"The day I got my glasses transformed my life": Andrew Bastawrous of Peek Vision on how his story drives him, building presbyopia awareness and creating community access points

Ambika Samarthya-Howard
March 15, 2024

Ambika Samarthya-Howard: Let's start with you telling me a little bit about your organization and your approach.

Andrew Bastawrous: I grew up in the UK, but was doing really badly at school, struggling a bit socially, struggling with my schoolwork. It turned out that I couldn't see, but I didn't realize that I couldn't see. That was just the world as far as I knew it, and all I needed was a pair of glasses.

The day I got my glasses transformed my life. I went from not seeing leaves on trees, not having seen the stars, not having seen the blackboard, not seeing the nuances in people's faces when they were talking to just a totally different world opening up in front of me. Things started to change really quickly. The same year I got my glasses, I was in Egypt, where my parents are from, and realized that no other kids had glasses, and I started asking why.

Ambika Samarthya-Howard: What was the moment that you first had someone come to you and say, "Hey, you should take an eye exam"?

Andrew Bastawrous: Two years before I got an eye test. I didn't want to have an eye exam; I was the only brown kid in school, and I didn't want to look more different, so I avoided it.

A few people said I might benefit from an eye test, but I just found ways of not having one. Being in Egypt, kids looked more like me than they did in England, but they were very different to me in that opportunity was completely different. It was the first time I felt that life wasn't fair. It deeply bothered me. It still does. That was the starting point of the journey, which grew into me realizing where you live makes a huge difference in terms of opportunity and that something as simple as glasses can be the difference between a journey that looks like this or a journey that looks like that.

So, I was desperate to become a doctor. I became a doctor, then I became an eye surgeon. I worked as an eye surgeon for seven years, then I quit. As did my wife who's a pediatrician. We moved to Kenya and spent two years living there.

I started doing some research with the London School of Hygiene and Tropical Medicine just to shift my perspective from an individual clinician seeing the people in front of me to seeing who I did not see; what was not happening?

It was incredibly difficult but amazing in terms of going from a theoretical public health understanding to being deeply immersed in it and seeing how hard it was for people to access care. We set up 100 different eye clinics around Kenya [between 2012 to 2014] and would move around providing treatment and various assessments.

Ambika Samarthya-Howard: When you set up these eye clinics, how did you do that? Did you do that with partners?

Andrew Bastawrous: I did it as part of the largest ever cohort study of eye disease in Africa. I got research funding and was trying to answer the question of how many new people were developing vision loss and what the causes and risk factors were. I assessed 5,000 people, and followed up with them over six years in 100 different locations.

In these locations, I would take an eye hospital – more than even an eye clinic – and [put in] about $100,000 worth of equipment and a team of fifteen trained people. We ran them and did very comprehensive assessments. A few things became apparent that were not part of the study. One was loads of people would turn up who weren't part of the study.

Ambika Samarthya-Howard: Are all of the eye clinics you set up still part of this research cohort?

Andrew Bastawrous: They were temporary. Because we ran outreach while we were there, we told people to come see us if they had an [eye] problem. And there'd be queues and queues of people. The people who came outnumbered the people who were a part of the study by a factor of five. Most of the people in the queue had a problem that we could treat – allergic eye disease,

needed glasses, cataract surgery, etc. These were solvable problems. They had [seen] their grandparents who'd been blind for 15 or 20 years, where an operation that we could do in five minutes [could] restore their sight. There were kids not in school because they were told they weren't smart enough and a whole gamut of things. And I just started really questioning how we might look at this problem differently and solve for it differently.

I realized at that point that it wasn't an ophthalmic problem, it was an access and distribution issue. What the data was telling me was about 80-90% of people in need of eye care are never identified. They're not even aware they have a fixable problem, so there's no demand.
They were like me as a kid; I didn't know I couldn't see. I just thought I wasn't very smart. In the same way, people who are presbyopic, they don't say they can't see up close; they just stop reading or stop doing things. And for people with cataracts, there's [a widely accepted] saying that goes, "My hair goes white, my eyes go white" [as if that's] just what happens.

 And so I realized that problem had to be solved. We had to be able to find those people. That's where we started building some apps. We created this vision test, which meant your minimum skill that you needed was to operate a smartphone and move it away from needing to understand health or eye care.

Ambika Samarthya-Howard: You sent that to the people screening or the people being screened?

Andrew Bastawrous: The people screening. The only people doing the screening were eye care trained, and there's very few eye care workers.

Ambika Samarthya-Howard: And you told the eye care trainers that all they needed was a smartphone or you had them tell the people being screened?

 **Andrew Bastawrous:** No. We built something with the design parameters that it had to work in the hands of people who knew nothing about health, but their minimum skill set was being able to operate a smartphone. Then, I managed to beg and borrow people's time who were software developers and engineers, and various other volunteers to build a prototype app.

 We got it working and validated it over a couple of years. Then we proved a lay worker could as accurately assess vision loss as an ophthalmic surgeon using state-of-the-art equipment using this application. This meant you had a whole potential of people, in terms of the top of the funnel, who might go out and find people accurately with vision loss because [many more people] knew how to use a smartphone.

That was problem number one, but [solving for] problem number one didn't mean those people got treatment. So, problem number two is that you found them, but the barriers to them actually going to the eye hospital or to an average clinic were still very high.

We found that on average, 80% of people who knew they had an eye problem and knew where to get treatment still didn't go. So, we started asking why they didn't go. There was a whole range of barriers which I would summarize as A, B, C, D, F, and G that resulted in four out of every five people not turning up.

"A" is awareness; they weren't aware that this was truly a solvable problem.

"B" is bad service; they would show up and no one would be there or not be given the time while they were there.

"C" is cost; the fees related to the treatments were prohibitive and the indirect cost of not doing what they do everyday was too high to stop to go and access treatment.

"D" is distance; they had to go too far to access care.

"E" is escort; if someone has lost their vision, they're dependent on someone else to make the decision and journey with them. The intervention then becomes around the escort rather than the individual needing care.

"F" is fear; people were scared about what we might actually do and the treatments involved. There's a lot of myths around what would happen.

"G" is gender; these barriers were disproportionately affecting women and girls.

 The next phase of work was solving for those problems. That's where we ended up building a software platform that would track the journey of anyone referred to the place of where they were referred. [We] send them SMS reminders, various nudges to people in their community to push them. We were able to triple the number of people that turned up by doing that.

Ambika Samarthya-Howard: Could you talk a little bit about who your target audience is for this app in terms of geography and demographics? Did you specifically build the app for the Kenyan population, or did you build an app for the Kenyan population hoping it would scale a little bit more?

Andrew Bastawrous: The latter. My view has always been to take a non-disease approach, so there was no age, no disease, it was the people. People don't say they've got this eye problem or that eye problem. Broadly, it was the categories of distance vision problems, near vision problems, or their eyes were uncomfortable or didn't look right. The reason people were accessing eyecare

was across that range of things. I wanted to provide a solution where whatever your eye or vision-related problem was, we would be able to get you to where you needed to go for the right treatments.

Ambika Samarthya-Howard: After you built your prototype, who were your early adopters? Could you talk a little bit about them?

Andrew Bastawrous: The first program context where we used this was a school-based program. A colleague of mine, an ophthalmologist in Kenya, shared with me that there were lots of children in schools around him with sight problems. His ophthalmic nurse had been assessing them and about 10% had an eye issue, but he couldn't afford to send her to spend 90% of her time examining healthy children anymore. He had to close the clinic. His dilemma was that he knew there was a problem, he didn't want to ignore it, but he couldn't afford to do anything about it.

 He was aware that we were building this app, so we had a conversation about finding someone we could train to do the screenings [using the app] to find the 10% so that his nurse could optimize her time when she goes. As a result, we trained teachers to do it.

Ambika Samarthya-Howard: You trained teachers on the app to use it with the students?

 **Andrew Bastawrous:** Yes. They were able to screen the children. It showed them a simulation of the child's world so they could understand what that means. It wasn't just a clinical number. Then, it sent an automated SMS to their guardians explaining where they needed to go and when. The hospital would receive a list of referred children, so they were now in their system for the hospital to manage the demand that was coming and also track if those people turned up or not.

That was the first prototype of the platform; so it's creating this closed loop system where we could create nudges within it.

Ambika Samarthya-Howard: What was the workflow or process for testing presbyopia then getting glasses?

Andrew Bastawrous: It was the same thing. We would identify them for whatever their issue was, so we would pre-design the flow. If they had this issue, they'd go to this place; if they had another issue, they'd go to another place. So wherever there was access for those things, they would get sent.

Ambika Samarthya-Howard: Do you know what the next place was? If they had presbyopia, where did they get the glasses? Is it a pharmacy?

 **Andrew Bastawrous:** No, it wasn't a pharmacy. In Kenya, at the time, it was still largely hospitals. There were very few access points at that time for presbyopia. It's not that different now; still not many.

And so we built that closed loop referral pathway and ran a trial on that. We did a school-based, community-based, and household version of the screening. Both RCTs were published in Lancet.

Smartphone-based screening for visual impairment in Kenyan school children: a cluster randomised controlled trial

Effectiveness of an mHealth system on access to eye health services in Kenya: a cluster-randomised controlled trial

Basically, we tripled the number of people getting care by doing this, which was the point at which I spun it out from the university to build a social enterprise that took this platform prototype to actually build something that we could design programs for governments and large NGOs to do large-scale programs.

Following that method of finding more people, but making sure that when you find them, you've already pre-designed the pathway where they can go to access the care that they need. A big part, and this is where the presbyopia bit becomes important, is not sending everyone. Something to explain is that there isn't a primary care level for eye health.

Ambika Samarthya-Howard: I think the workflow question is so key because I feel like what you're seeing is really solving that first step of access and the screening, but then there's so many separate workflows that you don't have as much control over, because it's a supply chain issue in terms of where you can get glasses but also a treatment issue.

Andrew Bastawrous: Correct. And what we've been able to do over time is start to shift that. People were concerned that it would create so much demand and the hospitals would drown. [We listened to that feedback and] looked at who the hospital was seeing, and their data showed that about 70% of people who come to the hospital didn't need to come to the hospital. They could have been managed elsewhere if policy had allowed, and if services were available, because an ophthalmologist wasn't required. Also, [we found] that the people [who needed medical care] weren't actually getting there. So, we were able to demonstrate that we could reverse the case mix coming to the hospital.

Ambika Samarthya-Howard: Have you been able to see any shift in policy or any shift in making that happen?

Andrew Bastawrous: Yes. In Pakistan, they've changed their national policy to allow refractive services – both distance and near glasses – to be delivered at primary care based on our data. That's now happening at scale.

In different settings, what we tend to see is that as the program grows, people start to feel like there's a bottleneck. If you look at the data, you can start pushing services further down, and it's actually accelerating the need to build access points closer to the community. Really what I would bucket as primary healthcare. That includes readers, eyedrops, and the ability to identify and refer more serious conditions. Because if you get that right, then that actually stops the bottleneck in the hospitals. We've published about 25 different papers and trials showing that we can change utilization of services – we can push services, we can do task shifting – and it's really starting to grow.

One of my learnings, bringing it specifically to reading glasses was, as a domain in eye health, [presbyopia] was just very much ignored. It's one of those paradoxes where a problem is so simple to solve, so people assume it's already solved. So from the policy and ophthalmologists' side, they're not even thinking about it; so, in all the big conversations, all the national eyecare conferences, no one's talking about it. It's not seen as a thing. Therefore, it hasn't been measured.

We provide a software platform for eyecare screening programmes and population surveys. One of the surveys is called the Rapid Assessments of Avoidable Blindness (RAAB) built on our platform using a methodology led by the London School of Hygiene & Tropical Medicine. RAAB provides more than 50% of global data on the prevalence of vision loss. For decades, [no one had] collected near vision data because no one's been asking this problem.

So there are different levels to this problem: eye health has been ignored within primary care health, and eye health has ignored near vision. It's just in the last four to five years that the shift in that realization has started.

Ambika Samarthya-Howard: And what do you think has contributed to that shift?

Andrew Bastawrous: A few things. First, I think, [the availability of] glasses for near vision. When we – and when I say "we" here, I'm talking about ophthalmologists past and present – when we would do population surveys and report national-level data, the conversations used to just be about blindness. But from the 1990s to early 2000s, the conversation moved to vision impairment. We started to talk about not only the blind, but the people who had vision [issues] that stop them from functioning.

But even then, they were still just talking about distance vision. And then, we realized we were making real progress on that. But even with those definitions, they discounted anyone that couldn't see because they needed glasses.

So even in the population measurements, you were corrected for glasses and measured with [the presumption] that you had them. So the data didn't actually [reflect] the reality. The definition shifted in the late 1990s; it used to be measured by corrected vision. For example, we would record your vision as what it was [based on your] visual potential. We weren't measuring your presenting vision. You may be able to see better [with glasses], but if you don't have them, you don't. That definition shifted. We started to [recognize] that glasses are actually the second leading cause of vision impairment. So poor vision, but not the worst vision, was [with the wrong] glasses. Suddenly, there was this big part of the problem, and it started to get bundled into the measurements. Only more recently did people start to talk about near vision as well.

Ambika Samarthya-Howard: I've been hearing that there are some places where that's not happening universally, so I'm also just curious, for the places where there has been uptake, what do you think the difference has been?

Andrew Bastawrous: Well, where there's uptake is usually high income economies and where it's no longer considered a medical product. It's available in places of convenience and it's reached a tipping point where there's public awareness that if you don't see close, you just grab a pair of those cheap readers. But that's been a real shift in consciousness.

 Even in high income settings, people's first experience of wearing glasses is usually somebody else's; someone struggling to look at their phone and someone just telling them to try their glasses on and being surprised by the difference they can make. They can access them almost anywhere. Now that hasn't happened in most of the places. We work in nine African countries and three Asian countries, and that's not the norm. That kind of public consciousness hasn't happened yet.

Ambika Samarthya-Howard: That's exactly what I think we're trying to figure out; what contributes to that change?

 **Andrew Bastawrous:** I think there's been different ways in which that can happen and has happened. One is the distribution point. The thing with reading glasses is that until we reach a [certain] point, it's still a managed sale. Someone doesn't just come to the shop and randomly try glasses on in order to see better. You still need the person behind the counter to suggest it and convince them. For many retailers, it's just not worth the time. The margin isn't good enough; it takes up too much space in their pharmacy kiosk, and they can sell other things.

Ambika Samarthya-Howard: But what about for people who are community health workers doing primary care? They're testing for all that stuff – malaria, diabetes, blood pressure, – when does it become part of their testing?

 **Andrew Bastawrous:** That's still quite a long way off in that most of those people themselves don't have reading glasses and need them. That's actually part of our strategy and something we're doing with LIF [Livelihood Impact Fund] called "Treat and Train" campaign. We give pairs to health workers we train who can't see the vaccine vials or blood pressure cuffs so they are safer at work. The Ministry of Health doesn't care about reading glasses, but they do care about vaccine safety. We're [offering them a way] to be better and more productive at delivering vaccines and do it more safely.

Ambika Samarthya-Howard: Where are you trying that and what does that rollout look like?

Andrew Bastawrous: It's a pilot in Nigeria that we're planning.

Ambika Samarthya-Howard: Okay. And you haven't started it yet?

 **Andrew Bastawrous:** No. The training part of that is we're building an app which we're going to release as part of our product suite. It's a tool that allows anyone with minimal training to input the age of the person and measure their near vision on the phone, then it tells them what to give them. It also helps them refine that based on another test within the app.

Ambika Samarthya-Howard: When are you trying to roll that out?

Andrew Bastawrous: We are starting a validation of it next month in India. One of the concerns people have is that people will get it wrong; they'll give people the wrong power glasses, which actually isn't a risk, but people think it's a risk. So if it's a perceived risk, it may as well be a real thing.

 One of the ways to overcome a perceived risk is by validating the application in the hands of lay workers [and comparing the results with] specialists who use standard equipment to show the same result. That will be peer-reviewed and published, and that allows the decision-makers and policy makers to say it's safe. That's the main reason we're doing it. Because actually, it's not very difficult; I could train anyone to do it in five minutes.

Having a validated algorithm that sits in an app that people already trust – for example, WHO [World Health Organization] is already using it in some of their survey tools – means that there's a level of confidence for people to say it's okay to use it.

Ambika Samarthya-Howard: Why did you choose India?

 **Andrew Bastawrous:** Partly [because of] our strong partnership where we know we can get it tested quickly. They're called Charity Eye Hospital. The Director of Public Health is my PhD student.

Ambika Samarthya-Howard: And that's the project that LIF is funding right now?

Andrew Bastawrous: That's one of the components, yes.

Ambika Samarthya-Howard: And what are the other components?

Andrew Bastawrous: The other component is a question along the lines of what you are asking – why do people not just go and get reading glasses if they're available?

And we talked about the need for the 'seeing as believing' moment. [Until you've worn a pair] you don't know what you've missed, effectively. Until you've experienced it, you don't have demand; it's still latent. You haven't experienced the change.

So we've designed a study whereby we embedded it in our large-scale programs. Since that time, ten years ago in Kenya, we're now supporting seventy programs that are either school, workplace, or community based in twelve countries. They collectively reach over 100,000 people per week. Within those programs, we have the potential to recruit participants for experiments and trails. What I've proposed to LIF – and have been doing for the last year – is to find people who are presbyopic and don't have other eye health issues.

Ambika Samarthya-Howard: In rural Kenya?

 **Andrew Bastawrous:** We did this in Kenya and India. We provided them with glasses for thirty minutes and a suite of optional tasks to do that they do normally, like sorting rice, sewing, reading religious texts, and using their phone. [People who are] 35 plus, they would need to be presbyopic. They would have the thirty minute simulation, then they would return the glasses. They would be told how much they were, and where they were available from.

 It allowed us to do a whole load of things like price testing. We found it was very sensitive to price. In India, 69% of people went and picked up their glasses when they were free. When sold at the market price [$1.22], it dropped to 18% of people getting them. Then, with a 27% discount ($0.90), it went up to about 40% of people getting them. So it's very sensitive to price; but it also showed that there was no margin in which they could be sold at that point for it to work. One of

the big questions is whether this has to be a subsidized product for people to take it. That's part of what we've been trying to answer in that work.

Ambika Samarthya-Howard: Did you discover anything in Kenya? When I've talked to people who've been working in East and West Africa, it's a very different model than in Asia. It feels like the price point stuff is very tricky. Feelings are different – and rightfully so because of the way colonialism and marketplaces have happened in Africa. I was wondering if you experienced that as well?

 **Andrew Bastawrous:** Yes. Kenya was much harder. We were getting a 12% uptake, then we'd lower the price or move it closer, but it didn't shift. So we've been doing a bunch of other things and case studies to try to understand what that is.

Ambika Samarthya-Howard: 12%, even if it's free?

Andrew Bastawrous: Yes. So [it's] a real question mark in terms of what's the model then.

Ambika Samarthya-Howard: Is it a distance issue, you think? Getting to the place?

Andrew Bastawrous: We went from [people] having to travel to a health center or a pharmacy type place to pick them up to bringing it right into the community and people still didn't take it.

Ambika Samarthya-Howard: And you tried that in various places in Kenya?

Andrew Bastawrous: No. One specific district where the program was running.

Ambika Samarthya-Howard: That's really interesting. Any guesses about what that's about or opinions from your time in Kenya?

Andrew Bastawrous: Yeah. I think some of it is around what you touched on about their healthcare being colonized, particularly eyecare. If you go back a few decades ago in Kenya, there were no ophthalmologists. The only ophthalmologists were British Army ophthalmologists who were there to serve the British Army.

As the healthcare system started to get built, eyecare has just been the work of foreigners, so a huge portion of eye care in Kenya is still NGO driven and largely free. And so I think – and I'm saying these are [my] best guesses – but [if] there is an idea that eyecare is a free thing, people generally wait for the free thing.

Ambika Samarthya-Howard: But you're saying even when it was free, people still didn't take it?

Andrew Bastawrous: There was still a small inconvenience, and the inconvenience was reduced but not removed. You still had to stop what you were doing and go somewhere. It was just much closer. We didn't get to the point where we're giving them to people at home. And even then, that would be interesting because of what the compliance would be.

[Even after removing all the barriers,] they're still not wearing them. That's actually a big part that came out of the study we did: people just didn't feel the need for them. Even though [it could help them] do things, see things and be more productive, they still didn't feel the need. And I'm not sure what that disconnect is. It's not apparent to me yet.

Ambika Samarthya-Howard: So what's happening next, outside of this pilot, what are you trying next?

Andrew Bastawrous: There are four, possibly five things that are next.

 One is we are validating our near vision test that we've built within that population survey tool so that it becomes normal to measure near vision when you're measuring the eyecare demands of a population. We want to prove that you can measure it reliably, and it will also draw out some of the barriers, like, why are people not wearing them if they need them? With that, we can start to create the normative data story around eye care included in their vision, for the reasons we discussed.

Two is to validate what we're calling a "presbyopia calculator" so we can get it to the point where there's sufficient, robust evidence that says – in the hands of a non-health worker – you can reliably prescribe readers. If we get to that point, there'll be a strategy for disseminating it.

Third is the "Train and Treat" campaign in Nigeria.

Then fourth is the big one, which is currently in the design stage, [which is] to run a large randomized controlled trial that demonstrates the livelihood impact of reading glasses. And that's in my other role as a professor at the London School of Hygiene and Tropical Medicine. The idea is that we'll use where Peek is active to recruit those participants for a large trial, but it won't be specific to one domain. The most well-known one is Prosper, which was a great trial but part of the critique was that it's a very specific location, a very specific role, and isn't generalizable to broader populations. It was also more about productivity rather than income, although they were more productive, they didn't earn more.

So the question is "do people's livelihoods improve?" And so we're doing it in terms of looking at things like household consumption, changing quality of life, and income. It's a pretty large trial. There'll be a lot of work set up, but we're in the planning stages of that. If that plan is accepted,

that will be something that we would aim to at least get regulatory approval, ethics, and so on with the view that we would design it ready to go into the year, maybe.

Ambika Samarthya-Howard: For "Train and Treat," why Nigeria as opposed to Kenya or India?

 **Andrew Bastawrous:** Why Nigeria? I have a long-term relationship with the Head of Eyecare for Nigeria. She was one of my master's students at the London School; she's the eyecare coordinator for the country. So the main reason why Nigeria is because they have a brilliant leader who is very progressive and open to moving the agenda forward. She managed to broker a meeting last year for me to meet the President and the Minister of Health, and we managed to get eye care.

Ambika Samarthya-Howard: Have you decided to pilot in specific states or specific areas in those states?

Andrew Bastawrous: There's a few states under consideration.

Ambika Samarthya-Howard: And are you going to start with a few hundred community health workers, like government salary, government team, community health workers?

Andrew Bastawrous: Yeah. That's the current plan. I think the exact plan is still under negotiation. It has not been finalized.

Ambika Samarthya-Howard: Have you worked directly using your app with pharmacists? Are any pharmacists using your app?

 **Andrew Bastawrous:** We have a free to download version that's available on the Google Play Store that anyone can use, but we don't know who uses that. We don't collect their data or track them. I do know that it has been used in a wide range of settings.

 The other version is only in the platform, so that's where we would do the very intentional design of care pathways and connect all the access points. Pharmacies generally don't even come up as one of the access points in those stakeholder engagements because they're not currently providing eyecare.

Since we're not just targeting a segment – we're targeting everyone – readers as a proportion of everyone in need of eyecare is quite a small proportion. So the number of people with near vision loss is fairly high, but they also tend to have, at least half of them, distance vision problems [as well]. They end up needing something that's not just reading glasses.

Ambika Samarthya-Howard: And what about with community health workers? Do you work with them as part of your platform? Have you worked with community workers in other ways through your app?

 **Andrew Bastawrous:** Yes. We have community health workers going door-to-door doing the screening. One of the motivations for our campaign in Nigeria is that health workers don't see a 40+ year old as someone who might need reading glasses. It's not in their consciousness. That's why we want to treat them first. The training will come after so that anyone who comes in over 40 will get a vision test. That's what we need to normalize.

Most of the community healthcare workers who are putting their data on phones and tablets that have small print can't see it either. We think the first thing is to educate the people who are going to be asked to be distributing the solution. Because if they don't believe in the solution, it's hard to motivate them. It's a silent problem. They're not going to look at someone and see that they have near vision loss.

Ambika Samarthya-Howard: Do you know if community health workers are using the app or using the platform?

Andrew Bastawrous: Yes, there are about 4,000 different people of varying cadres using Peek to screen people for eye health issues across the countries that we're working in.

Ambika Samarthya-Howard: And that would be Kenya, Nigeria and India?

Andrew Bastawrous: Not yet in Nigeria. We haven't started. It's Kenya, Pakistan, India, Nepal, Zambia, Zimbabwe, Botswana, South Africa, Uganda, Tanzania.

Ambika Samarthya-Howard: What's been the feedback of them using it? Do you feel like there's been good uptake?

Andrew Bastawrous: Well, it is their job, so they're generally not doing this as well as lots of other things.

Ambika Samarthya-Howard: Got it. And they work for the government?

 **Andrew Bastawrous:** They are government community healthcare workers, who are funded by an NGO to also add in eye screening on a particular day of the week or a particular week of the month. But it varies, in Pakistan, it's leveraging the existing healthcare worker platform and adding this as part of what they do.

Ambika Samarthya-Howard: Who's the NGO that they work with or do you partner with?

🤝 **Andrew Bastawrous:** It depends. We have many different partners in different countries, so the design is bespoke. There's not a single design. It's different.

Ambika Samarthya-Howard: Got it. So any NGO, because it's open on the market, can use this app? Do you work with NGOs in each country using this as part of their platform?

📲 **Andrew Bastawrous:** It's not something you'd download and use. We would build a partnership with them, they would pay us a license fee, and we would come design the program. We would then train them in using the software.

Ambika Samarthya-Howard: Can you talk a little bit more about how you find those NGO partners and how that part works?

Andrew Bastawrous: The history was when we started in Kenya, we were doing it directly. It was our team doing it. Our biggest realization was that it was totally dependent on relationships and trust. It has nothing to do with technology.

🤝 We do these large scale programs with great numbers – 21,000 people screened in nine days. The true story was, that did happen, but it was 18-months of relationship building. The option was either to grow a massive organization or partner with organizations that already have relationships and trust. They saw that we could add value to them, so we went down that route. The eye NGOs had been established for 50 to 100 years in some of the countries. They have very embedded relationships and country offices.

Ambika Samarthya-Howard: Did you find them or did they come to you?

Andrew Bastawrous: A bit of both. At the beginning it was us finding them, but now we have demand coming to us.

Ambika Samarthya-Howard: That's great. And then can you tell me a little bit about how the partnership model works with them?

🤝 **Andrew Bastawrous:** At one level, it's just transactional; they are paying us for a service which includes software. A smaller organization might ask us just to come in, design the program, configure it to our platform, train the users and help them make sense of the data.

With other, larger international NGOs, we have a strategic relationship where we work across multiple countries with them, and they will only do their screening programs using Peek because they no longer think it's efficient or effective to do it any other way.

Ambika Samarthya-Howard: And their primary users are eye care folks who are also community health workers, like their government sponsored eye folks?

 **Andrew Bastawrous:** There isn't a single answer to that; it's different in different counties. They will operate through local implementing partners – local NGOs, local hospitals, local networks. They've got relationships with the government – Ministry of Health, Education, whoever's needed. It's slightly different everywhere in terms of how that looks in reality.

Ambika Samarthya-Howard: So the broad range could be private, could be government sponsored, could be primary doctors doing a lot of different things and this is just part of their bundle?

Andrew Bastawrous: Yes.

Ambika Samarthya-Howard: Do you feel like there's a specific model that has been the most efficient in terms of uptake?

Andrew Bastawrous: What I've seen as the most efficient has been people using our platform to do large-scale household screening.

 For example, in Kenya, in a door-to-door screening programme, for every 10,000 screenings, they'll generate about 800 referrals. Those 800 referrals come on a set day for a large outreach camp, of whom about 300 need reading glasses. In total, we estimate 7% of the population screened are eligible for ready readers. [It's worth] noting that a large number don't make it to the outreach camp and this is something we focus on helping our implementing partners to improve.

 They just need to know [how many] they need to bring, then they're going to distribute a lot of reading glasses on that day. It's made a massive difference when they've been free or not free. When they're not free, people haven't taken them. But we've seen that because they were free, then the funder ran out of money, so they're not free now. That was in Kenya.

Ambika Samarthya-Howard: It's interesting how different it is in South and East Asia than in Africa.

Andrew Bastawrous: Yes, it's a really interesting problem to solve. There's something deeply cultural going on that I'm fascinated to work out.

Ambika Samarthya-Howard: The NGOs that you've seen work in all of these places, are they what you would consider local NGOs?

Andrew Bastawrous: They tend to be international NGOs with a local country office, who often operate through local implementers.

Ambika Samarthya-Howard: Is there anything I forgot to ask you or anything else you want to talk about that you think is particularly interesting?

 **Andrew Bastawrous:** This is more just the theory, but when we talk about somewhere between 500 to 800 million who have uncorrected near vision loss, I think my sense is within that pool is that there is a smaller proportion that have manifested near vision loss that is at that point that they care enough or want to do something about it.

I think if we can understand who that group is, that's the group to focus on, then they'll spill out to the others. My sense is that because we're getting too broad – trying to find everyone when only about 30% of the group really feel like this would create meaningful change in their life – we need to see how to persuade the other group. We're there on the adoption curve, so I think we really need to be able to segment to really understand who that group is. Because if we can get them, we can concentrate more effort on that group rather than be more generalized.

Ambika Samarthya-Howard: This has been so interesting. Thank you so much.

ICON LEGEND

Ambika 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.*