

My name is Proochista Ariana from the MSc in International Health and Tropical Medicine at the University of Oxford.

I'm here today with my friend and colleague, Professor Bruno Holthoff, who will be talking about health innovation and entrepreneurship, and will be introducing our new series of podcasts on the topic of innovation and entrepreneurship.

So good afternoon, Bruno.

We're delighted to have this opportunity to speak with you today.

And I just wanted to start us out with a question of why is innovation and entrepreneurship important in the space of global health?

When we look at global health, there are many problems that the countries around the world face. And in global health, we tend to focus on how to solve them with people or with structures. But innovations are going to play a key role in solving these problems. And it's an exciting time because we have innovations in genetics, nanotechnology, digital health, which will really allow us to develop new diagnostic and therapeutic interventions that are going to be affordable to many more people around the world. And I would say as soon as regions or countries are spending more than a hundred dollars per person per year, innovations can really start playing an important role in making healthcare more affordable and more accessible with these new technologies. And that's what health innovation and entrepreneurship is focusing on.

Well, thank you very much for that.

It's exciting to hear because oftentimes within the global health space, we talk about efficiencies. And there is an important space for what has been referred to as leap frogging. Can you speak a bit to how that works and what are possibilities for that?

I mean, it's clear that innovations are occurring in different parts of the world. I have met great entrepreneurs in North America, Europe, but also Asia, Africa, Latin America, which tend to be the countries that people refer to as developing. I don't like the term because we're all developing and innovations are occurring anywhere in the world. And because of these new technologies, they become affordable to many more people. So I think we'll leapfrog in Latin America, Africa, Asia, but also in Europe and in North America because we have unmet needs across the globe.

And I think you're absolutely right because people who are placed in those contexts know their context best and know what technologies are needed and what will work with their populations. And that's exactly what we focus on. So these technologies are being developed, but they need to be adopted to the local context so that you can make sure that it fits the needs of the population that you're serving in that specific region or country.

And we have decided to introduce the course on health innovation and entrepreneurship within the MSc in International health and Tropical Medicine precisely because we see the important role it plays in future global health leaders. Can you speak a little bit about what you think are the foundational skills that future global health leaders will need?

We train them on quantitative and qualitative research and we teach them how to design interventions and evaluate those interventions. When you bring in innovations, you also need to look at how you make them sustainable. So I would say the most important skill is how you create sustainable business models. Now, when I say business, a number of people will already say, oh, is this all for profit? No, we focus on how the money flows in complex health care systems and money comes from different sources. They come from governments, they come from donors, charitable foundations, but also you have private sources of capital and revenue that you can tap into to develop these sustainable business models. So we talk a lot about blended finance, creative ways of financing, innovative ways of bringing these technologies into the diagnostic and treatment pathways. So I would say

that is probably the most important skill is the finance skill and how you follow the money, understand how the money flows into the health care system, and make sure that you create something that's sustainable to address those needs of the populations that you serve.

I think that's precisely it. I think that financing people often forget when they think about innovation, they think about the big ideas, the creative thinking, etc. But you have to work out the financing and you have to know the ins and outs of how to make those calculations in order to be able to convince investors. And as you rightly say, make it sustainable. But the other element that I really appreciate that you provide our students is the communication skills and how to effectively be able to communicate or pitch your ideas. Can you speak a bit about what's needed in that space of communication?

We have a whole week on health leadership and management in the course. And we basically teach students how to understand the stakeholders and how to create a compelling story for the different stakeholders. And it's no different for entrepreneurs. When I talk to entrepreneurs, they often find creating a compelling story to be one of the most difficult things to do. And it's needed to convince, for example, investors, but also convince people to adopt their innovation, because it usually requires changing habits, new ways of working, which are quite difficult. We tend to like the way things work and don't necessarily want to change how things work. So I think the whole leadership management communication skills that we teach our students are quite important. Also, how you interact with, for example, regulators, they have an important gatekeeping role in terms of the adoption of innovation. So there's so many stakeholders that you need to convince that you're doing something that's helpful and improves the patient outcomes. Developing that compelling story is extremely important.

And it is about selling your idea, isn't it? And it's about selling your idea and convincing or persuading different audiences. And these audiences can be your consumers, but they're also your investors and the governments and the regulators and so forth. So making that compelling story and being persuasive in your ability to convey that is quite key to being an effective entrepreneur.

Correct. And this week, the students go to Parliament. It's the same, right? That you need to have a compelling story. If you want to change policies, you need to convince, again, lots of people to be willing to change them.

I often say that the commercial sector does it much better. They're much better at being able to market and persuade and change opinions and manufacture preferences. But in public health, we haven't been that good at being able to persuade people to adopt healthy habits or to take practices that are better for their health. So it is an embracing of that need for global health leaders to be effective communicators and creative thinkers.

No, absolutely.

Can you tell me a little bit about some exciting developments in this space and some innovations that you will be covering in the series that you'll be leading?

How we cover innovations in products, new products. And there's an entrepreneur from Cameroon who has a really smart speculum that he's developed and will first try to adopt it in Cameroon and Sub-Saharan Africa. But his major competitor is based in Israel and has US financial backing. So this has global potential as well. So that's an example of a product innovation. We, of course, have lots of digital health innovations because they tend to be very scalable and therefore very affordable to lower income settings. We have AI diagnostics, electronic patient records, but also service innovation. And what I really recall in one of the podcasts is an entrepreneur saying, you really need to understand the local

context. So once you understand that people only spend a hundred dollars a year, you immediately have a different price point that you need to have in mind for your innovation. And people become very creative, finding solutions to, I would say, global problems that are quite affordable and therefore maybe also should be used in the NHS or in US healthcare systems which tend to spend three, four thousand dollars a year per person and in the US even a lot higher. So that's, I think, some exciting innovations that have global applications.

I think it's wonderful how you span the globe in identifying the innovators in different spaces and different places. And as you rightly say, learning happens in both directions and we tend to forget that. So thank you for bringing that to the forefront of your series. As well, I wanted to see, do you have any tips? Because oftentimes people will say, well, there's a lot of innovators out there, there's a lot of innovations, but they fail. So what do you have in terms of advice for the budding entrepreneur in the face of failure or are not succeeding, shall we say?

Well, you have to listen to every podcast because it's a question I'm asking every entrepreneur. And I was surprised to hear that thinking early enough on the regulation was a key takeaway. People tend to think too late. So we'll have a podcast on regulation as a single topic as well. And then not thinking through the incentives for people to adopt technology. Why would people change their habits, change their way of working? What's in it for the different stakeholders? Not just financially, it could also be other benefits that people get out of using the technology. And healthcare systems are very complex because people that prescribe certain things are not the people that tend to benefit from the services, not necessarily the people that pay for the services. So trying to understand how different incentives can be created for the adoption is quite important.

And I suppose also knowing who your competitors are and where your niche is so that you're not necessarily going into a very crowded space in innovation, but finding where your added value is going to make the greatest impact.

Fortunately, healthcare is a growing business, if I can say it that way. People are getting older. We have more and more diseases that are spread around the globe. We talk about tropical medicine, but there's a lot of what we call non-communal diseases, cardiovascular, increasingly also central nervous system and other parts of our body that get affected across the globe. So competition often is healthy because people learn from each other. And in many of the solutions in global health, it's good to have more than one player. So it's usually not competition that lets people fail, but it's not just having a product that fits the context within which it needs to be adopted where people fail.

Well, thank you very much. It's a very exciting place to be growing and very important for future global health leaders. So thank you for the series. We look forward to hearing it.