

#408 COPD in Older Adults with Leah Witt, MD & Amber Lanae Martirosov, PharmD

Definitions, 4Ms & Inhaler Pro Tips

**THE CURB
SIDERS**
INTERNAL
MEDICINE

#408 COPD in Older Adults

with
Leah Witt, MD
& Amber Lanae
Martirosov, PharmD



Matt: Paul, three men are stuck on a boat with four cigarettes but nothing to light them with. So, they throw one overboard and now you know what the boat is?

Paul: Two men with four cigarettes.

Matt: [laughs] It's a cigarette lighter, Paul. [music] It's a cigarette lighter. They threw one overboard.

Paul: Ow, ow, ow. That's-

Matt: That's not better.

Paul: -better than mine.

[Disclaimer]

[The Curbsiders theme]

Matt: Welcome back to The Curbsiders. I'm Dr. Matthew Frank Watto, here with my great friend, Dr. Paul Nelson Williams. I should mention he is America's primary care physician. Paul, how are you doing?

Paul: I'm good, Matt, and America is doing great.

Matt: [laughs] I think unanimously that's what everyone says.

Paul: [laughs] Yup.

Matt: Very unified. Yeah, it's never been better. So, Paul, on tonight's show, we are going to discuss COPD in older adults with two great guests, longtime friend, sometimes co-host, and tonight, our guest expert, Dr. Leah Witt. Also, joined by Dr. Amber Lanae Martirossov, who is a clinical pharmacist, has some great tips for us today. Can't wait for people to hear this. So, Paul, before we get to introducing our guests fully, can you tell people, remind them, what is it that we do on The Curbsiders?

Paul: Sure, Matt. As a reminder to our audience and myself, we are THE Internal Medicine Podcast. We use expert interviews to bring you clinical pearls and practice-changing knowledge. So, I'm going to talk about each of our guests in a little bit more detail. I'm going to start with Dr. Martirossov. Dr. Martirossov is an ambulatory care pharmacy specialist, an associate clinical professor, and a huge advocate for her patients. She practices in an Outpatient Pulmonary Clinic at Henry Ford Hospital in Detroit, Michigan. Over the last 10 years, Amber Lanae has improved patient outcomes by focusing on getting patients the right inhaled medications at the right price.

Next up, we have our own Dr. Leah Witt, who's been a producer for The Curbsiders since 2017. It's hard to believe we've been around that long. She joins us for the first time as an expert guest. That doesn't feel like you can be right, but I guess I guess it's in the script. But Dr. Witt is a geriatrician pulmonologist and clinician educator at UCSF whose mission is to convert specialists into many geriatricians. She focuses on the ambulatory care of older adults with chronic lung diseases. Wins for her are when specialists ask about function, medication costs, and cognition. Today, they teach us about how to take care of the older patient with COPD, with a lot of age friendly tips in terms of medication management, a lot of practical considerations, a lot of tools we can use in the office in terms of making sure we prescribe the correct inhaler and that's the inhaler that the patient can use and also the patient can afford.

Matt: A reminder that this and most episodes are available through VCU Health at curbsiders.vcuhealth.org for CME credits. So, you can go there to claim your CME credit for this episode. Before, we get into the full episode, we have a bunch of discussion here that's just lovely about baking, which was very unexpected. But if you hate that part of the show, you can skip it. But I recommend you listen because our guests are delightful.

Paul: If you want good carrot cake tips, the carrot juice thing I just I can't--

Matt: [laughs]

Paul: Yeah, I wouldn't miss it.

[music]

Matt: Welcome to the show, Leah and Amber. The audience has heard about you. They've heard your bios, but now we're going to get to know you a little bit. Leah, you're one of us, but we're turning the tables tonight. So, we're going to ask you, tell the audience a hobby or interest that you have outside of medicine.

Leah: Thanks, Matt. I'm so excited to be here. So, my hobby is elaborate baking. I've spent my last maternity leave a lot of time on elaborate baking because I had my mother to hold the baby and could spend all day long ordering elaborate baking equipment. [Matt laughs] But I think the thing that I'm most proud of, is creating a Buche de Noel for last Christmas. So, my husband is Syrian and there's a huge French cultural component to being Syrian because [crosstalk] they were occupied by the French. So, his mother makes a Buche de Noel for every Christmas. So, of course, when she wasn't around for the last Christmas, I took it upon myself to both learn what that is and then create it, which involved crystallizing, rosemary twigs and cranberries for the decoration on the top. I have to say it turned out very well. It did crack when I tried to roll it. So, there's a rolling component with the filling. So, that's my next hurdle.

Matt: I need to look up what this actually is--[crosstalk].

Paul: What [crosstalk] are we talking about?

Matt: -so you seem to know.

Paul: So, what was the filling? What was the cake? If you're doing rosemary and cranberries.

Leah: The rosemary it doesn't go with it. You don't want to eat the rosemary.

Paul: It's just there for decoration-- Okay.

Leah: It's just for decoration. Same with the crystallized cranberries. But it's like a chocolate cake with it's almost like a giant Ho Ho. That's how I would describe it.

Paul: Matt, you've seen it, like-

Leah: Really beautiful.

Paul: -she has to decorate the bark, but it's a rolled up, the swirls represent the rings in the tree. They're beautiful when they're done well, it is complicated.

Leah: Yep, yep, yep. You cut it so that you can make like a branch.

Matt: I think my grandmother used to make something like that, but I was too young to appreciate the complexity of what she was making. Amber, let's hear from you what's any hobby or interest I mean, if you don't want to follow her with that, you can give us some advice if you'd rather do that.

Amber: Well, so it's funny because I feel like Leah and I need to talk offline because I would say that my hobby is actually baking. I'm known for my cakes and I make two to three tier cakes.

Matt: Wow.

Amber: My best one is a recipe that I perfected over the last couple of years, which is a carrot cake that I make a homemade, salted caramel sauce that I put in between the layers. Then, I make a cream cheese buttercream frosting that I then drizzle the salted caramel on the outside. It's very moist and tender because I've perfected just how to blend. The certain amount of carrots, you actually should blend them to make them moist. Then, my secret ingredient is pineapple. I'm giving away my recipe, but if you actually add crushed pineapple to a carrot cake, it actually makes it so much more moist and just flavorful. So, baking is definitely a hobby of mine. My husband and I have mastered macarons, the French cookies.

Leah: That's hard.

Amber: He's much better at it-

Paul: Yeah, that's [crosstalk] tough.

Amber: -because he's patient, but I'm not. So, yeah, yeah, it's definitely hard. He's much better at his like the foot is what they call it when it's growing before you bake them. His foot always turns out perfect and mine are always wonky. So, he always has the beautiful ones that we give to other people, and I eat the ones that aren't so beautiful.

Matt: This is fascinating. Paul, we've gone down a rabbit hole. Should we pivot into a cooking show?

Paul: So, for the cake, so important question. Coconut yay/nay, are you also adding that for moisture? Are you just doing the pineapple one and then the carrot puree is what I'm hearing to.

Amber: So, I-

Paul: That's a great tip.

Amber: -puree my carrots and then I add the crushed pineapple. So, I puree about two-thirds of what's required for the recipe, and then the rest I just put in as shredded carrots. And then I'm very particular, I only use the black walnuts because I just think that they're so much better than other forms of walnuts. So, I pay a little bit more for those ones. But yeah, delicious.

Matt: So, we are going to have to probably request [Paul laughs] pictures of the Buche de Noel and the carrot cake for the audience to put on social media because I'm sure they're going to want to see what these things look like after this. Maybe they might even want a recipe if y'all are willing to share.

Leah: It will be in show notes, yeah, have to share.

Matt: Paul, I think we have to move on to a case.

Paul: I think we have to move on.

Matt: Otherwise yeah. So, Paul--

Paul: I could do this for an hour just sort of you know.

Matt: I'm aware. That's why I'm moving us on. So, let's talk about Ms. Anna Lopez. And Paul, would you do the honors?

Paul: Sure, I'd be thrilled to. Thanks, Matt. So, we are talking about Ms. Anna Lopez. She's a 70-year-old woman with a history of osteoporosis and a 40-pack-year tobacco smoking history, which would be 20 years of two packs per day. She quit last year and good for her. You are seeing her in your primary care clinic for routine visit. She is more short of breath over the past year, and as a result, she is getting out less. She used to walk to the grocery store weekly, but now she has to get her groceries delivered. Ms. Lopez was hospitalized last month for influenza and discharged with supplemental oxygen because her ambulating oxygen saturation was 88% on room air.

Since her discharge, she has been short of breath even with dressing. She has an occasional cough without sputum production. She didn't really mind the hospital stay. However, she knows that she got very sick and she wouldn't want to be kept alive on a bunch of machines. Her daughter joins her today's appointment, which is a treat. She is really concerned about how her mother has not been very active or engaged with her family since her hospital discharge. Her daughter is also worried about her mother's memory. So, we're painting a picture. Ms. Lopez, we suspect COPD is the most likely case for symptoms, but we don't have probably as much data as we want. So, before we even get started, I'd like to hear Leah, your overall approach is, how you think about this type of patient, how we should at least get started, and then we can advance from there.

Leah: Yeah, thanks. Paul, I think it's important to remind yourself what exactly is COPD and then how you make the diagnosis, because a lot of things look like COPD or called COPD that aren't. So, first, it's a heterogeneous condition. It's characterized by symptoms. The symptoms should be chronic, shortness of breath, cough, sputum production. Then, those symptoms are due to either airway and/or alveolar abnormalities. So, that encompasses like, chronic bronchitis, bronchiolitis, emphysema, and then there's airflow obstruction, and sometimes, often it's progressive airflow obstruction. So, diagnosis involves both assessment of that airflow obstruction and assessment of the clinical context. So, we talked about the symptoms and then you should have, ideally, an appropriate exposure. Most of the time you find inappropriate exposure. In a lot of cases, that's a history of tobacco use or secondhand smoke exposure, or in some parts of the world, air pollution or an indoor wood burning fireplace. I've had patients who come from countries where a lot of the cooking is done indoors with a wood burning stove.

So, the appropriate clinical context is important. And confirmatory spirometry demonstrating obstructive lung disease. The GOLD criteria say that obstruction is an FEV1/FVC ratio less than 0.7 post bronchodilator. But just remember that spirometry alone isn't enough to make the diagnosis. We'll talk more about that in a second. I think besides spirometry, you want to think about what other work up might need to happen, at least a chest x-ray. Some of these patients might qualify for lung cancer screening, so maybe they get a low-dose CT scan and then think broadly about your differential. Could there be other things going on or at least

contributing, like asthma, bronchiectasis, ILD, CHF. So, think about a broad diagnosis as you're working your way through the diagnostic steps for COPD.

Matt: I know there's an asthma-COPD overlap,

Leah: Yeah

Matt: But a lot of patients just seem to not want to say they have COPD. They're just like, "No, I have asthma." I don't know. I mean, it is a little bit important, especially since the medications are different, the order you prescribe them are different. Do you have any tips for how you tease that out?

Leah: Yes.

Matt: I don't know if you do, but I'm just asking because it comes up a lot for me.

Leah: This is really tough, and I think there's a huge part of this that we're still working out for ourselves. But I always ask about childhood and young adult history of asthma, which would lead me to think that maybe there's an asthma-COPD overlap in a person who smoked for example, there might be an overlap, but sometimes people with really severe or persistent asthma will start to have fixed obstruction. I think that's where it's hard because we think of asthma classically as having a reversible obstructive deficit and maybe in between exacerbations, their lung function is normal. But there can be people who have a nonreversible deficit just as time goes on and their airways become less reactive. So, that's a hard piece to sort out. But I would start with the childhood history and then also you can order things like an IgE level and a CBC with a differential to see if there are any of those type II symptoms that might be more responsive to an inhaled corticosteroid or some of our newer biologic agents.

Paul: Leah, can I ask--, only if you're able to answer this, but how has COVID muddied the waters, if at all? I feel like this patient was striking to me because I feel like I've had a lot of patients who are older, maybe COPD E type picture and then had a hospitalization for COVID and came out someone with oxygen requirement. Was that an acceleration of underlying disease or new fibrosis or is it just a mixed bag? So, I guess my big question is how has that impacted making the diagnosis, if at all?

Leah: That is a really great question. Well, perhaps she got a CT scan. So, I think that might be one way that these hospitalizations and COVID are impacting pulmonary care. People are just getting more tests. I think there's a much lower threshold to image. So, it's rare that I have to order the CT because it's usually been done.

Paul: Right.

Leah: [laughs] But in terms of oxygen, you're right. We are seeing post COVID fibrosis. It's also unmasking ILD that was probably there but was accelerated from COVID, just maybe wasn't seen because they didn't have a CT scan, for example, and unmasking other things, lung cancer. We have a post COVID clinic at UCSF and that's something that we see a lot, is that COVID is often just unmasking for the provider, some things that are underlying. So, in terms of her need for oxygen, I do think that requires a little bit more evaluation.

She needs a CT and probably an echo too to see if there's any pulmonary hypertension. Try to get to the bottom of why she's hypoxemic. We're going to talk in a little bit about whether or not oxygen is appropriate for her. But I think really that's what COVID is doing. It's just drawing more attention and maybe earlier diagnosis to some of these conditions.

Paul: That's great. Thank you.

Matt: So, let's talk about a little bit about the evaluation of COPD. The GOLD guidelines have been updated. Do they update, it seems like annually, 2022,-

Paul: [laughs]

Leah: Mm-hmn, yearly.

Matt: -I think April 2023, something like that they were updated. Can you talk a little bit about how the classifications changed?

Leah: Yeah. So, I am preparing for this episode. I was looking through GOLD 2023 and it has gotten very geriatricized. It's pretty exciting. They have a whole section on the natural history of lung aging and some of these phenotypes that we're just talking about with asthma and COPD. They have a whole section on inhaler device choice and adherence assessments. So, there was a big change in the GOLD guidelines in the last year about how we assess and categorize people with COPD. So, I'll just go back and go back historically, 2011, when I graduated medical school. So, it doesn't feel that long ago, but it is. We stopped assessing COPD just based on grade of spirometry. So, we used to say like, "70% to 79% is one category, 60% to 69% is another category." Then we realized that exacerbations and symptoms were really important in how people did and what medications we should use.

So, in 2011, we moved to the ABCDE assessment tool. So, A, B were low exacerbation groups and then either low in A or high in B symptoms, and then C and D were the high exacerbation groups. In 2023, GOLD decided to group C and D together into a single group called E to highlight the importance of exacerbations. So, there's A, B and E and then the way that this matters, obviously this is going to affect a lot of research studies and how people are classified and categorized, but now it affects treatments. So, people with group E COPD, you should jump right away to treating them with a LABA and LAMA, two types of long-acting bronchodilators, beta agonists, and the muscarinic agonists, which Amber is going to talk about in a little bit.

Matt: Yeah, we still have our GOLD classes. The way I always remember it is like 80, 50, 30, where I guess below what is it? below 80, you're in stage II, below 50, you're in stage III, below 30, you're in stage IV, something like that, I don't know. But then we're also modifying it with this A, B or E, where E is severe or frequent exacerbations, and A and B are less severe or less frequent exacerbations. Any other way to think about that?

Leah: Yeah, I think that the ABE assessment is more important than the spirometry itself, Though, there are certain things that spirometry are really important for. For example, in a lot of states, you can get a DMV disability placard if your FEV1 is less than a liter. That's not percent predicted, but just less than a liter-- So, there are some things where the spirometry matters, but it can be pretty shocking that people can have terrible spirometry but never exacerbate and they're never in the hospital. On the other hand, the spirometry can be less severe and they can be in the hospital a lot. So, I think those quality of life and disease impacts are more important than spirometry itself.

Matt: Mm-hmm, okay, that's very helpful. Thank you. All right, so, Paul, want to take us on to the next part of this?

Paul: Sure. Well, while we're in diagnostics, so Ms. Lopez does get spirometry, miraculously we're able to actually achieve that, which I struggle with my patients still. Her FEV1 is 65% predicted, and her FEV1 to FVC is 56%. So, we just talked about how this value is fitted into

the revised guidelines, which is not that big a change. But for you in the context of this patient's age, does age affect how you think about those values in any particular way?

Leah: Yes, definitely. So, there is a big risk of overdiagnosis of COPD in older adults and that's because spirometry can look more obstructive with age. I'll talk about what normal age-related lung changes are in a second. But the GOLD guidelines address this. So, they say that we know that the lower limit of normal choosing that would actually be better for older adults and younger adults too, because they might be underdiagnosed, but they are committed to sticking to the FEV1/FVC ratio less than 0.7 because it's simple, it's independent of reference values. If you're following the PFT literature, there's been a lot of controversy over reference values that have some racism baked into them historically. So, there's a reckoning over reference values. So, they say let's keep the reference values out of the equation. 0.7 is the cut off. But if you have a patient who is older and older, you might consider looking at the lower limit of normal.

So, what are the age-related changes in the pulmonary system? There's a lot. Unfortunately, your lungs age from the very beginning, but especially after your third decade of life, things start changing. There are changes in the chest wall, in the parenchyma, in the respiratory muscles. So, in the chest wall, people often, especially women with vertebral compression fractures from osteoporosis develop kyphosis and that can cause stiffening and difficulty getting a full expansion of the lungs. There can be cartilage calcification in the rib cage, and then in the parenchyma there's reduced elastic recoil. If you've heard the term, that should be out of favor, we shouldn't be using it, but senile emphysema, that's what's meant by that. So, emphysema is the destruction of alveoli. But this term means reduced elasticity of the alveoli themselves, so they're larger than they should be and may trap air. I can put a photo of an electron micrograph in the show notes that shows this really well and then weakening of respiratory muscles.

So, term for that is sarcopenia. So, that's the diaphragm, the external intercostals, all the accessory muscles, sternocleidomastoid. The outcome of that, we see that maximal inspiratory pressure and expiratory pressure at the mouth that you can measure in a pulmonary function lab. They decline with age. So, all of those changes usually in some that's an obstructive phenotype, though I'll tell you that people who have scoliosis, for example, they might have a more restrictive phenotype on pulmonary function tests. It depends on what their burden of age-related changes are.

Matt: Yeah, because it seems like the kyphosis, if they had more of the stiffening of the chest wall or the kyphosis, it might look more restrictive.

Leah: Mm-hmm.

Paul: Right

Leah: Yes. Yes. So, it depends but on average, it usually appears more obstructive.

Matt: More obstructive.

Leah: Yeah. Right.

Matt: When you say lower limit of normal, what is the lower limit of normal for the FEV1/FVC Is that a number we need to commit to memory? If not, then don't worry about it.

Leah: No, it is based on population-based reference values. I won't say each lab uses their own, but it varies across labs about what the reference values are. So, you don't have to commit that. It's a calculation that each pulmonary function lab has to make.

Matt: Okay, got it. All right.

Leah: Yeah.

Matt: As of right now, across the board, any PFT lab that's giving you results, if the postbronchodilator FEV1/FVC ratio is less than 0.7, that's an obstructive pattern. We could think about COPD if they have, as you said, the right history to go and symptoms to go along with it.

Leah: Exactly, that's right.

Matt: Okay, so I guess we can talk about some treatment for our patient here. Amber, so we gave you this is--

Paul: Sorry, Matt. Before we get there, can I ask one of my trademark dumb questions?

Matt: Of course, Paul.

Paul: I'm so sorry, but just with exacerbations being such a prominent component of how we're actually staging this. So, leading to hospitalization, I can conceptualize, but how are we quantifying exacerbations that don't lead to hospitalizations where it's not quite as clear cut as to whether or not there is some exacerbation or not? What is the guidance for that?

Leah: Yeah, so exacerbations one or more leading to hospitalization, or two or more moderate exacerbations. Moderate exacerbations would be defined as exacerbations that require treatment. So, steroids or antibiotics, it can be outpatient, but two or more if not hospitalized, and only one if hospitalized.

Paul: Yeah, it was the moderate that I was flailing with, what does that mean necessarily? But the treatment part makes it very understandable. Thank you for that. Sorry. Now we can treat her.

Matt: Okay, so, Amber, just to remind our audience, it's Ms. Anna Lopez, 70-year-old woman, osteoporosis, smoked for 40-pack years, now having some symptoms, not functioning as well, ambulatory oxygen sat is 88% on room air. We want to know what should we start treating her with?

Amber: She's going to warrant bronchodilator therapy. For group A, the guidelines just say a bronchodilator. But when you get into group B, there is a preference for that long-acting antimuscarinic therapy. This long-acting antimuscarinic therapy really became favorable a couple of years ago over the long-acting beta agonist. It makes sense from a pharmacologic standpoint. So, if you think about the way that long-acting antimuscarinics work, they work two ways. One, they're attaching to muscarinic receptors and subsequently will induce bronchodilation, but they're antimuscarinics. So, the more important thing that they do is in terms of bronchodilation, they're also drying out that mucus production that is so prevalent in what we see in COPD patients. So, she has no therapy. So, the very first therapy that you should give her, especially at an older age, is just one inhaler and let's see how she does with that one.

Then the guidelines and I loved this over the last couple of years say, if over six to eight weeks she's still having symptoms, then you could consider adding on that long-acting beta-agonist agent should then give her dual therapy and see if she improves. Then, if she doesn't, well, then just put her back on the LAMA and investigate other things. But if she does, then you would keep her on that therapy. I think that's something that I think

sometimes we hesitate to do is stepping up therapy or stepping down therapy. But in COPD, if she's genuinely not responding to those two agents at the same time, we really do need to investigate. Is there something else going in kind of to Leah's point earlier, did we maybe get this diagnosis wrong? Is this maybe asthma-COPD overlap and that's why the patient isn't responding as well? Or is there something else that could be contributing to their symptoms?

Matt: Yeah, I love the idea of almost you're giving it that six to eight-week trial reassessing, deciding if you want to add another agent. Even if you do, you're still going to reassess another six to eight weeks and you might even deescalate because if they're on two and it's not helping, then I think maybe some people would add a third. But I guess it depends on what's happening. But I like the idea of just like, once they're on this medicine doesn't mean that they're on it permanently if they're not benefiting from it, which I think is something that in general, in medicine, people seem to forget sometimes.

Amber: Well, and then I'm a pharmacist, so my brain is always thinking about how is the patient going to tolerate it and what are some of the effects that they might experience. I think a huge counseling point that oftentimes gets missed, which is a really missed opportunity, is to help patients understand when they start that long-acting antimuscarinic, the first couple of days that they use it, they may actually see an increase in coughing sputum and getting it out. But what the patient needs to be told is that's not the drug not working. That's actually telling you that the drug is getting in there and finally drying up that mucus enough that you're finally able to cough it out and get it out so that you can breathe better. But then by two weeks into the three-week period, they should start noticing improvement from that inhaler.

Matt: Yeah, that almost sounds like when people quit smoking. They always told us to tell them, you might have a little bit of increased cough or mucus initially because your cilia are waking up whatever, however, we rationalize that to the patient. But I think that's great. I did not know that you should be telling patients that. I should definitely add that in. That would be practice changing for me. I know we're going to talk a lot more about medications in the next part of this, but anything else that Amber, you or Leah wanted to add here. So, we're putting her on LAMA first. We said that we'll give it a trial there. Anything else you would give her just upfront there?

Leah: What do you think, Amber, about albuterol, giving her a short-acting?

Amber: Yeah so--

Leah: What do you think?

Amber: I think it's always a little bit nerve wracking to say, "Am I going to give this patient this rescue inhaler that albuterol short-acting beta-agonist?" It depends, I think is always my short answer. I wish I could give a very clear answer. The guidelines even, I think, give some leeway. My concern with giving a patient albuterol is that sometimes they use it as a crutch and it becomes something that they then just use because it's that immediate gratification of weight. But my airways are opening up a little bit better. Especially our elderly patients, it also opens them up for confusion in mixing up their inhalers. Which one is my rescue? Which one is my maintenance inhaler? I think sometimes it also gives you two different device types, which I'm trying not to get ahead of myself because I know we're going to talk about this later in the podcast, but it's something I'm very passionate about.

But when you give patient two different devices, you're setting them up for potential failure if they don't genuinely understand the technique that is required to use those inhalers. So, I think for this patient specifically, I might actually lean towards giving her the albuterol inhaler simply because she's also on the oxygen. I would be concerned that if she did need that

rescue, she would have it. I would, as a pharmacist, try to make sure I really educated her. This is when you would use it, but also educating our COPD patients on proactive use of their albuterols, because I think a lot of time patients use them reactively where they're already short of breath. I think we need to get in better form of saying to our patients if you know that walking from your house to your car is going to be miserable and by the time you get there, it takes you 15 minutes to catch your breath and regain that sense of control of your breathing, then you should use your albuterol before you leave the house so that it's giving you that proactive response so your airways don't have to fight so hard. So, I think for her, for a lot of different reasons, I would recommend it, but I wouldn't blanket say, "I want to give it to everybody." I don't know, Leah, if you agree with that or if you might do something a little bit different.

Leah: Yeah, I think that's great. Then I also Amber wanted to give you the chance to brag about the coolest initiative that you did where you got the language standardized across your institution, PCPs Pulmonary, about how you talk about albuterol and controller medications. Do you want to just share that? Because, I think it's--

Amber: Yeah, so when we started our pulmonary clinic 10 years ago, I noticed that a lot of patients were really struggling with the concept of maintenance. I work in Inner City, Detroit. We have a variety of patients that stay on the spectrum for social determinants of health. Our lower socioeconomic patient population, our lower educated patient population really struggled with the concept of maintenance, but they understood the word control. So, we pulled out an initiative to say that our rescue inhalers would be called rescue inhalers. That wherever they were, whether it was inpatient, outpatient primary care, outpatient pulmonary, outpatient allergy that, if they were talking about an albuterol inhaler, we would refer to it as your albuterol rescue inhaler and then all of their other "maintenance inhalers" instead of calling them maintenance inhalers, we would call them their control inhalers. As a way to help them understand, you use this every single day to control your breathing so that your breathing is okay, and then you use your rescue to rescue you.

It really has made a substantial difference in that patient population. We haven't published our results. We've tried failures. Sometimes publications don't go the way you want them to, but we do have data that suggests that that shift did improve adherence to the maintenance or control inhalers because we were standardizing the way that they were hearing it everywhere they went in the health system.

Matt: Okay, so we'll save a little bit more of the medication discussion for the next part of this because I want to make sure we get on to the 4Ms Leah. So, the first part we talked about basically for COPD, it's heterogeneous, so not everyone's necessarily going to have the same symptoms, but the symptoms should be chronic, and they can be affecting either the airway or the alveoli or both, and they can be progressive or not. You want to take a history about smoke exposure, whether it's cigarettes or pollution. Then we talked about the spirometry can be confirmatory, but by itself you can't make the diagnosis with just spirometry. You have to have the symptoms and the history.

The number we're looking for is a postbronchodilator FEV1/FVC less than 0.7. A lot of the times, Leah, you said most people are going to get at least a chest x-ray. Some people might qualify for low-dose CT screening. The big thing about classifying it is quantifying and qualifying the exacerbations, were they hospitalized for it? And then going through that CAT score to say, are they in A or a B? People who are hospitalized for an exacerbation or have frequent exacerbations are in E. We said that B and E are the ones where you would start a LAMA/LABA, like maybe from the start in those patients. So, I think that's most of what we talked about in the first part. Paul, Am I missing anything there?

Paul: No, I mean, stunning work, as per usual to start [crosstalk]

Matt: Let's go on to the next part of the case and throw it to Leah about the 4Ms here.

Paul: Sure. As is the Curbsiders way we went to treatment before we actually finished taking our history.

Matt: [laughs]

Paul: So, we're now going to go back and talk more about getting to the patient's social history. So, Ms. Lopez, she lives alone in a third-floor walkup apartment in San Francisco in a very hilly neighborhood. She previously worked as a home health aide. She started using a walker after this most recent hospitalization. Ms. Lopez has a difficult time walking with her walker and wearing her oxygen. In fact, this has caused one fall as she tries to coordinate these things. Her daughter lives locally with her husband and daughter and they come over weekly to deliver groceries. In terms of medications, Ms. Lopez is on alendronate. She has an albuterol Inhaler, which is a new medication from her hospital discharge. She is on amlodipine, benazepril, and a Tiotropium Soft Mist inhaler, which sounds lovely.

Unfortunately, the medication is very expensive for her, about \$1,000 per year. She demonstrates it for us in the office today, and she has not been inserting the canister into the device. So, she knows that when she uses it, there's no miss, just a clicking sound. So, this feels like a great chance to give you space to teach us about age-appropriate COPD care and what that might look like for Ms. Lopez. So, Leah, what could we do differently or better in this particular case?

Leah: Thanks, Paul. So, the favorite framework for me approaching any chronic disease, but especially chronic lung disease, is the 4M framework for Age-Friendly Care. It's developed by the John A. Hartford Foundation and The Institute for Healthcare Improvement. So, you just have to think of 4Ms when you're approaching your patient. So, there's medications, mentation, mobility, and what matters. Some Geriatricians like to add in a fifth M of multimorbidity. But for our purposes today, I'm just going to talk about four. So, medications. We're going to come back to that with Amber. I'm really excited. This might be my favorite M-- my favorite geriatric pulmonary M, because there's so much to talk about with inhaler, device choice, cost. The cost of inhalers is astronomical. Then, as I said, I'm so excited that the 2023 GOLD Guidelines is reading like, this age friendly manual where they're talking about things like this.

So, for medications, all older adults are at risk of polypharmacy, but especially in chronic disease. My theory is that the more specialists you see, you can't leave somebody's office without another medication. So just pile it on. I have found in my own research that older adults with COPD have more moderate and severe polypharmacy. Then the other component of medications is side effects from medications. So, then the next M is mentation. So that's considering cognitive impairment, dementia, mood disorders, delirium, social isolation. A recent study showed that the natural prevalence of social isolation and loneliness is really high among those with COPD and even higher among those who use supplemental oxygen, which makes a lot of sense because it's often hard to leave the house if you use oxygen. It's really heavy. It's impossible to get a portable oxygen concentrator. I'm not sure how it is for you where you all live, but it's really hard.

Then cognitive impairment is also more common in people with COPD. I've seen people who need oxygen. We'll talk about what need means in a second but need oxygen, start using it, and that cognitive impairment improves. That's been borne out in research studies too. Then the third M is mobility. So that's like gait impairment, falls. If you have the pleasure of getting your own patients from the waiting room, you can assess that all in that quick walk. The key here for specialists is to focus on reducing that environment and disability mismatch. People

with COPD who live in the community have really high rates of ADL disability. Ms. Lopez, she's now on oxygen unfortunately, because she's desaturating only with exertion and oxygen hasn't really been shown to confirm mortality benefit when somebody's desaturating just with exertion and not at rest. So, now she's at risk for loneliness and falls and this oxygen is of a really questionable benefit.

But what would benefit her is pulmonary rehab. Recent studies have shown that Medicare beneficiaries hospitalized for COPD exacerbation like she was, who started within 90 days of discharge, have a dose effect of lower mortality in the following year. Then the last M, and then I'll get off 4M soapbox because I love the 4Ms is what matters. We've talked about this before on Curbsiders. We've talked about advanced care planning with Rebecca's story. But it's not just advanced care planning. It's aligning the older adult specific health goals with your plan. So, I'm going to stop there. If you have any questions about the 4Ms I just love to talk about them.

Matt: So, under mobility, you talked about pulmonary rehab. I know it's always-- Paul, is this one of your board answers? Pulmonary rehab is always the right answer. I don't know.

Paul: It's always the right answer 100%.

Matt: It's always the right answer.

Leah: [Laughs]

Matt: Yeah. Paul's crafting a list of what's always correct to choose on a board question.

Paul: One on our Patreon, by the way.

Matt: Yeah. So, [laughs] the pulmonary rehab, I know that it's always recommended. I'm not sure how easy it is to get patients into it or how common it is. It's not like one of those things, like, "For how well it works." We knew it improved quality of life, but now we know it improves mortality in a dose-dependent manner. We're having patients pay for these inhalers that cost hundreds of dollars per inhaler, and they don't necessarily improve mortality. So, can you comment on your luck of getting patients into rehab?

Leah: Yeah, you've hit upon one of our fields' greatest problems, catastrophes, I would say. Well, pulmonary rehab is really expensive. It requires employing a respiratory therapist or a physical therapist and equipment and space. So, it's really resource limited. I live in a major city, I live in San Francisco, and there are very few programs just in the city itself and outside of this metropolitan area, hardly anything at all. It's hard to get people in. It's also hard to convince people I would say, because it is pretty time intensive, but it really works. Studies have shown that it pulls people out of frailty. So, even older adults, quite old, in fact, people in their 70s, 80s. I don't think the studies have gone to 90s, but I know 80s have shown a lot of benefit and then this dose effect is pretty compelling.

I think the problem, like a lot of things in medicine, is that it's not a money maker. So, unfortunately, Medicare is not dumping loads of money into pulmonary rehab programs for reimbursement. So, that's why the programs aren't popping up. During the pandemic, the public health exception emergency allowed for tele-rehab and I've still seen some patients get approved for that. There have sprung up some programs who are just virtual. So, I've been trying to refer to those programs, but it's still not as ubiquitous as it should be.

Matt: Yeah, because I just wonder, some patients, even if they go to physical therapy one time, they can learn some home exercises. I wonder if it's one of those things. But anyway, I don't want to digress too much on this, but it's a shame.

Leah: It's a shame.

Matt: Because it's just like talking about something that improves mortality. We're putting lots of money into the inhaler bucket, but not necessarily the one that improves quality of life and mortality.

Leah: Pulmonary rehab, it's different than physical therapy in that half of the sessions is education. Some of the benefit at least has to do with Amber's topic, which is that people learn how to use their inhalers they use. Why they're using their inhalers they use which is the controller, which is the rescue inhaler. So, a lot of it is disease management and of course they learn exercise tips and reconditioning and things like that.

Matt: Paul, any other questions you had about this before we talk about meds.

Paul: No, I don't think. I'm excited to get to the medication stuff.

Matt: Okay, so Amber, as I told you prerecording, this prompt that you wrote where she's spending \$1000 a year on her inhaler and she's not even putting it in the canister and it's just clicking. It's not even making this nice soft mist, as Paul commented on, that it supposed to be making, it's just heartbreaking. So, can you tell us a little bit about, is this something you see commonly and how do you approach it when someone's starting out on an inhaler?

Amber: Yeah, so unfortunately, this is something that you see regardless of the patient's age. I think that really boils down to the fact that most of the inhalers that are on the market are brand name only. We have very few generics. Those generics are not in every category. They're in two of the categories. So, that really limits our ability to be able to get medications affordable. You think about a general patient's insurance plan, those brand name inhalers are going to fall anywhere on a tier 3 to a tier 5, depending on how the tier is broken down. If you're not familiar with drug formularies and tiers, the higher the tier, the higher the cost. When it becomes a Medicare patient, those tiers are typically instead of being a copay, where the patient pays a flat dollar amount, like \$5 for their tier 1, 15 for their tier 2, 30 for their tier 3, instead it becomes a coinsurance.

So, now the patient is paying a percentage of the actual cost of the drug. Unfortunately, most inhalers are somewhere between 30% to 47% of the cost. When you're thinking about a drug that is anywhere between \$300 to \$400 that's why you're seeing these patients with these costs that end up being \$1,000 per year. I think what is really hard in pulmonary that compounds the problem is that typically one inhaler is not enough. We do have some newer inhalers on the market that do provide double or triple therapy, but those are new enough that either they're not on the formulary or they're on the formulary, but they fall in that tier 5 where now that percentage or that copay is so hard. So, I think that the cost is what I've spent the last 10 years of my career at Henry Ford, really focusing in on and trying to find every possible resource and avenue for our patients.

But there's a second problem that we see. I cannot tell you how many times over the last 10 years I've sat down with a patient who's been on inhalers for 10-15 years and I finally show them how to use their inhaler correctly and they look at me and they're like, "Nobody ever told me how to use this inhaler." I think when you look at the literature, it's so profound that even providers themselves do not feel comfortable educating patients because there're so many different devices. We were talking about this earlier. What's the difference between an Ellipta versus a Respimat versus just a regular metered-dose inhaler, a dry-powdered inhaler which ones are the soft mist, which ones are-- and all of these different categories and then you look at the way that the number of inhalers on the market has increased just in the last 10 years alone.

In order to get around patents and whatnot, you see a huge uptick in inhalers, but also devices because those devices like the Ellipta or the Respimat have a lifelong patent, whereas the drug has a shortened patent. So, that is another reason why the cost of the drugs is so high, but it also then impacts our patient's abilities to use them. I think the last thing I'll just add to this is in addition to the patient being confused with the actual ability, we have data from our own institution. There's been really interesting data in some of the abstracts that have been presented more recently at some of the national pulmonary meetings that show that along with that aging of the lungs, there also becomes an effect on their inspiratory effort. With a dry-powdered inhaler, you rely on inspiratory effort to deposit that medication into the lungs.

If a patient is losing that because of their disease, but also losing that because of their age, now we're running into a situation where they may not be able to use inhalers at all. What would be more appropriate would be to put them on a nebulized solution which then opens up another can of worms. We can talk about that ad nauseam, but I'll pause there and just say this is probably the biggest thing, I think faces anybody who treats a pulmonary patient is the costs alone are anywhere between 30% to 47% higher in total care for a pulmonary patient than when you look at diabetes or cardiovascular disease. Then the devices are so different. Whereas with diabetes, if a patient is injecting with a syringe, there's really only two types of syringes. There're the prefilled syringes or there's the auto injectors or they have to dry it up themselves, but it's still technically a prefilled syringe. But inhalers, it's not that simple, it's different.

Matt: I saw Paul. When you said that there's a lifelong patent on devices, I saw Paul's eyes like pop. He's like, "I didn't know that either, Paul".

Paul: I had no idea.

Matt: Yeah, yeah, it makes sense.

Paul: [crosstalk] question, is our healthcare system just fundamentally broken?

[laughs]

We can answer that some other time.

Amber: I will take that bet.

[laughs]

Paul: The device bet, I had no idea. But just between the revolving formulary and the myriad of names and the device stuff, yeah.

Matt: It's almost as if it's not patient centered, Paul.

Paul: I'm starting to question some things Matt.

[laughs]

Matt: So, Amber, I noticed that the COPD Foundation that you all shared with us, the COPD Foundation app, and I know National Jewish has some stuff too. Right in the app, it has a patient version and a provider version you can toggle between them. It's just one app that you download and it has videos right in there. This explains it. It's a little confusing, like, there will be an Ellipta, a Diskus, and all the different types of devices have their own video.

Then underneath the video in the COPD Foundation app, it says the brand names that might be associated with that type of device, which for me, I need that kind of help too. So, I probably going to have to start watching these videos when I'm prescribing for patients because I didn't realize how complicated it was.

Amber: Oh, that's what I had to do. I have to confess that in pulmonary fellowship I was prescribing an inhaler like they do say, "How do you use this?" I was like, "You know what, I don't know." So, I started watching all these, this is how I found the COPD Foundation and watched all these videos, because at least I had never learned how to use all of these inhalers. I'm sure pharmacy school does a lot better of a job of teaching.

Matt: Leah, do you remember when were at CHEST in 2019? They had just gigantic table with-

Leah: Yeah.

Matt: -all the devices on there and then they were quizzing all the doctors, the respiratory therapists, pharmacists, whoever was at the conference, and I don't think most people were passing, let's say-

Leah: No.

Matt: -like how to use it.

Leah: So, I orient our new fellows at Henry Ford and at the risk of making them all sound terrible in 10 years. I can tell you that only one hand worth of fellows have been able to successfully use all three types of devices without any problems. All five of them also had pediatric asthma. So, you can leave that for what it is. But they are the only five that have ever passed all of the devices.

Matt: So, you said there's dry powder, there's metered-dose inhaler, and what's the third is it soft mist.

Leah: So, it's the soft mist inhaler. Then, I think it's also important to note that under metered-dose inhaler, we now have one specific agent. It's the beclomethasone or the QVAR RediHaler, which is a metered-dose inhaler. But instead of the patient having to push a canister down, the patient just inhales and its breath actuated, but it still sprays like a metered-dose inhaler would. So, if you wanted to get really technical, you have dry-powdered inhalers, metered-dose inhalers, breath-actuated inhaler, and then the soft mist inhaler. Then the last category would be your nebulized solutions.

Matt: The idea with the breath actuated is that they don't have to coordinate anything, they just take a breath when they're ready and-

Leah: Correct.

Matt: -the medicine automatically gets sent in. Okay.

Leah: Correct. Because if you're thinking about proper technique with an MDI, which MDIs I think are the ones that everybody fails. I did a recent study looking at the use of inhalers in pop culture and when you look at MDIs, a sampling of 200 something pop culture references, there was two that used it correctly every step. But with an MDI, one of the things that's so critical is that the patient actually has to start breathing before they depress the canister because they're actually creating an airflow for the particles to travel along down into the bronchioles. But that airflow has to be slow and steady. It can't be that maneuver

that's like, "The hit it as hard and as fast as you can." because when they do that technique, all it does is it hits the back of the throat. So, they have to slowly start to breathe, push the canister down, and then keep slowly inhaling for about four to five seconds.

So, this is why it's so difficult. Imagine your normal patient trying to think, "Okay, wait, I have to breathe, then I have to push the canister, and then I have to keep breathing, and I have to try not to pause in between there." Then you add that for an elderly patient that may also have arthritic hands, that may have tremors from Parkinson's or may just have tremors from age, and you're trying to get them to do these maneuvers and also think with poor mentation, you're setting them up for failure.

Paul: Do you remember the pop culture instances that got it right and it's okay if you don't, but now I'm just talking of curiosity.

Matt: I think [crosstalk] Goonies.

Amber: Goonies was terrible. [crosstalk]

Paul: I can't believe that was point of reference. [laughs]

Matt: Goonies is not good.

Amber: So, I can't remember what country it's out of, but it's another country. It was like a horror film and the girl sits beside her bed and she uses that one correctly.

Matt: Not the original it, Paul? [laughs]

Paul: No, certainly not.

Amber: I can't remember what the other one is, but if you ask me, I can tell you offline. But Goonies did it terrible.

Paul: No, no, no, I can't believe it.

Matt: Yeah.

Amber: Tonya Harding did it awful before she got on the ice to compete. That's the worst inhaler technique I've ever seen in my entire life. Okay, maybe not the worst, but it's pretty bad. [crosstalk]

Paul: Probably the worst thing she's ever done, if we're being honest.

Matt: Yeah. Maybe, maybe we could put this list if you have this list easily handy-

Paul: Oh, my God.

Matt: -maybe we could put it in the show notes for the audience because this is a fun list.

Amber: Yeah, I would definitely gladly share.

Matt: Because I want to give some practical tips. So, we already gave the practical tip of looking up the videos on the COPD Foundation. You said that with the metered-dose inhaler, they have to be already inhaling a little bit when they press the button so that there's a channel of airflow to bring the medicine into the lungs. Then what about the dry-powder inhaler in just broad strokes? How are they using that one?

Amber: Yeah, so typically if you think about the way you learned it, it's probably a deep quick breath. Get it in as quick as you can. The problem is that actually isn't correct. It actually needs to be a deep, steady breath. So, you need your patient to be able to aerosolize the powder and then keep that powder aerosolized enough to get down into the bronchioles so that it can attach to the receptors. So, a deep steady breath is going to be what's going to deposit that. Then for both MDIs and dry-powdered inhalers, really, they have to be able to then hold their breath for a minimum of five seconds to ensure that the drug is actually attaching to those receptors in the lung. Here's the really great thing. Although, we talked about four separate devices, you only need to remember two techniques because the soft mist inhalers, the breath-actuated inhaler, and the MDI all use the same technique.

Your DPIs are the ones that are different. So, to my point, earlier where you might have to use multiple different devices, but that can confuse patients. Sometimes, if you can at least keep them on some form of a metered-dose inhaler, a soft mist inhaler, what have you, then they're at least using the same technique and they don't have to think, "Oh, I have to switch now that I'm using my Diskus, which would be something like your fluticasone, Solu-Medrol that could be like your Advair or your Wixela, or it could just be like your general inhaled corticosteroid fluticasone, which would be like a Flovent or the Ellipta devices, which have all kinds of different drugs in them. We have fluticasone, we have umeclidinium, we have the vilanterol, which is in those ones, but those are dry-powdered inhalers. So, all that device is going to be very deep and steady breath for about 4 to 5 seconds with a breath hold for 4 to 5 seconds.

I know it's going to sound really terrible and people are going to cringe, but if your patients are former smokers, which most of them are, a quick rule of thumb is to tell them, "Hey, remember when you used to take those long, slow drags off a cigarette?" That's how you want to use those metered-dose inhalers, the breath actuated, the soft mist. It's amazing how almost instantaneously they will be able to correct their technique. Because if you think about cigarettes, in order to light it, they have to puff a little while they're lighting the cigarette, and then they're taking a drag to actually get that ember to go down the cigarette enough to get it to burn. So, they're used to that technique if they were smoking two packs per day for 20 years. Sounds terrible, I know. I don't want to equate using your inhalers to cigarettes, but if I want a correct technique, I know it's going to be a fast way to be able to do that.

Matt: Brilliant.

Paul: You're leveraging a skill they've already developed.

[laughter]

Paul: I think that's tremendous advice. I think that's an amazing pointer that I'll be using for sure.

Matt: Okay, so with the last few minutes here, we definitely wanted to swing back to the cost thing. We talked about, there's LAMA, there's LAMA/LABA combinations, there's triple combinations where they're LAMA/LABA and an inhaled corticosteroid mixed in there as well. So, Amber, a lot of the patients, older adults are on Medicare. But can you just speak to a little bit about how you approach this part of it, which is one of the biggest barriers.

Amber: Yeah. I think, you know, I mentioned earlier, and we've had some discussions about the formulary and really understanding where a medication falls on the tier. I think that's a really hard thing to do as a provider, wherever you're at, because it takes a lot of time to

master those formularies. Then, unfortunately, the formularies can update up to four times a year. I think a couple of things that are important to know is that relying on your pharmacy or creating a relationship with a pharmacist that's local helps because you can have them find some of those details for you. I think you also have to put a little bit of responsibility on the patient and saying, "Hey, these are the different inhalers in this class. I'm going to prescribe you this one, but if it's not covered, I need you to call your insurance company and see which of these are. So, that I can make sure we get you the right inhaler."

Medicare is a problem [laughs] that sounds really terrible the way I just said that.

[laughter]

But here's my problem with Medicare is that a lot of times, especially your lower socioeconomic, your lower educated patients look at Medicare plans and they're looking at the monthly cost that they have to think of in the moment and not the downstream costs. So, oftentimes your patients end up picking a plan that doesn't help them when they get hit with a new diagnosis of COPD. So, think about our patient in this case. She's 70 years old, she walks into emergency room, she's admitted, and now she leaves the hospital with oxygen, a walker. Now she has to be on two new inhalers that are both costing her so much that it ends up being \$1,000 a year. That patient, if they were potentially lower educated, lower socioeconomic, meeting a lot of the different social determinants of health, likely has that \$1,000 copay because of the insurance plan they picked.

Something that Leah and I have had lots of conversations about through our relationship is how important it is for providers to understand that patient is only tied to that plan until open enrollment occurs, which is typically in the fall. As providers, as pharmacists, we need to be better at talking to our patients and saying, "Hey, if your insurance isn't working for you, here are some resources for you to connect with somebody who can help you identify a better insurance that will help you with some of the cost of these things and then switching that plan to get them better coverage." One of the things, I deal with all the time is my patients pick a plan with a high deductible because they don't understand what deductible means. They're like, "but I have coverage." "Well, yes, you have coverage after you pay \$8,000 out of pocket."

That is impossible for our patients who are barely making \$35,000 to \$40,000 a year from their Social Security and have very little bit in retirement, but they make just enough to not be eligible for something like Medicaid. So, I think navigating that as much as possible with them is great. I will make a nod to, if your patient is truly unable to afford their inhalers, there are programs through the drug manufacturers. It requires some work on your part as the provider and it requires some work on the patient to fill out an application. But in my 10 years at Henry Ford, the data that we have that demonstrates that we've reduced out of pocket costs for patients to 250,000 to 500,000 a year in total is simply because we've used these programs when appropriate and enrolled our patients in them. Essentially, if they're approved, they get drug for free from the manufacturer until the new year starts.

So, if you have a patient who has Medicare and they enter the coverage gap, they then become eligible for these patient assistance programs through the drug manufacturer. Not to play favorites or anything, but I'll give some examples. So, GSK has GSKForYou, Boehringer Ingelheim has BI Cares, AstraZeneca has AZ&Me, Genentech has something patient provider, I can't remember what that one's called, but so there're applications and if you google the med google, we're not supposed to use Google as that's what we're taught in school. But if you google the name of the drug and patient assistance program, you should be taken to the manufacturer's website to be able to then fill out those applications. Most of the manufacturers will actually put what their requirements are. Here's the thing, a lot of them, the patient has to make less than 100k per year.

So, if your patient is a geriatric patient on Medicare and you know they make less than 100k per year, they're going to qualify. You just have to do the work of putting that paper together and having the patient fill out the paperwork.

Matt: You said the gap, when they're in the donut hole, there's that part where they have a lower percent that they pay early on. Then they get into the donut hole where they pay like almost everything right-

Amber: Correct.

Matt: -and then that's where the price sheets are.

Amber: Technically it's supposed to be shrinking, but it's not really shrinking. Although, most states now have a cap for insulin, but for pulmonary medications it's not there.

Matt: Yeah.

Amber: Yeah.

Matt: Okay, yeah.

Leah: Medicare actually has a really good website to visualize what your yearly costs will be. It's called Medicare plan compare. We'll put it in the show notes. We have a Part D clinic where some of our pharmacists and pharmacy students help patients go through their medications, what their costs might be, and find a plan that will be more affordable for them and that's the website they use. You can do this for your friends, your family members, you'll be a hero. Or just to understand so that you yourself can understand what the costs are. Once you put in your medication list, it'll give you a list of like six or more drug coverage plans. You can see with this one, this is what my deductible will be, this is what I'll pay through the donut hole. This is what I'll pay for this inhaler.

Matt: Oh wow.

Leah: So, I think it's really useful. Then many counties also have a program funded by the government called Highcap, the Health Insurance Counseling Advocacy Program, where you can meet with a counselor to help you pick a plan, obviously this is complicated.

Matt: Yeah. It sounds overwhelming sometimes when patients are telling me what they're going through to get coverage for whatever, it sounds like a nightmare. I don't look forward to being on Medicare in the future, Paul, with this kind of or maybe I'll just try not to be on any medications.

Paul: At least in terms of drug coverage. I will say patients rave about Medicare, the prescriptions that are the challenge.

Matt: Yes, yes.

Leah: Well, Matt, if you decide not to sign up for Part D and then you have to 10 years later, there's a penalty for signing up for Part D late. Really, every piece of it is-- [crosstalk]

[laughs]

Amber: Maybe you should just retire to another country that doesn't have Medicare. That might be like Canada. Just retire to Canada or something like that. Although that's maybe not better.

Matt: I might have to send four kids through college, so well, I'll be working forever. It's fine. I'll just keep working. Paul, what am I going to do? I can't sit around. I'll just keep working. Amber, you mentioned in a timeout earlier that there're two devices that you can use in clinic to just to assess. Even if I get this inhaler, is a patient going to be able to use it? You want to just shout those out and then people can look up whether they want to recommend them to their clinical pharmacist or buy one for their clinic.

Amber: Yeah. So, the first device is called the In-Check DIAL, and then the second device is called the Vitalograph Aerosol Inhalation Monitor. I also have some references that I can give you for the show notes if that will help.

Matt: Yeah, absolutely. So, these are devices people can use in clinic to help the patient decide if they're going to be able to use the inhaler, if they're able to generate the appropriate forces and all that.

Amber: Yeah, exactly.

Matt: Okay. All right, so, Leah, we all agree we could keep talking about inhalers and all this for hours, but I think we are going to need to get some take-home points and wrap this up. So, how do you want to wrap this up for the audience?

Leah: Okay, I'll give you a few and then I'll turn it over to Amber for her take-home points. But number one, COPD is a clinical diagnosis. So, take a good history and diagnose someone with COPD with the appropriate clinical context and then spirometry and FEV1/FVC ratio less than 0.7 after bronchodilators, use the 4Ms with any chronic illness, doesn't need to be COPD. It can be anything but the 4Ms, just to remind you are medications, mentation, mobility, and what matters. I'll turn it over to Amber for some medication tips.

Amber: So, I think the two biggest ones I have is get comfortable with asking your patients, can you actually afford your inhalers? Then be comfortable with what are some of the resources that are in your local area that might be able to help those patients afford their inhalers? So that might be a pharmacist on your clinical pharmacy team. It might be a local pharmacist, it may be a respiratory therapist. But find out who those people are to support you. Then lastly, don't assume that patients can use their inhalers even if they've been on them for 15 years. Like, be comfortable saying, "Hey, do you know how to actually use this inhaler? Why don't you walk me through the highlights?" And if you don't know what the highlights are, kind of to Leah's point earlier, go watch the videos and learn how to educate those patients on those inhalers to make sure that they are using them correctly. Because what's the point of paying all that money for an inhaler when it's not actually getting into the lungs where it's supposed to be?

Matt: All right, well, we've given a little bit of plugs for some things, but, Leah, anything you'd like to plug before we get going?

Leah: Two things. One, some colleagues of mine across the country who are also interested in geriatrics and chronic lung disease, we've created a geriatrics toolkit. It's like an annotated bibliography for all of your aging and COPD, ILD, etc., critical care needs. So, I'll put that in the show notes and then the COPD Foundation app, download it today. I could never, ever remember all of the names of these inhaler medications. So, I'm constantly pulling it up and saying, "Oh, okay, umeclidinium didn't work. Let's try something else."

Matt: That's great.

Amber: I'll just tag on to Leah's. In addition to the COPD Foundation website, the Asthma Allergy Network, if you go there and create an account, you can actually download a PDF for your clinic that has the pictures of all the different inhalers. So, instead of asking your patients to remember what umeclidinium, they can just point and say, "I take that inhaler right there." It's awesome. I give it to my fellows every year. They update it pretty consistently. It's a great resource.

Matt: Paul, did you want to try to say, umeclidinium. [crosstalk]

Paul: I absolutely do not. No, I'm not following, like, three people saying it correctly. I don't need that kind of pressure.

Matt: I just learned how to say it. So, now that I wanted to get that out there.

Paul: This has been another episode of The Curbsiders, bringing you a little knowledge food for your brain hole.

Matt: Has it, Paul.

Paul: [laughs] Is this what we're doing now? Because I'm okay with it.

Matt: [laughs] You started it, actually.

Paul: Still hungry for more? Join our Patreon and get all of our episodes ad free, plus twice monthly bonus [episodes@patreon.com/curbsiders](https://www.patreon.com/curbsiders). You can find our show notes at [thecurbsiders.com](https://www.thecurbsiders.com). While you're there, sign up for our mailing list to get our weekly show notes in your inbox, including the Curbsiders Digest, which recaps the latest practice-changing articles, guidelines, and news in internal medicine.

Matt: We're committed to high value practice-changing knowledge. And to do that, we need your feedback. So please send us a message at askcurbsiders@gmail.com. We want you to subscribe and rate the show, like it, whatever. Follow us on YouTube, Spotify, Apple Podcasts. A reminder that this and most episodes are available for free CME through VCU Health at [curbsiders.vcuhealth.org](https://www.curbsiders.vcuhealth.org). I wanted to give a special thanks to our writer, producer and guest for this episode, Dr. Leah Witt, and to our whole Curbsiders team. Our technical production is done by the team at Pod Paste. Elizabeth Proto runs our social media, Chris "The Chiu Man" Chiu is the moderator of our Discord, and Stuart Brigham composed our theme music. And with all that Paul, until next time, I've been Dr. Matthew Frank Watto.

Paul: And as always, I remain Dr. Paul Nelson Williams. Thank you and goodbye.

[music]