Key Insights on Visit Adherence in Glaucoma Patients

**Mr. Nacinovich:**
Led by the National Institutes of Health, the All of Us Research Program is building one of the largest databases of biomedical data. Have the program's latest findings helped better identify socioeconomic factors associated with visit adherence among glaucoma patients?

Welcome to *Clinician's Roundtable* on ReachMD. I'm Mario Nacinovich. And joining me to explore the associations between socioeconomic factors and visit adherence among patients with glaucoma is Dr. Sally Baxter, an Assistant Professor of Ophthalmology and Biomedical Informatics at the University of California-San Diego.

Dr. Baxter, thanks for joining me today.

**Dr. Baxter:**
It's great to be here. Thanks so much for having me.

**Mr. Nacinovich:**
To start us off, Dr. Baxter, what is the All of Us Research Program? And how have you and your colleagues utilized these data and tools to conduct this study?

**Dr. Baxter:**
Sure. So, just really briefly, the All of Us Research Program is a nationwide research study that's sponsored by the National Institutes of Health, and it's really an amazing effort. They're looking to enroll over one million people from diverse backgrounds, and so it's really focused on trying to improve representation of people from communities who have been traditionally underrepresented in biomedical research. And there's a huge range of data types like electronic health record data, survey data, even Fitbit data, and now genomic data is being added as well, and so there's really a great opportunity to look at different factors together.

And for my particular research, a lot of what we have looked at are focusing on patients with eye conditions and looking at factors across their clinical care, their socioeconomic factors, demographics and so forth, but really, because it's such a broad and inclusive cohort, it has enabled research across so many different conditions, and different aspects. So, it's really a diverse database and really widely applicable for research. So, it's been a great resource.

**Mr. Nacinovich:**
How was visit adherence defined in the study? And what percentage of participants did not adhere to the recommended eye visits?

**Dr. Baxter:**
Yeah. So visit adherence for this particular study we looked at the survey data around patients reporting whether or not they had seen an eyecare provider in the last 12 months when they were taking this particular survey, and so I would say, you know, there are other ways that you could define visit adherence. But since this was the most easily accessible data in the database, we started with that first, and we found that about 16 percent of people diagnosed with primary glaucoma in the database had reported not seeing an eyecare provider in the last 12 months.

**Mr. Nacinovich:**
Now, with that in mind, are there any key factors we need to consider that could specifically affect glaucoma patients' ability to adhere to recommended eyecare visits?

**Dr. Baxter:**

Yeah. I think that there are several factors. I don't know that there are ones that are particularly specific to glaucoma versus other chronic diseases, but I'll say, you know, in general, for chronic diseases, there's the distance traveled to have to see a doctor on a regular basis. It does impose a burden on patients, and so there's the time involved. There's the travel or transportation needs. There's certainly economic factors. Even nowadays with gas prices going up, you know, we have actually seen patients coming in telling us that that is a hardship too, just the cost of gas to drive to and from appointments, particularly if they have frequent appointments.

I think for glaucoma and other eye conditions above and beyond other chronic diseases, you have this additional factor of visual impairment. Right? So, if you have advanced glaucoma or any other eye condition that's affecting your vision, then it's going to make it, for example, difficult for you to drive to your appointment. You know, you probably have to ask a friend or family member to help out if you can't drive, and so that is an additional burden.

**Mr. Nacinovich:**
What were the results of the multivariable models used in the study? And which socioeconomic factors were found to be associated with visit adherence?

**Dr. Baxter:**
Yeah, so in our study there are a couple factors that came out as being particularly significant for variations in visit adherence. You know, when you do these statistical models, sometimes you'll find associations across multiple factors, but then not all of them will persist when you start adjusting for different variables in the multivariable model, and we did see that income and education, for example, were two factors that came out and, you know, one being that people with higher income levels were more likely to have visit adherence, as well as higher education levels. So, conversely, people with lower income levels or lower levels of education were more likely to not have seen their eye doctor in the last 12 months. And, you know, some of that is due to the cost barriers that I mentioned with time, travel and time off work or having to pay for gas and things like that. That's certainly intertwined with, you know, someone's socioeconomic status and their ability to foot those costs.

And then the other side is with the education, you know, awareness about what glaucoma is or, you know, often education levels are linked with health literacy or digital literacy even. Nowadays, our health systems are very complicated, and being able to navigate them is not always straightforward, and increasingly, you know, our health systems are also using a lot of different digital tools to do appointment scheduling and to do patient messaging, and that may not be intuitive for all people, and I think that's something that, to me, really highlights some of the downstream actions that we can take to help engage and educate our patients.

**Mr. Nacinovich:**
For those just tuning in, you're listening to *Clinician's Roundtable* on ReachMD. I'm Mario Nacinovich, and I'm speaking with Dr. Sally Baxter about socioeconomic factors affecting visit adherence for patients with glaucoma.

Dr. Baxter, what are the implications of the study's findings in terms of addressing health disparities in glaucoma care? And based on your experience, how do you think this disparity could best be addressed?

**Dr. Baxter:**
You know, I think that this particular study for me really highlighted that there are still disparities in who can make it to an eye doctor. Right? So, I'm a practicing ophthalmologist myself, and we have our clinics, which often can be very busy, and so you see the patients who come in front of you, and, of course, you know, you do your best to take care of those folks. But I think that there's this whole other level of who doesn't even make it to your clinic. Right? And so, from a population scale, understanding that there are these social determinants that can make it difficult for patients to even get to your clinic, and so, as a physician, the people who are not making it to you, sometimes those are the people who are at highest risk of advancing disease and the highest risk of becoming blind from glaucoma, and this is not uncommon. And I think now there's increasingly effort to figure out who's not making it to the appointments, how can we do sort of more population health outreach. And that's not necessarily physicians directly but a whole care team. For example, at UC San Diego, which is where I work, there is a Population Health team that does a lot of outreach. It's more on the internal medicine and primary care side of things, but there is this very concerted effort to use the electronic health record system, for example, to see who has been missing appointments, how do we design engagement around that, do outreach, find ways to get people plugged back in to be able to see their doctors, and to be able to use some of those health information technology tools to be able to make sure that patients are getting the care that they need.

So on one side I think that technology is going to make a very big difference in terms of helping us do analytics and track who's not coming to their appointments, and just having that data available on a scale that was impossible before we had electronic health record systems is really powerful. But the second part I think is also a very nontechnological component, which is the patient-physician relationship and really emphasizing, you know, humanism at the bedside, relating with patients and making sure that they understand

that we are a team and that as their care team we're here to help them and to not say, 'Oh, well, why didn't you make it to your last appointment?' or 'Why aren't you taking this medication?' I think there definitely isn't a role for that sort of finger-pointing or blaming. You know, in some ways medicine used to be a little bit more paternalistic, and I think the whole philosophy of medical care now has become more of a partnership rather than a paternalistic relationship.

And I think that, too, when you have a strong connection with the patients and are able to explain why it's important to keep coming to the appointments to monitor, you know, glaucoma where it can be very difficult because it doesn't have clear symptoms at the beginning and middle stages of the disease often to keep patients coming and understand why that monitoring is important. So, both technological and nontechnological approaches I think are needed for this important issue.

**Mr. Nacinovich:**
What interventions or strategies could be used to promote better adherence to clinical guidelines regarding eye care for glaucoma monitoring and management?

**Dr. Baxter:**
Yeah. So I think what I had mentioned a little bit, just being able to track that data of who's coming in, who's not making it to their appointments. But of course, the visit adherence is only one small component of the clinical guidelines around glaucoma management. And in general, I think the American Academy of Ophthalmology, for example, who publishes a lot of our clinical guidelines in ophthalmology has done a wonderful job of really putting out a lot of resources, and they have these preferred practice patterns, which are basically sort of their framework for putting together these guidelines. I think that they continue to have glaucoma experts convene on panels to inform on the guideline development and dissemination, and so that's really great.

The other thing I think is from the patient education standpoint that again, the American Academy of Ophthalmology has done a great job of putting together patient-facing materials around different eye diseases, including glaucoma, and they have them both in English and in Spanish. So I think they're reaching a more diverse group of patients that way with trying to incorporate different languages for their patient education materials, but, you know, I think that lot of that will fall on individual physicians as well as we work in our communities and have that personal relationship with our patients to be able to try to educate. And then I think there's a broader scale need for engagement in health policy and looking at ways that we can mitigate some of the costs involved in medical care because the costs and financial barriers really do emerge as significant factors for adherence, whether that's, you know, medication management or visit adherence, as we saw in this particular study. But we've also done prior studies on medication adherence, and then that for sure is another issue that can be a source of disparities, and so I think health policies and working with the insurers and payers to try to make care affordable for all people is a really important cause as well.

**Mr. Nacinovich:**
Looking to the future, what research is needed to build upon these findings and improve glaucoma care for all patients?

**Dr. Baxter:**
I think, you know, our next steps are really looking at some of those patient-reported factors to better tease out, you know, whether there are factors related to healthcare encounters themselves because I think there are aspects of those things that are more modifiable, right? When we talk about modifiable risk factors in medicine, there are things that you can change and there are things that you can't. Right? You can't easily change someone's income level, at least not as their physician, maybe you can as their employer, but, you know, and you can't change easily change the level of education that they have received. But for things that are part of the healthcare environment, those are things that we have relatively more control over.

And then I think that there's a lot of this is driven by local data, right? So in the All of Us Research Program is a nationwide data set, and it helps to get sort of broad strokes and understanding around, you know, a diverse national population, but in terms of designing interventions at a particular health system, for example, a lot of that will be informed by the local data and for your particular patient population or a particular community that is served by a clinic or a health system. I think it's important to do studies that are a little bit more local in scope to really understand how to improve things for the specific population that people are working with.

**Mr. Nacinovich:**
As we come to a close, I want to thank my guest, Dr. Sally Baxter, for joining me today to share her insights on this health disparity and promote improved adherence to clinical guidelines for patients with glaucoma.

Dr. Baxter, it was great speaking with you today.

**Dr. Baxter:**
Thanks so much for having me. It was great speaking with you too, Mario.

**Mr. Nacinovich:**

For ReachMD, I'm Mario Nacinovich. To access this and other episodes in our series, please visit Reachmd.Com/CliniciansRoundtable where you can be Part of the Knowledge. Thanks for listening.