortality and decline independent of their functional status. Health is overlapping with function but because it is an individual person's construct of how they're doing, it says something different. And one of the other things that I like about the instruments of measuring health is that they talk about pain. How are you functioning? How are you doing? How is pain interfering with your ability to work? Is pain-- is your disease interfering with your ability to socialize? That's health. If only there were a simple way to measure it. But you can think about those questions and fold them into your interviews.

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Another thing you may want to consider is prognostic scoring. Do people use the VACS? Some do? The VACS is online. And it's a calculator coming from Amy Justice, the VA cooperative study. It will give you by plugging in those numbers a rough idea of 5-year mortality. It's associated with a variety of other medical or functional problems. It's sort of scary because there's not much you can change. They look at CD4 and HIV but many of them are just labs. Nonetheless, it's a very useful tool just to get a sense of what a patient's prognosis is. You can measure frailty, which can also get at the same question.

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Now, in the earlier lecture we talked about the frailty phenotype, which is hard to say fast, and that is measured by physical assessment or by history. Are you tired? Are you slow? Do you not get off the couch? Are you shrinking? Are you weak? The problem with this is that it was designed for research and it's very hard to implement in the office. Another index that was designed for researchers is what's called deficit accumulation. That is work that Rockwood has done. Has demonstrated pretty clearly that you can measure frailty just by the number of things wrong in an individual. And one of the things I like about it is that he gets at social problems like unemployment here in this particular screen or depression. The frailty phenotype doesn't look at the rest of the world or at how you're doing cognitively or emotionally. The frailty index does. But these are just an amazing assortment of things. And the idea behind it is I can take almost any group of measures, start out with 70 measures, any group of measures and the higher the proportion, the greater number of things that are wrong, the frailer you are. I like it because it looks at the individual as a whole and it's getting at something very fundamental



to geriatrics which is the more things you're dealing with, the more at risk you are. But it doesn't tell me anything phenotypically about what's going on with the patient and it's not very helpful in the office.

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I have preferred some of the simpler frailty screens and these are two of them. One is by Jack Morley, which is the frail questionnaire. The other is the Gérontopôle frailty screen and that's what I use in the office. And I like it because it forces me to ask a bunch of questions but then ultimately I have to decide if the patient is frail or not. Is the patient living alone? Has the patient lost weight? Are you tired? Are you having trouble walking? Is there anything off with your memory? And that process of asking the patient these questions has me focus on them and how vulnerable I think they are. So, there are any number of ways to measure frailty. None is definitional per se. All of them are getting at Are you tired, are you vulnerable, are you going to get in trouble? And you can choose from any of these scales depending on what you're looking for and how you think you can get time to ask those questions.

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Screening for cognitive impairment's important. I have a do not use the MMSE down in the corner. Who's using the MMSE? Mini Mental Status Exam. You don't use it anymore? Did you ever use it? It was what I was brought up with and it's now run by a company so you have to pay a dollar and 43 cents or whatever every time you use it. Let us just say that there have been some anti-academic practices. There was, I think it was the sweet 16. There was another scale that someone developed and they sued them. I don't think they have been scholars that have tried to advance the knowledge base. I think they've gone in for the money and I think that there are other and better scales that we can use. So, just remember every time you use it and you don't pay this company \$1.43, you're robbing them. There are better ones to use. I think most people are using the MoCA now. But the MoCA is ten minutes. Is there something we can use in the office really fast? And the Mini-cog, which is not too difficult to remember if you can remember three nouns, have them draw a clock, ask three nouns again, is a legitimate screen for dementia. It's not going to pick up mild cognitive impairment that the MoCA is going to pick up. But if you just want to ask something quickly and you don't want to have to start pulling out pieces of paper, it's a very reasonable choice.

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So much of the HIV literature that I've been looking at with regard to cognitive impairment was looking at HIV-related disease. Obviously HIV is always going to be present and is always going to have an effect but what we're seeing more of now is dementia that is not related to HIV, dementia that is more often related to cardiovascular causes or strokes or chronic substance abuse or Alzheimer's disease. They're getting old enough. I've had patients say, "My mother had Alzheimer's disease. I'm worried I'm getting Alzheimer's disease." That may be what's happening. The test that may have been used to diagnose specific HIV-related impairments may soon not be as relevant because almost certainly, the people you're going to be seeing are going to have mixed disorders. And HIV is going to be the start of it. But in all likelihood there are going to be multiple things that are contributing to cognitive decline. I do a MoCA on everyone I see at CSS. I haven't averaged it lately but the average, as I recall, the average MoCA is about 22, 23. It's not normal by any means. The other thing I've noticed is that memory complaints don't



have much of a correlation with what the MoCA turns out to be. What I don't know is if that MoCA is going to be stable for a while and this is just the way people have been living. But if you look for it, it is there.

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I encourage you to assess and manage bone health. The algorithm to the left is Brown's algorithm. There's a second algorithm that's McGinty and Malon. Yes, it's important to screen. It is probably the most difficult co-morbidity I have to convince people to screen and treat. Patients are terrified of using these drugs. So many of the patients I've had have dental problems and nobody wants to go near the bisphosphonates and I haven't figured out what to do yet. But the screening recommendations are very clear.

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You can try the FRAX. The FRAX is easily available online. It changes based on your country, your gender, and your ethnic group, so you can't just have it on your calculator. I have the URL down there. Keep in mind you have to choose the country and the ethnic group up here and then when you do the questionnaire, the current recommendation is that for HIV, secondary osteoporosis is listed as yes. And again, it gives you a rough idea but it also gives you just that much more opportunity to convince your colleagues or your patient, you really need to be on this drug. You really need to be on a bisphosphonate. You have an X percent risk of a hip fracture and we need to do something about it. Again, reiterate that fractures are just one very small part of these mobility problems and falling can, without a fracture, cause such a loss of confidence and cause people to not want to leave their apartments or not want to go out and exercise. Preventing the fall is crucial to emotional health. And oftentimes when we see the patient while, it isn't it oo late to do something, it's very, very difficult for me to convince them that something can be done.

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I will remind you that you can screen for drug interactions but I also want to talk about the problem of polypharmacy and the problem of medical nihilism. I have yet to solve the polypharmacy problem. I have done a new consult on a patient who's got 14 drugs and if I can stop one of them, I feel really successful. I have yet to figure out how to solve this. And so, you will see a high prevalence of polypharmacy in all of these patients with certain delightful exceptions. The problem is you can't not give a person the medication that they're benefiting from. The hardest clinical decision is often figuring out is this person still benefiting from this medication? And that can be where the geriatric consultation comes in. What choices are we going to make? Is there anything that we can peel back? Is there a better drug to solve this problem than the one that they're on? Is there one with fewer side effects? I mean, we hit pay dirt when we realize we have one drug the person doesn't need and then two more drugs to treat the side effects of the drug they don't need. When I can stop three drugs at one time, I am really happy but it is very rare.

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What I know is comprehensive geriatric assessment can't be completed in an hour. We start with the basics so this is what I do. I ask patients. I learned after a while, after talking to patients often enough that asking their goals often helped me get a sense of how they felt they were aging and many have goals of a job or travel but a frightening number of people say they have no goals. That's often where, again, we can focus our attention. The patients I see have a cardiologist, they have a endocrinologist, they may have a nephrologist, they have an HIV specialist, they may have a psychiatrist. Sometimes what the geriatric assessment does is get a better sense of where they are and existentially. Sometimes starting that conversation can get them more social or at least have their physician recognize that we have to get beyond the drugs to figuring out how this person is going to get a good quality of life. I do the FRAX. I do the VACS, as we mentioned. I check for depression and anxiety with a very simple screen. I do a functional assessment. Try to squeeze this in in an hour.

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The other point that I will make is that the geriatric consultation is just a small part of what we're trying to do and collaboration with community organizations has been challenging but essential because I can't begin to meet the needs of these patients as they're aging.

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How might a geriatric approach help people with aging with HIV? Well, again some of what we do is just draw attention to frailty or dizziness or other geriatric syndromes. We test for functional and cognitive impairment and again, cognitive impairment's the number one reason why I get referrals. Sometimes the patient is worried, sometimes the clinician is worried. We help with the treatment and prevention of co-morbidity. Sometimes it's prioritizing. It's not necessarily making medication recommendations. We're another voice against smoking. It doesn't help that much but I think every little bit helps. We are interested in helping people think about their goals of care.

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I sort of have this as my way of thinking about all the things that we're dealing with, aging and function and frailty actually being a small part of all that. And I want to close with some other practical matters and that is that that one of the other things that I learned was that there is a phenomenal HIV services network and there is a phenomenal aging services network and they have not known about each other.

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One of the things that I can do, and have done, is work with social workers and clinicians and patients to explore what the aging services network can do for them. In New York City-- let me go back. Every county has an area Agency on Aging. In New York City it's called DFTA, Department for the Aging. And it covers the whole city. It actually should be five different agencies but it is covering all of them. You can go to the National Association for Area Agencies on Aging and you can plug in a city and a state or a zip code. I think it rejected when I just put the city in. So, either put in your ZIP code or the city and state and it will give you the result and the area Agency for Aging for your county. It will also give you other information but that's where you can start.

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You can also access services through what's known as an Aging and Disability Resource Center. The feds combined Aging, Disability, VA into one overarching program called the Agency for Community Living. They have developed Aging and Disability Resource Centers which are called No Wrong Door system. Basically one number and they will get you to the services that you need. In New York it's called New York Connects. And again, you may not find the perfect thing for your patient but individuals who have turned 60 and older may not have any idea that all of these services exist. I've found it very worthwhile to look and see what is it that I can get for these patients that can help them. There are other things to refer your patients to.

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The Elder Care Locator you can go to directly and get more specific by topic. There's also the Benefits Checkup by the National Council on Aging and all of these things are often complimentary to what the HIV services offer and provide new opportunities for patients to socialize, get help. So, how do we combine the components of care? I want to leave with this.

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HIV care first interacts with subspecialty care. Geriatric care is, I think, trying to influence the subspecialty care in figuring out what's most important as we work also with our HIV providers. But the other part is connecting the HIV and geri social service silos so that they talk to each other and people can get everything that's available out there for them. What I think is the biggest challenge is not what I'm doing, it's going to be long-term care. As people age into the system, how do we meet their longterm care needs? How do we get them the services that they need at home? What is long-term care and facilities is going to look like? Are we going to have complete integration into the long-term care system or is stigma and are HIV-related social problems going to be so draining that patients are not going to want to be integrated with those who don't have HIV? And I don't know what the answer is. There's so much difficulty in trust. I think we all have to put our heads together to figure out as this cohort gets older and older, how are we going to meet their long-term care needs? What are we going to build? There is such a thing as a NORC. Anybody know what a NORC is? A NORC is a naturally occurring retirement community. People who bought into apartment buildings after the war have all aged together and some enterprising individuals put a social worker there and tried to provide some services in those apartment buildings. The state recognizes a NORC as a phenomenon now and will provide resources to help social support within the building. Can Housing Works turn into a NORC? How are we going to do this? And if you're interested in this, I think this is really the opportune time to begin to explore how we can take what geriatrics has learned socially about meeting needs of individuals in clever ways and apply it to our patients with HIV. Because we might as well begin to think about this now. The need isn't quite there yet but will be. And that's really I think where a lot of very clever people need to come up with some really good ideas.

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Here's some resources and there are a lot of things out there. I'm going to end here. I'm happy to take any questions.

[Video End]