“We want the government to be in the driving seat, but that doesn't necessarily mean them being the doer”: Follow Up Conversation with Andrew Bastawrous, CEO of Peek Vision, on leveraging technology and utilizing incentive models.

Ambika Samarthya-Howard

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Ambika Samarthya-Howard: What have you been doing in the last few months?

Andrew Bastawrous: Our programmatic reach is continuing to grow. We're now supporting 81 different programs in 12 countries. A program is a district-level or sub-district level program, either school-based, community-based, facility-based or workplace-based. Our partners using Peek, are going out, finding people, bringing them into services and making sure they get treatment.

Ambika Samarthya-Howard: Is most of your work specifically around technology? When you say district level, do a certain amount of people in the district have to be using it to be considered a program?

Andrew Bastawrous: Yes. The app isn't just to download and use. It's a platform where we co-design the optimal route people can take into eye health with a range of stakeholders, government, NGO, private, optometrists, screeners and hospitals. We'll

co-design the ideal journey from someone being found at home or at school, depending on what problem they have.

 We're agnostic as to what eye health issues they have. It's not reader-specific or distance glasses or cataracts, because the patient does not know at that point. They just know that they have a problem that we can identify. We map that and then we train a team or trainers who then go do the screenings. One of our principles is that there should be no screening without service. We don't want to just find people and say that they have a problem [without offering a service that helps]. We've built into the platform that anyone who fails their vision test or has an eye health problem at any level gets sent to the right place, and then we track whether or not they make it. We have various ways of nudging them to get there.

Ambika Samarthya-Howard: The only people using the apps are the people being screened?

Andrew Bastawrous: Yes, not the patients receiving eye care. They don't need to be on the platform. There's about 4,500 people trained to use Peek who are now doing eye tests around the world who are not employed by Peek. They are in other organizations using our software.

Ambika Samarthya-Howard: Last time we spoke, you were about to do a lot of penetration into India, I believe. It seems you're now having other partners do a lot of this. Was that a change or expected?

 **Andrew Bastawrous:** That's always been how we've worked. It's nice that people talk as though they are with Peek. Actually, they're with their own organization, but we're enabling them to do something they couldn't do before. These 4,000-plus screeners are collectively screening between 100,000 to 120,000 people every week. This year [2024], more than 5 million people already have had an eye test, many for the first time. Many of them are untreated presbyopes. Many of them are cataract blind. Many of them are school children with short-sightedness who haven't been treated. We're tracking how many of them reach care, and then we're looking at patterns that we can change in people who don't reach care.

Ambika Samarthya-Howard: What are you doing in Nigeria?

 **Andrew Bastawrous:** At Peek, we're trying to work at the federal level to get a national agreement to be a provider to the government. We've done that in Kenya, where

they've given us a national license to operate, which now means almost every major NGO—Sightsavers, Fred Hollows, CBM [Christian Blind Mission]—are all using our platform. There's a source of data that informs practice and data is available to the government, all our partners can look and learn from each other on ways to improve reach and access.

Ambika Samarthya-Howard: The numbers are staggering. How have the nonprofits been able to reach that many people? How do they have the capacity to do that?

 **Andrew Bastawrous:** Firstly, we have excellent and committed partners. It's partly the way in which we've developed the tools. We designed it so that a screener needs no eye health or health experience. They need only to be smartphone literate, because all the intelligence is in the algorithms on the phone. My kids from age of six and above have been able to use it and correctly identify someone with vision loss. It's about putting tools in the hands of people already embedded in the community, leveraging existing platforms like community health promoters in Kenya. There's now 107,000 of them professionalized by the government. We don't have to find screeners, but we need to provide this as a tool to them because they're already going door to door. We try to find where people are already going to the communities we care about, and then work to give them the tools to identify people who need help, but also to make sure they can channel them to where they can get care.

Ambika Samarthya-Howard: The people who are going door-to-door screening people, are they carrying eyeglasses on them?

Andrew Bastawrous: No. The application tells them where they need to send someone, based on what they've found. We just finished building a presbyopia calculator, which is an exciting tool because it means a layperson can accurately prescribe reading glasses at the same level as an optometrist in a clinic [as shown by our recent study in India]. We've spent two years building and validating that it works to the required levels.

Ambika Samarthya-Howard: Who helped you build that?

 **Andrew Bastawrous:** Our team of software developers, researchers, product designers and others. They've been in Kenya and India prototyping this for a while. The Livelihood Impact Fund has supported this work. This application shows that people who already knew how to prescribe reading glasses weren't prescribing them, because they weren't confident in giving them to people. Even if they had them in their bag, they

didn't want to get it wrong because they weren't certain. Even if you tell them it's not a medical product and it's not going to cause any harm, there was still a concern that they would give someone the wrong glasses. If they have any hesitation, they say, "Go get it from that qualified person at the clinic." The application lets them feel they're being supervised because it's telling them step by step, "Do this, do this next, try that." It also ensures anyone with other eye health issues are referred and tracked accordingly.

 They have different tools to start collecting data. We've built an algorithm based on hundreds of thousands of data points from our programs that tell the screener after they've done the distance vision test if this person is eligible for reading glasses, and then it takes them through a workflow where they are guided to examine their near vision. It asks if they're already wearing reading glasses. Then based on their age, their near vision, and whether or not they've had cataract surgery, it will determine what kind of starting power you should try. It tells the screener, "Based on what we found, do this test. Try them with a pair of +2.0" as if someone's over there shoulder advising them. They try on the +2.0 [power] and then repeat the near vision test. The app will tell them, "Try this instead," and it'll take them up or down in strength until it says, "Yes, this is the power you should prescribe."

 We've spent a year and a half validating this near vision test in various settings, including a clinical setting in Nepal and with the World Health Organization undertook an independent validation. We've more recently validated the near vision test with Aravind Eye Hospital [in India] in the context of population-survey (clinicians in the community), and now in the community with layman users in many different environments. We have been testing having lay screeners do this with those same patients who are then being seen by an optometrist in a clinic. What we're seeing is that the results are comparable, and it's taking the same amount of time. Part of the reason for doing such rigorous research that we can publish is to build confidence that you can trust a lay user to get it right with this application.

Ambika Samarthya-Howard: What happens next?

 **Andrew Bastawrous:** The app will say, "Did you give it to them, or did you prescribe it? If you prescribed it, where did you ask them to go?" Then we can track whether they went there or not, because we collect their name, their contact phone number, and where they have been sent. For example, if it's the vision center or the pharmacy, they're also using our application. The minute that person has been told to go

and get them, they're in the queue. If they don't turn up, we can trigger bespoke reminder messages. They can be entered into trials to test what's going to make them turn up or not. We can test price elasticity, which we've been doing in India, testing at what price people turn up, or at what price they do not turn up.

Ambika Samarthya-Howard: Do you give glasses to someone who carries them around? Are you making arrangements with RestoringVision, the suppliers, or are you just doing this with nonprofits?

 **Andrew Bastawrous:** We'll do it with whomever the provider of that service is, but we don't work directly with them. Our implementing partners lead the delivery of eye health services, including procuring glasses. That's not our lane. We really admire the work and team at RestoringVision and we are discussing opportunities to work together.

 The other thing we're building is an outcome monitoring tool, because we know from our data that when you get someone into glasses, we shouldn't assume they're wearing them. We've learned from our school programs that 50% to 70% of children who are given glasses that work and are free, at three months, they're not wearing them. We shouldn't be patting ourselves on the back saying we solved the problem when there's actually another problem where for some reason they're not wearing them. We can track and start to look at the underlying reasons as to why they're not. The paradigm we think about is this impact chain of finding someone, diagnosing them, treating them, and then following them up and looking at where people may have fallen out on that chain of impact.

Ambika Samarthya-Howard: You have a long-term partnership with the government, and there are nonprofits who work with them. But if you're not the one with the supply, because that's not your lane, then does a nonprofit choose who's going to learn how to use the app?

  **Andrew Bastawrous:** Yes. We might guide them on the minimum skillset, and our software trainers will equip them to use our software, but they're not our team, they're not our staff. Like in Pakistan, they've got nearly 2,000 Lady Health Workers who are using Peek to screen in the community. That is led by in-country implementing partners who are embedded in the government and partly funded by NGOs who support them with technical support and funding.

Ambika Samarthya-Howard: Are your training workshops virtual or in person, how many are there, and for how long?

Andrew Bastawrous: They're both virtual and in person. We've developed online training courses which are then followed up with in person training. The in-person training varies from two to five days depending on how smartphone literate the people are. Sometimes we have to start with smartphone training. If they're smartphone literate, then it's shorter. It's normally a combined workshop because they're not only trained in how to use Peek, but they also need to be trained in how to engage people in the community, how to spot basic eye conditions, and then recording those in the app. We try not to do the Peek part in isolation from all the other things a screener needs to learn to do their job. One of the things we now do is *certification*, and a team in India is doing this right now [December 2024]. When a partner has become quite experienced using Peek, we certify them to become independent trainers so they can train their own users without us having to be there, and they can expand their own programs. The next level is then training other organizations. That's where we're looking to go in our next strategy to really cascade the scale.

Ambika Samarthya-Howard: How long does it usually take as an all-day training?

Andrew Bastawrous: It's anywhere between two and five days, partly because the last two days are actually doing the work. They're being observed, because it's usually something they haven't done before, and we want to get to a certain point of quality assurance to know they're competent. We can see in our data if the decisions they're making are the right decisions, so we look for signs of quality such as low false positives. We want them to be at a certain level before they're doing it unobserved.. The classroom training is shorter, but it does include two days of live field observation and support.

Ambika Samarthya-Howard: One of the things that's come up repeatedly is this idea of not just screenings but also salesmanship. How do you deal with that?

Andrew Bastawrous: Where we're going next, whether it's readers or cataracts or anything, the bigger job is sales. You're selling an idea to people in the community that you've got a vision problem that you didn't even know that you had, because people aren't complaining they don't have vision, they've just stopped doing things that matter to them. It requires someone who can tap into a latent need and prove to someone they have access to a solution and convince them to take it. This is basically "sales". Within our platform, we can see some screeners are outstanding, some are very average, and some are well below average. What is it that makes some of them so good at what they're doing?

We're looking at conversion rates. It's the pace at which they're working, and ultimately how many people get treatment. There's a big difference between individual screeners. We are exploring building screener dashboards with incentives built into it, which can include payment incentives. For example, the number of reading glasses distributed, or the number of conversions for referral upstream that are completed, can lead to a payment. That's one of the things we're going to start testing next year to see if we can drive behavioral change by the screeners. Can we get better at identifying what makes a good screener, and then how to retain them? Recruitment and retainment strategies will help our partners identify, train and retain high performing screeners.

Ambika Samarthya-Howard: Has anything not worked?

Andrew Bastawrous: I wouldn't say everything has worked. It's more what we're trying to foster in our own team, [a sense that] Peek should give you the tools to experiment. There are too many things we don't know, so we have to know what doesn't work quickly.

A lot of things haven't worked. For example, we did research in India and Kenya. The untreated presbyopic individuals were given an experience for half an hour of wearing reading glasses. They were then told, "If you want them, now that you've had a sense of what they can do, they are available at this place and get them at X price." This is in India and Kenya. We're able to test price elasticity in India, and we could see how price-sensitive it is. In Kenya, what we learned was, to my surprise, that almost everything our partners and we tried didn't work. They dropped the price, they moved the location, they changed the type of experience, and the data showed that 12% to 13% of people were then converting, i.e., going on to get them at the available locations at the available price. That was a really, really important learning. We still don't know why this is the case. You could say in one way" it hasn't worked", but I'd also say this has been critical learning because people don't seem to want them despite all the interventions.

The leading thing that's coming out is that people in that specific community in Kenya didn't feel the need. I don't know why that is, and it's a really important question for us to answer if we're going to solve the problem, because we could distribute millions of pairs, and people keep them at home or not use them. There's something going on. It may be related to people being used to them being free, but I don't know. It's something we don't understand yet.

Ambika Samarthya-Howard: Does occupation have anything to do with it? Word of mouth is why everybody does everything, in some ways.

Andrew Bastawrous: I've just come back from both India and Kenya where we're just setting up EARCN, a $4.8 million randomized control trial, in both. We are working with GiveWell and LIF. EARCN stands for Economic Advantages of Readers to Correct Near Vision. It's a large randomized control trial of 10,000 people in both sites building on the good work of Prosper and Thrive.

Prosper evaluated productivity (rather than income). Thrive was in a very vision-intensive workforce. Some major funding organizations are looking for whether this is translatable across whole populations, and more generalizable rather than vision-intensive roles. We're running that trial with partners in India and Kenya through my role at the London School of Hygiene & Tropical Medicine, and we're leveraging the large scale programmes using Peek to recruit the trial participants. Given the scale of programs, we can find untreated presbyopes quite quickly, and then they're handed over to the trial team. That's important because GiveWell is planning to invest in this issue space , and the results tell us if people's quality of life goes up? If their consumption goes up and if their income goes up?

Ambika Samarthya-Howard: Outside of Nigeria, Kenya, India and Pakistan, are there other countries that are doing something completely different?

Andrew Bastawrous: It's less about the countries, but rather a change in one of the products we provide called RAAB, the Rapid Assessment of Avoidable Blindness. Currently, 100% of the global data on effective refractive error coverage reported by the World Health Organization comes through this product, and 87% of cataract coverage data comes through this. These are the two tracer indicators that WHO has approved at the World Health Assembly. Now all countries are working towards aligning to this. There's a mandate to improve effective refractive error coverage by 40% between now and 2030, which means the number of people who need glasses, get them and improve their vision needs to improve by 40% compared to baseline.

One limitation of RAAB is that it previously only measured distance vision. We've now embedded near vision into our validated application with a view to it becoming standard in every rapid assessment of near vision, because it's something that if you're not measuring it, you are not noticing it's a problem, you're not resourcing it, you're not trying to solve it. We're just trying to use the data to raise a better understanding of how big the problem is. The data around the size of the problem is actually quite poor. Trying to improve our understanding and being able to measure in a really robust way whether we

are making a change at a population level, because it's a well-known approach to population sampling. It's not opportunistic screening, it's taking a sample of a whole country or a district, and being able to say with confidence the number of people who were treated and untreated.

Ambika Samarthya-Howard: Great. Thanks, Andrew.

Ambika Samarthya-Howard Samarthya-Howard (she/her) is Solutions Journalism Network's Chief Innovation Officer. She strategizes on communications, metrics, impact, product and technology, leveraging platforms for the network and creating cool content. She also leads the Solutions Insights Lab, an initiative of SJN that uses targeted research and analysis to identify and interrogate what's working and what's not in a particular sector or field. She has an MFA from Columbia's film program and has been creating, teaching and writing at the intersection of storytelling and social good for two decades. She has produced content for Current TV, UNICEF, Havas, United Nations Population Fund (UNFPA) and Prism.

** This interview has been edited and condensed.*