CARDI•OH
Ohio Cardiovascular and Diabetes Health Collaborative

Podcast 5 – Medication Adherence: A Driver of Patient Outcomes

Transcript

[Voiceover] Michael Konstan: Welcome to Cardi-OH Radio, a podcast. This is Dr. Michael Konstan from the Case Western Reserve University School of Medicine, and I serve as the principal investigator for Cardi-OH, a statewide network of Ohio's seven medical schools. Cardi-OH is funded by the Ohio Department of Medicaid and shares best practices to improve cardiovascular health outcomes and to eliminate health disparities in Ohio's Medicaid population. I hope you enjoy today's podcast.

Aleece Caron: I am Aleece Caron, practice improvement coaching lead for Cardi-OH team best practices and associate professor of medicine at Case Western Reserve University. Today's podcast will address medication adherence in primary care with a special focus on care delivered via tele medicine. The panel will identify strategies to improve medication adherence and discuss the important role of pharmacists. With me today are Dr. Marilee Clemons, Sarah Aldrich, and Nicholas Horen.

Dr. Marilee Clemons is an assistant lecturer at the University of Toledo College of Pharmacy and Pharmaceutical Sciences and practices as a clinical ambulatory care pharmacist within the University of Toledo General Internal Medicine Clinics. She completed her doctor of pharmacy at Shenandoah University Bernard J. Dunn School of Pharmacy in Winchester, Virginia and two years of post-graduate residency training at the Ohio State University College of Pharmacy residency program. Dr. Clemons works on a collaborative care team within her practice to manage chronic diseases such as hypertension, diabetes, and dyslipidemia. She also serves as a resource to assist providers in development of therapeutic drug plans and appropriate monitoring of medications within the clinic.

Dr. Sarah Aldrich is an assistant lecturer at the University of Toledo College of Pharmacy and Pharmaceutical Sciences and practices as a clinical ambulatory care pharmacist within the University of Toledo General Internal Medicine Clinics. She completed her doctor of pharmacy at Ohio Northern University and two years of postgraduate residency training at the University of Michigan Health System. Her interests include primary care, chronic disease state management, transitions of care, and quality improvement. She works primarily within outpatient internal medicine at the University of Toledo Health System and is working to develop pharmacy services in the setting.

Dr. Nicholas Horen is an assistant professor in the division of general internal medicine at the University of Toledo College of Medicine. He serves as the associate program director for the internal medicine residency program and as the program director for the primary care track. Dr. Horen is a lifelong resident of Northwest Ohio and completed both his medical degree and

residency at the University of Toledo. He has been awarded multiple teaching awards including the 2019 Department of Medicine Faculty Teaching Award for Outstanding Teaching. Welcome Dr. Clemens Aldrich and Horen.

Marilee Clemons, Dr. Sarah Aldrich, Dr. Nicholas Horen: Thank you.

Caron: So, my first question is for Dr. Horen. Dr. Horen, how do you currently use telemedicine in your practice?

Horen: So, prior to the COVID-19 pandemic at UT, we didn't really utilize tele medicine as a platform. We didn't have a dedicated tele medicine platform. So, with the COVID-19 pandemic, we adopted Doxy.me and that took over all of our telehealth visits, our preventative visits, our yearly visits, our sick visits, and our chronic disease management visits. And with our clinics opening back up to our patients so we can see face-to-face visits, our visits have changed pretty drastically. Our frequency has changed. You know, we're still utilizing the same type of visits—our chronic disease management visits, our sick visits—but the frequency has changed pretty drastically.

A lot of our private clinics for our GIM attendings, I'd say about 10 to 20% of patients are seen via telehealth. Our resident clinics have a slightly higher percentage of telehealth visits, maybe around 25%. And then we also serve in the Ryan White clinics and that has an even higher telehealth presence, maybe around 30 or 40%, just with the additional social work and care management support that they have. You know, our PharmDs have always kind of utilized telehealth to a much bigger and greater extent even prior to the COVID pandemic. A lot of our visits with our patients were face-to-face and we would hand off to our PharmDs who would then follow up for chronic disease management, especially with hypertension follow-up or diabetes follow-up. As GIM attendings, we're using it for kind of every different type of follow-up visits, but our PharmDs have kind of been employing this even prior to the COVID-19 pandemic.

Caron: So, Dr. Clemons, as a PharmD that works with Dr. Horen, do you have anything you'd like to add about this and how you use tele medicine in your practice?

Clemons: Sure. So, within the clinic, we spend the majority of our time managing chronic diseases like diabetes and hypertension for uncontrolled patients. And I would say approximately 75% of our patient touches actually occur over the phone simply due to the ease of access for our population. And so oftentimes these patients are coming in to see their primary care provider and then we're following up with them via phone in between each of those visits. And so, during our telehealth visits, we'll utilize pretty much a standardized process to ensure that we're collecting all needed information to assess patients, develop therapeutic plans, and then get them to better control before they come back to see their primary care provider.

Caron: Dr. Clemons, could you elaborate on what that standardized process looks like?

Clemons: Yeah. So, it kind of depends on what we're seeing the patients for. But we will always review medications and so we will go through patients' medications lists, ensure that the list is accurate, that they have the medications, and address any side effects or concerns they have with their medications. And then we always go through their lifestyle, so diet and exercise as it relates to the disease state. Any self-monitoring at home, so blood pressures, blood sugars, weight, things like that. And then based on kind of all of that information that we collect, we can kind of determine: is that regimen that the patients are on working for them, what changes can we make, and how can we better control those patients?

Caron: So, medication adherence is defined by the World Health Organization as the extent to which a person's behavior—taking medication, following a diet, and/or executing lifestyle changes—corresponds with agreed recommendations from a healthcare provider. Dr. Aldrich, what are the issues surrounding medication adherence and what impact does it have on patient care and clinical practice?

Aldrich: Based on the information from the World Health Organization, adherence to long-term therapies in the general population is actually only 50% in developed countries and is in fact even lower in developing countries. So, in the US there's actually some national data that was reviewed in 2010 that indicated for every 100 prescriptions only about 50 to 70% are filled at the pharmacy and then from that only 48 to 66% are actually picked up. Additionally, only 25 to 30% of those prescriptions are actually taken properly and then 15 to 20% were refilled as prescribed.

So, these numbers are pretty shocking when you hear them for the first time, and I think it really points to how important medication adherence is. So as part of the disease state management process, medication adherence is one of the most important areas. So for example, if a patient is not adherent to their prescribed regimen they are likely not being adequately treated for their chronic diseases and this obviously can have several areas of impact including their overall health, their patient outcomes, their quality of life and then also you know from a clinic perspective this can have an impact on our quality metrics as well.

So, this medication adherence has a significant impact on our patient care and specifically those with long-term uncontrolled chronic diseases. So then in regards to clinical practice, improving medication adherence in short overall improves our disease state management. If we control our chronic conditions well with medications, patients do better and then additionally our clinics are reimbursed better. So, the more patients that reach our goals, the further we can grow as a practice and keep our patients healthy. So, adherence is certainly an important and dynamic issue. Dr. Clemons, what are the common reasons for non-adherence?

Clemons: So, adherence is pretty complex. It can actually be what we call intentional or unintentional in nature. Meaning that patients may actively choose to take their medications in a different way than what was prescribed. Whereas others may believe that they're taking their medications appropriately, but they're not actually following how the prescription was written or what the guidance that was given from their provider.

Additionally, the World Health Organization has identified five main dimensions of non-adherence that can help us define and describe the issues at hand and then they can also help us determine a solution to improve adherence. So those five main areas—I'll go through each of them.

The first one is social and economic. So social and economic refers to issues with medication costs, health literacy or lack of insurance. So, for example, if a patient cannot afford a medication, it's very likely that they're not going to be able to take it.

The second one is healthcare system, which refers to the lack of continuity in care, potential formulary restrictions, and access to care issues. So, one example of this is that if a patient's been seeing a primary care provider for many years, and then their health insurance changes and they no longer cover that provider, that may lead to a barrier in them being able to see a primary care provider and having continuity of care in their disease states.

Condition related is the third one and refers to a potential lack of symptoms with the disease states or severity of symptoms that limits adherence. A big example of this is hypertension where often times patients do not feel anything, so if they don't feel anything they may not take their medications.

The fourth one is called therapy related, and so this refers to the complexity of medication regimens and the frequent changes that we may see with medications. So, if a patient is taking a medication and has to take it multiple times per day, it's more likely that they're going to be non-adherent to a regimen that requires the multiple daily dosing versus one that may just require once daily dosing.

And then the fifth one is called patient related. So, this refers to patient specific factors that can limit adherence such as visual, hearing or cognitive impairment or perceived risk versus benefits of treatment. So, an example of this is that we may prescribe a medication for a patient, and we know the benefit of the medication, but a patient may have had a friend or family member who used that medication and had a side effect, so they feel like that medication could potentially harm them. All of these areas play a role in patients adherence and it's important for us to identify the issues at hand so that we can identify a relevant and patient specific approach to improve their adherence.

Caron: Dr. Clemons, have you seen that COVID has had an effect on adherence or non-adherence in your patient population?

Clemons: Definitely. So, I think a couple different things come into play here. The biggest one is job loss. So, with job loss comes loss of insurance where patients are not able to get into their provider and they no longer have access to their medications due to lack of insurance. But also, the other thing is even if maybe they have insurance, they're now trying to determine where their money goes. So, they may have lost the source of income, so now they're focusing on having food or transportation or their kids are at home so they have to take care of their kids and so they're not focused on their own health and being able to get the medications that they need. Personally, I've seen patients who are no longer able to afford insulin or inhalers which we know are very high cost. Working with those patients to have a resource through the pharmaceutical company so that they can get it at no cost has been helpful, but yes, we've definitely seen COVID have a very big barrier in patients being able to get their medications.

Caron: Thank you, Dr. Clemons. Dr. Aldrich, is there a gold standard used to measure adherence? And are there limitations to measuring adherence in the literature?

Aldrich: Unfortunately, there is no gold standard. However, there are many tools that are described in the literature that we can use to measure adherence. So, there are some tools that are more commonly discussed. Those include proportion of days covered or PDC and also medication possession ratio or MPR. Both of these actually use claims data usually from pharmacies or insurance companies and basically report percentages of the time for which a patient has filled their medications or that they have their medications available to them.

So, of the two, PDC is more widely accepted as it considers early refills in this calculation, whereas MPR does not. So, CMS actually uses PDC, but it defines a patient as adherent if the PDC is greater than 80%. So essentially what that's saying is if a patient has their medications 80% of the time, the literature defines them as adherent. So that kind of leads to some of the limitations with these. When we're using claims data, we're actually only reviewing if the patient possesses the medication. So just because their medication was picked up or mailed out to them each month does not necessarily mean that the patient is taking it or that they're taking it correctly. And then

the literature surrounding adherence is actually fairly weak due to these outside factors that are so difficult to study. If we try to look at PDC and study whether or not a patient is adherent, we have these limitations and so those are translatable to our literature as well.

Caron: Thank you Dr. Aldrich. Dr. Horen, what methods do you use to identify medication non-adherence?

Horen: Yeah, so in my clinic, my medical assistant with each visit updates the medication list. She has great rapport with my patients. She's been my MA or the prior physician who had the large group of my patients was his MA before that, but she kind of takes it a step further and a lot of times we'll ask open-ended questions about the medications in particular. So, when she comes out and you know we kind of pass on care, a lot of times she already gives me kind of a heads up about potential problems with the medication list or with adherence.

When I see a patient, I typically review the medications every visit and a lot of times I'll ask open-ended questions. You know, "Are you having problems taking the medications?" or "How are you taking this particular medication?" And I usually like to ask what they're taking it for or if they can go a little deeper into why they're taking the medication just to kind of assess how they're taking it. Generally, I usually pick up problems with adherence when I'm reviewing the medication list. If I suspect there's some issues with non-adherence, I typically will go the next step and review a refill history. If I suspect there are multiple medication errors or if a patient seems to be having more systemic problems with their medications, I generally refer a comprehensive medication review with our GIM pharmacists.

Caron: Dr. Clemons, do you have any additional thoughts on this?

Clemons: Sure. So, from a telehealth perspective, we generally will review medications during all of our phone calls. One of the big things as Dr. Horen mentioned is using an open-ended approach. And so, we'll go through the patients' medications. We ask them how they manage their medications. So, do they have a home health care nurse that comes in to help them? Do they have a family member that helps them? Do they utilize a pill box or utilize adherence packaging? With the goal really being that we are trying to determine the patients' mechanism for how they take their medications every day. And so, this helps give us initial insight into their routine.

And then next we'll ask about any cost constraints in obtaining their medication, especially if they're on some of those high dollar medications that we know can be pretty pricey. And then lastly, we'll always ask about adherence, usually through some sort of mechanism like "in a given week or maybe two weeks, how often do you miss a dose of your medications?" And then if the patient answers that they do miss their medications, we'll ask follow-up questions to determine the reason and then kind of come up with a plan to help them remember.

And then if we need to, we can use claims data within the EMR to look at fill dates as well as day supplies for which it was filled or by calling the patient's pharmacy. So, this can help us determine—give us some objective data that tells us whether or not they're actually filling this. But, as we kind of mentioned, the process is not limited to just the pharmacists. Our physicians, our medical assistants, all of the providers within our clinic really use an open-ended approach to identify and improve medication adherence.

Caron: Dr. Horen, what methods do you use to improve medication non-adherence?

Horen: Uh yeah, so I really try to educate patients on why they're taking the medications, try to explain the disease process, even if it's to for certain patients who really want to avoid the hospital, stress the importance of taking the medications as a way to avoid hospitalizations. Utilizing motivational interviewing, I try to employ patients to really take ownership of their health and kind of get them to want to take their medications and to have a goal for taking them.

One of the things I really try to assess for is an undiagnosed or maybe undertreated behavioral health condition such as depression that I really try to go after and treat aggressively prior to getting patients to really take their medications appropriately. And then being an academic center we do have a lot of good resources, so utilizing care management programs when they're available or individual groups our PharmDs, social workers, and then our care managers especially for patients that have a little higher care risk or more complex and frequent comorbidities.

And then one of the most important things is as I get to know patients more as I've been practicing longer is really just to engage with patients with every visit, you know, to really focus on compliance every visit and stress the importance of why they're taking it. And then when they are compliant and taking their medications appropriately, really try to focus in on the benefit it'll have to their long-term health. I try to really focus on adherence, especially with patients who have had an issue with adherence before or some of the high-risk, high hospitalization risk patients. If I am in a very busy half-day clinic or in a busy full day clinic, a review of the patient visits before they come in. You know, as I do some chart prep, I really like to focus on those patients who have had an issue with compliance in the past or who have had frequent high hospitalization rates or have a higher overall care risk.

Caron: Dr. Aldrich, do you have any additional thoughts on how to improve medication non-adherence?

Aldrich: So, I think one important concept, kind of like Dr. Horen mentioned, is really utilizing a patient specific approach to improve medication non-adherence. So as adherence is such a subjective concept and there's not really one method or tool that fits every situation. Therefore, that kind of is why we can't find large studies that help us provide exact guidance or an algorithm to solve our adherence issues, but rather, clinical experience helps us use multiple methods to address patient specific issues.

During our visits, we really try to create an open environment for patients to truthfully discuss what they're doing at home, so they feel comfortable opening up about their adherence. We ask further questions then and use motivational interviewing strategies to help to determine the reason for non-adherence. So then that reason for why they're non-adherent gives us a guide to help improve their adherence issue.

So, for example, if cost is the issue we would work to find a cost-effective alternative or utilize cost-saving coupons or programs to help improve that patient's adherence. Rather, if the issue is lack of perceived benefit to the treatment or fear of risks of the treatment, we would educate the patient on the disease state and the risks and benefits of controlling the disease state along with the risk and benefit of the medication. Also, if the patient notes difficulty remembering their medications or has motivational issues, we would use reminders such as alarms or keynotes around the home to help the patient remember. Then after initially addressing these issues, we really try to follow up in a timely manner to discuss the improvements that the patients have made and kind of act as a cheerleader or work alongside them to provide support and hold them accountable for this process.

Caron: Dr. Aldrich, do you have a specific example of a time in which you utilize these methods that were successful in improving adherence?

Aldrich: Yes, I have an example of a specific patient from our practice. This patient has hypertension, heart failure, diabetes, and asthma. And he comes to the clinic for regular follow-up with his primary care providers. At one point, the physician asked me to see him to address his diabetes. So, per my usual practice, I go in, introduce myself as the pharmacist, and started to go through the medications. And pretty quickly, he said, "You know, perfect, you're just the person to help me with my medications. The mail keeps sending me medications I don't take anymore, and I'd like your help in getting them to stop doing this."

So, I was thinking about potential adherence issues here and wondering what medications was he getting that he was no longer taking or shouldn't be taking. And so, I started to go through some more open-ended questions with him to gauge his adherence before really going into his diabetes. After reviewing his medication list, there were several of his medications that he reported no longer taking. After looking at them, they were actually all of the medications that sort of manage or improve his chronic conditions, like the disease modifying agents, and instead he was only really using the medications that would improve his symptoms. For his heart failure for example, he was no longer taking his sacubitril/valsartan but was taking his furosemide to relieve any fluid discomfort.

So, when I found out that he was receiving all these medications—so all of his chronic medications—he was basically taking them from the mail, dumping the medications in the trash, and then recycling the medication vials. And so, this kind of opened up a whole window of the fact that he had been prescribed many chronic medications for his disease states because we thought these things were not controlled, but in reality, he had just never started taking them.

With this, we worked to simplify the regimen to help him start over, basically. But tried to give him fewer medications and then also tried to provide a lot of education on why he was taking them, what they were doing for him, to get him really to take those disease modifying meds. We also set up regular follow-up with the primary care team. So, I was usually there for the visits but also to see the primary care providers so that we could continue to address these issues.

Caron: Dr. Clemons, what pearls can you offer to be efficient in addressing adherence during a telehealth visit?

Clemons: So, for all of our visits, whether they are in person or telehealth and does not matter if they're with a primary care provider or pharmacist, the patients are asked to bring their medications into the visit with them. During our telehealth visits we've actually had the staff ask the patients to have their medication bottles readily accessible to them. And then we also review the purpose of the visit and ensure they understand why they're meeting with us, specifically if it's for a pharmacy visit.

When we meet with a patient, we ask a lot of open-ended questions about each medication. Generally, what we'll do is we'll have the patient actually read the medication bottle to us, including the name of the medication, strength, dose, frequency, and then we'll talk about why they're taking it and any potential side effects. By having the patient read their bottles to us, it helps us determine exactly what they have at home, and then we compare it to the medication list we have on file and then also if a patient was recently discharged or if they have multiple providers we can compare it to those medication lists as well.

A lot of times the medication reconciliation is completed by just reading down a list and asking the patient yes or no questions if they are still taking the medications. But we would not be able to identify, for example, if a patient had the incorrect dose of a medication simply by just asking yes or no questions. So, this strategy really engages the patient in the visit and allows us to identify any confusion with the medications or the regimen quickly and then help them improve any issues that we find.

Caron: Dr. Aldrich, is there a wrong way to address adherence?

Aldrich: Yes. In short, I would say that during the interview with the patient, it is really important to avoid closed-ended questions. So, for example, if you ask a patient, "Are you still taking amlodipine?" they are more than likely to answer yes, as this question implies that they should be taking it and they likely don't want to disappoint you or their provider by saying no. Rather you should ask, "How do you take your amlodipine?" and this allows for the patient to fill in if and how they are taking it.

Additionally, broad questions like "Have you had any medication changes since your last visit?" or "Can you list the medications you are currently taking?" should be avoided if possible. These questions can be overwhelming for patients as they likely do not have their medication list memorized and don't also know what you have in your computer or your system as far as their current list. Lastly, if a patient admits to non-adherence, it is very important to avoid judgmental or negative feedback. Encounter is successful if the patient is honest and then you can use this moving forward to help improve adherence rather than deter the patient from being open in the future.

Caron: One more question, Dr. Aldrich, how can you address adherence virtually and employ your improvement strategies using tele medicine?

Aldrich: All of the strategies that we have discussed so far can be used virtually. So, when working with a patient via the telephone or a video visit, you can still create an open environment and work with the patient to determine the best way to address these issues. You could help a patient set up the pill box virtually from home or help them even place notes around the house to remind them to take their medications. So potentially having a patient in their home during this discussion could be a benefit as we could help them employ some of those strategies during the call rather than sending them home to do it later. Additionally, if family is home with a patient while you're doing the tele medicine visit you could get them engaged in the call and help them engage in some adherence strategies as well.

Caron: Dr. Horen, how do you plan to utilize tele medicine to improve practice moving forward?

Horen: I think in the long term I really plan on using telehealth especially for high acuity, high-cost patients as a way to follow them more frequently. Some of my patients that have a little higher care risk score, more comorbidities, more hospitalizations, ER visits—focusing on those patients to see them more throughout the year without actually having them come back into the office.

I think now it's especially crucial from a resident standpoint and from a teaching standpoint, but just for our patients in general, especially with COVID-19, telehealth is absolutely a necessity because a lot of times I can't really ask my patients to come out and see me, it's just putting them really at too much risk. So, as far as a follow-up, anytime there's chronic disease management especially or for any kind of medication changes, it's really been a good way to follow up two to four weeks after seeing patients to make sure, when I change their medications for their diabetes, that they're taking it appropriately, that I'm addressing any side effects, any questions they have,

especially now that they've been taking the medication for a few weeks. And really address errors early rather than down the line three months when I might see them next.

Caron: So, Dr. Horen, how do you balance the patients' priorities with the priorities that you need to accomplish during the course of a visit?

Horen: So, especially in my clinic, I really do try to address both. You know, I really do address especially the one pressing issue, especially if there's an agreeance that we can kind of talk about their medications and if there is an issue with non-adherence, which can be very difficult and sometimes it's not possible. Especially if there's multiple issues, I'll have to focus on one or two. But generally, I do allow them to focus on at least one pressing issue that they have. But I do always want to address non-adherence because that does become an issue down the line. So generally, I do a compromise. If I have time, I can address all their issues. A lot of times I have to focus on one or two, but in general I always kind of come to agreement that we will also talk about their medications and the issues they may be having with non-adherence.

Caron: So, Dr. Clemons, what are the key takeaways you want our listeners to gain from this podcast?

Clemons: Um, so when in-person visits are not available or not ideal, especially in the time of COVID-19, tele medicine can help fill the gaps in patient care. Engagement of care team members such as pharmacists, social workers, and your clinical staff can be crucial to help patients overcome non-adherence. Adherence is multi-dimensional; thus, it requires an individualized multimodal approach to resolve.

Caron: Thank you to our featured guests for joining us today and a special thank you to you, our listeners, for tuning in to Cardi-OH Radio.

[Voiceover] Konstan: This concludes today's podcast. Be sure to visit Cardi-OH.org to learn more.

[Jazzy instrumental outro music]

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