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Interview with Dr. Gary Darmstadt, Associate Dean for Maternal and Child Health and Professor of Neonatal and Developmental Medicine

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What was your career path that you took to get into global health?

I actually started working in agriculture before medicine — my undergraduate degree was in agronomy, and I knew that I wanted to use science in some way to help humanity.

I grew up in Ventura, in an agricultural community. Across the street from my home, there were tomato fields and lemon orchards. I knew a man who worked in agriculture, and I worked with him to see what his work involved, and it looked really interesting. I was going down that path, and I actually went all the way through my master's degree. At that point, I decided to take some time and go to Central America, to Belize, and work with a small NGO that was setting up a school to train kids who were in junior high and early high school. At the time, the community there had a system of schooling where they could only accommodate a certain number of kids. This meant that students had to take a set of exams, and about half of them would be flunked out of school. So this NGO was setting up a school to provide kids with skills so that they could get a job, and I was tasked with setting up the agricultural part of the school. Unfortunately, when I got there I found that the school hadn't been built yet at all, and there wasn't infrastructure in place. I got to work with a man there who was Mayan, and I learned a lot from him about using local materials for the construction of buildings.

While I was there, I also spent a lot of time with physicians who were there running clinics. I remember watching them do their work and just feeling so alive. I was like, "This is what I want to be doing." I had actually already been admitted to a PhD program, and I wrote to the program director and said that I wasn't coming because I wanted to go to medical school instead. The researcher who I was going to work under for my PhD told me that I could still come work for him while I applied to medical school. He said that he had always wished he had gone to medical school, so he was very supportive of my choice.

I then went through medical school at UCSD and did a pediatrics residency at Johns Hopkins. During residency, a lot of my mentors were

clinicians who were also involved in global health. I started helping them with their research, which gave me the opportunity to travel to Bangladesh, India, and Nepal. I found that my mind was really drawn to health in these settings.

I came to a point where I was an Assistant Professor at the University of Washington. I was doing pediatric infectious diseases and pediatric dermatology, and I was studying the genetics and molecular biology of invasive infections of the skin barrier. While I loved the science, I felt like something was missing for me in my day-to-day life in the laboratory. I found that I was more drawn to being out in the field and thinking about cross-cultural issues and examining the real-world applications of clinical problems.

The real turning point came when my mentor at Johns Hopkins was asked to give a keynote address about neonatal infections in developing countries at a global health conference. He gave me the opportunity to speak in his place, and afterwards the Head of Health for Save the Children approached me and asked if I wanted to write a paper for them on that topic. They wanted me to discuss how an NGO like Save the Children could help to solve the problem of neonatal infections in these settings.

I wrote the paper, and a few months later I got a call asking if I wanted to lead their research program. They had just received a $50 million grant from the Gates Foundation that was focused on saving newborn lives, and they said that the paper I had written was instrumental in receiving that funding. When I joined Save the Children, I decided to leave clinical medicine because my new job focused on eighteen countries, and I was always traveling.

I worked for Save the Children for a few years, and then my mentors at Johns Hopkins enticed me to come back and be a professor there and to establish the International Center for Maternal and Newborn Health. Then, I got asked to come to the Gates Foundation and establish their Newborn Health program. This then evolved into leading their Family Health program, which included maternal, newborn and child health, nutrition, and family planning. I came to Stanford after being at the Gates Foundation for six years because I wanted to get back into conducting my own research and working with students.

Do you think that your background in agronomy still carries over to the work you do today?

It definitely does, in a couple of ways. One topic that I'm still putting a lot of effort into is studying the skin barrier, which goes way back to my earlier work. I'm specifically looking at how to improve skin barrier function in preterm infants, using natural vegetable oils, which are agricultural products. So there's an agricultural dimension there, in how we can produce high-quality oils for use as medicinals.

Also, a lot of communities in low-resource settings in Asia and Africa are fundamentally agrarian. This means that the majority of people are involved in agricultural production in some way, and it's really central to their lives. Growing up in an agricultural region myself, I felt like I had some understanding of what that was like, and I found that my background and agronomy education gave me a different view of communities than perhaps many others in public health had.

I remember walking through a village with some of my global health colleagues, and I commented on the patterns of how the crops were distributed throughout the community, and the ways in which they were storing and drying them. It was interesting because that was not something that my colleagues had noticed, so I do feel that my background was valuable in that it opened my eyes to appreciate how agriculture, health and nutrition are interrelated.

One of the early projects that I did in India was trying to bring effective care practices into communities, and it turned out that at the time of birth, the mother would deliver the baby in this small room that was meant for the storage of grain. This allowed the mother to be separated from infections and other disruptions during the critical period of labor and the week after birth. A lot of the rituals that were practiced during and after birth had ties to agriculture as well.

What was the most rewarding project you have worked on?

One of the most rewarding projects was when I was working with Save the Children on the $50 million grant they had received from the Gates Foundation. It was an incredible opportunity to think strategically and design new initiatives to improve newborn health around the world. I learned how to think about creating wise investments and deciding who to partner with. We ended up turning it into a fifteen-year initiative, and the Gates Foundation eventually invested about $150 million into it. What was really rewarding was that it completely changed the landscape of global health. Our initiative positioned the newborn between maternal health and child health, which, at the time, were two very separate fields that did not have much dialogue. Maternal health was very focused on intrapartum care in health facilities, while child health was more focused on how children could be cared for in community settings. However, the newborn was missing from this equation. So we got to place the newborn as the connector between motherhood and childhood, which was very valuable from a global health standpoint.

Another one that comes to mind is when I was working at the Gates Foundation as the director of their Family Health program. We were trying to think about how to revitalize family planning and to bring access to contraceptives for more women. At the time, perhaps similar to how it is now in the United States with the overturning of Roe v. Wade, the field of family planning was very fractured. There were a lot of ideological viewpoints among global leaders relating to family planning, abortion

rights, and contraception, and the Gates Foundation wanted to get global leaders together to talk about family planning and its benefits for mothers and children and get commitments from them. One day, Melinda Gates got a call from Andrew Mitchell, who was the Secretary of State for International Development in the UK government, and he told Melinda that he wanted to hold an event for world leaders on family planning. We talked about it over the weekend (we only had one weekend to decide!), and Melinda told him something along the lines of, "We're in if you're serious. This is going to be real work, and we're going to really make a difference. If you're really in it, then we're there with you."

So then for the next two years, we did a really intensive analysis of the problem and started developing a strategy. We spent the first three months just setting a goal and doing lots of analysis around what our goal should be to be aspirational yet achievable. We then launched our goal and started to align people, and it became a matter of reaching out to many governments, as well as the private sector, explaining the issue and proposed solution, and getting monetary commitments. We felt that it was a human rights issue as well as a health issue. The fact was that women globally were quite literally dying for the opportunity to plan their families, and from the standpoint of women's health, child health, and even from an economic standpoint, access to family planning was crucial. It was difficult because for some leaders family planning was a taboo and divisive issue, so we had to try to learn how to frame it so that they would be willing to support family planning. Melinda Gates even met with the pope and political leaders of diverse ideologies to discuss family planning and why it was important for all women to have access to it.

We held a summit called the "London Summit on Family Planning", bringing together world leaders and leaders of companies and raising $2.6 billion. A new initiative was born, called Family Planning 2020. This event was held in 2012, and the idea was that by 2020 120 million more women would have access to contraceptives. We set up an initiative to achieve that goal, working with countries to make plans, put programs into the field, and set up measurement tools to track our progress.

A few years ago, one of my students in my Global Public Health class gave a talk on our Family Planning 2020 initiative. It was really gratifying to see how far the initiative had come since its creation. When she gave the talk, our initiative had helped 60 million more women access contraception. It was really wonderful to see that our work had made a difference in the world.

What is your view of the current state of global health, and what are you looking forward to in the future of the field?

I think we're at a really important point in time for global health. Global health has tended to be top-down, where the agendas are set, financed, and implemented by the global north on behalf of the global south.

I think now there's really much more of an emphasis on true partnership and true community participation. Now, the development of global health research projects, from their very conception, involve people from the communities where the research is being conducted. It's no longer people coming in and saying, "Here's what you need and what we're going to do" and giving the community the opportunity to participate or not and to help identify the issues to be addressed and the approaches to addressing them. It's about creating a real dialogue. We all bring perspectives and skill sets and strengths, as well as concerns, to the table, and I think that all of these deserve to be heard and addressed. Everyone has a role to play, and we need to move past the top-down model of conducting global health projects.

We need to take a step back and look at what communities themselves say that they need and how those communities want to address the problems they are facing. It needs to be a shared effort. I think this is also linked with important conversations about race, gender and bias and power differentials. I think that the next generation of people involved in global health are going to bring new perspectives, and we're going to learn to approach things in a more respectful, dignified, and egalitarian way.