University of Manitoba: “What’s the Big Idea?”
Season 5, Episode 1: Marissa Becker

TITLE
Local partnerships, global impact: The science of saving lives with Dr. Marissa Becker

OPENING
Announcer: In 2027, the University of Manitoba celebrates 150 Years of Big Ideas.

Media clip
https://www.youtube.com/watch?v=Kw8VSnYJN54
“Our proposal to the TRC to host the National Research Centre outlined our commitment to survivors and to raising awareness of the impact of the residential schools. With deep humility, we welcome the news the University of Manitoba had been selected as the home of the National Centre for Truth and Reconciliation.”

Media clip
https://youtu.be/jNvX6zWsK5U?si=3LFJYA0_QmtCJ4UiÀ
The Churchill Marine Observatory is a first-of-its-kind research hub dedicated to detection, impact and the mitigation of oil spills while also studying the best ways to support Arctic marine transportation and adaptation to climate change.”

Media clip
https://www.producer.com/video/video-father-of-canola-leaves-legacy-of-green-and-gold/
"Canola. Invented right here, at the University of Manitoba.”

Announcer: The Next 150 Starts Here.

INTRO MUSIC FADES IN

INTRODUCTORY MONTAGE

Marissa Becker
“We had been working in North India, in the state of Uttar Pradesh, for about five years, and renewed commitments to the government of UP to support them in reducing maternal and neonatal mortality further.

There have been an estimated 4000 maternal deaths averted and 39 000 neonatal deaths. The government has achieved declines, in maternal and neonatal mortality, and we'd like to think we've been a part of that.

Now we reach about six and a half million pregnant women every year and about 5.8 million children, under the age of one, every year, through the programs. And we've seen gains in antenatal coverage, to the point where it's near universal."

INTRODUCTION

Marissa Becker
"We had been working in North India, in the state of Uttar Pradesh, for about five years, and renewed commitments to the government of UP to support them in reducing maternal and neonatal mortality further.

There have been an estimated 4000 maternal deaths averted and 39 000 neonatal deaths. The government has achieved declines, in maternal and neonatal mortality, and we'd like to think we've been a part of that.

Now we reach about six and a half million pregnant women every year and about 5.8 million children, under the age of one, every year, through the programs. And we've seen gains in antenatal coverage, to the point where it's near universal."

MUSIC FADES OUT

Michael
Hello Marissa, it's great to have you here today.

Marissa Becker
Great to be here. Thank you.

Michael
I'm used to seeing you in India, not here.

Marissa Becker
(Laughter) In a formal setting like this.

Michael
To start, I wanted to ask a little bit about your personal story. So, you moved your family from Manitoba to India, to do your research. Tell us about that and what made you willing to invest so much of your time, in this endeavor?

Marissa Becker
I think, maybe it's my nature, maybe I like a challenge, but when it was presented, it really seemed like a fantastic opportunity. So, I took a leap. I think that's what I've done in the past, when things have come up and I take a leap and then try to figure it out. But, at the time we had been working in North India, in the state of Uttar Pradesh, for about five years, and we were moving into a growth phase. So, we were expanding from working in 25 districts, in the state, to 75 districts, and had re-made renewed commitments to the government of UP to support them in reducing maternal and neonatal mortality further. And Jamie Blanchard, at the time, the previous executive director of the Institute for Global Public Health, had been leading the work and he reached out and asked me if I would be interested in relocating, to support our work over there, as we were doing this expansion. And I knew that when Jamie was asking me, that he felt that both I would be capable to take on the role, but also that he had my interests, in terms of career growth and trajectory. He's been a longstanding mentor and amazing colleague. And so, I leapt and said, yes, after talking it over with my husband, who is very supportive and always up for an adventure. And so, not long after that, we were on the plane to Delhi, with our then twin six-year-old boys, and moved there in January of 2018 and stayed for about four and a half years, and it was an incredible experience, both on the professional front, amazing learning opportunity, and on the personal front, from a family, not always easy. We were there for some of the worst of the COVID pandemic. So, hard times along the way, but really remarkable overall.

Michael
That amazing. Just tell us a little bit about Uttar Pradesh. How big is it? Where is it?

Marissa Becker
So, the state of Uttar Pradesh is in North India. The capital is Lucknow and it is one of the biggest states in India. It has a population of about 225 million, give or take. So, it's a big state, probably the single largest healthcare system in the world.

Michael
And borders right on Delhi.

Marissa Becker
Yeah, that's right.

Michael
The work that's happening in India, and I had an opportunity to visit it, firsthand, a couple of times, is really remarkable. The way you scaled public health delivery, by creating a network of women, throughout the region, and it really enriched the community. It has a huge impact. So, tell us a bit about the needs you encountered, when you began this work. But



also, what have the outcomes been of all of this work? U of M has been there for a number of years.

Marissa Becker
We began in 2014. So, it's been twelve years, now, of work. And when we first began, we sort of followed a simple framework of thinking about availability and utilization and quality of services. And we've worked across three platforms. So, you've named community, and community is the core, the base of the work that we do, and then we work at the facility level, so work through public health facilities, right from the primary health care level, up to the tertiary health care level and at the health systems level, so at the state level and from a health systems perspective.

And when we first began, one of the things that we realized is that there were gaps in availability of maternal health services and neonatal health services. And so, it was the first problem to solve for. And we tried, and we made mistakes, and we learned along the way, but by solving for availability and reducing some of the gaps or the inequities that were there, in terms of the availability of health services, that's helped allow us to move to ensuring utilization and ensuring availability of quality services. So, when we began, the coverage of antenatal care services was quite low, as was the coverage of institutional delivery or safe delivery. And so, over time, by using our program data to understand where there were gaps in the availability of services, we've been able to support the government, in the strategic allocation of some of the resources -- human resources, public facilities, commodities, so that now we reach about six and a half million pregnant women, every year, and about 5.8 million children, under the age of one, every year, through the programs. And we've seen gains in antenatal coverage, to the point where it's near universal, similar with institutional delivery. We've got near universal levels of institutional delivery. And we've now moved from ensuring that there's basic emergency obstetric care available to delivering more comprehensive emergency obstetric care. And as we move to the next phase of our work there, we'll be continuing to focus on ensuring quality of services. So, more comprehensive emergency obstetric care for saving moms and saving babes. And where we are still struggling to improve coverage, we'll be moving to bring in new innovations, to help leapfrog or catalyze the movement, so those might be social innovations or program innovations or biomedical innovations, as needed.

Michael
I mean the scale of that's incredible, right? It's almost twelve million people. You compare that to like Canada. It would be almost forty percent of Canada, in a pretty large area. And a lot of this has been supported by the Gates Foundation. They've been the major funder of the Institute of Global Public Health. They've given nearly half a billion dollars, so far, to the University of Manitoba, the most of any Canadian university. What's different about the way

the work, in our global public health, has been advancing that attracts such a significant investment from the Gates Foundation?

Marissa Becker
Yeah, we're so appreciative of the continued funding and the level of funding that we've received from the Gates Foundation. It's allowed us to sustain our commitments to the government in Uttar Pradesh and allowed us to really grow the work that we've done there, in partnership with the government. I'm not sure that there's a single thing that we do differently. I think, the point that you've mentioned around scale is critical. I think, we've had a lot of experience working at scale, whether it was in our work in HIV or whether now, in the work in maternal and child health, scale has been critical. And there's a science to scale. I think, we've had experience and have developed expertise in that. I think that we've established trust and demonstrated trust, which is so critical to this work with the government, with our other partners there, with the funders. I think that the approach that we use, of program science, which brings science and embeds research into the context of programs, in order to improve programs, optimize programs, and improve population level outcomes, has been really powerful. And I think, through that, we hold ourselves accountable to the goals that we set out. And I think that's together, probably, what makes us stand out and which has enabled or contributed to some of the successes.

Michael
What I know of the Gates Foundation, they're very focused on outcomes, right? And so, if you've been doing this, in India for what, twelve years?

Marissa Becker
Twelve years.

Michael
And in other parts of the world, you've gone through a series of reapplications, right? It hasn't been one grant for twelve years.

Marissa Becker
That's right.

Michael
I think you're on the fourth phase now.

Marissa Becker
Moving into the fourth phase.

Michael
And so, they must be impressed by those outcomes. There must be a lot of competition for their money? Obviously this is yielding outcomes that continue to have them engaged.

Marissa Becker
It is and they are very focused on outcomes and so, over the years from 2015 to 2022, when our last survey was done, when we were looking at reductions in deaths, there have been probably an estimated 4000 maternal deaths averted and 39 000 neonatal deaths. The government has achieved declines, in maternal and neonatal mortality and we'd like to think we've been a part of that.

Michael
Right. Which was a goal of the Indian government.

Marissa Becker
Which was one of the goals.

Michael
So, another significant focus of your work has been HIV. I know some of your work in Kenya, and finding ways to treat and control it, in vulnerable populations, right? I know you've been doing this around the world. Why are those the places where you've been working and what's the impact of the program there?

Marissa Becker
Initially, as a Centre for Global Public Health, now as an Institute for Global Public Health, began working in HIV prevention in South India, where there were growing rates of HIV infections, particularly among key and priority populations. So, female sex workers, gay and bisexual men who have sex with men, transgender people, people who inject drugs.

So, we began work in HIV prevention, in South India, back in the early 2000s. And at that time, were involved in implementing a large-scale HIV prevention program, funded by the Gates Foundation, known as the Avahan programs. And that was really groundbreaking work that was being led by James Blanchard and Stephen Moses. And I think, through the Avahan programs, they demonstrated the effectiveness of comprehensive programs for HIV prevention that involved not only biomedical efforts for HIV prevention but also, importantly, included community and addressed structural contributors to what was driving HIV, looking at issues of violence, looking at engagement with police, looking at issues of community empowerment, and together those have really been so critical. And it was really interesting because, when we were doing the work, in South India, there had been visits from the governments of Kenya. So, they had come over to see the Avahan programs and wanted to replicate something like that. So, it was a really wonderful demonstration of South to South learning and South to South knowledge transfer. So, we had some of our senior colleagues from India relocate to Kenya to support the government of Kenya in establishing a similar technical support unit for the government of Kenya on HIV prevention. And so, the work then continued in Kenya. And we have also used some of the

same approaches, methods, and tools for HIV prevention, in Pakistan, where we have large programs, in Nigeria, where we've been working, and we now are also leading a global program science network for HIV prevention, focused on key and priority populations. So, I got involved, way back, when I was doing my infectious disease training at the University of Manitoba and started in the projects, in South India, and then moved on to do a post doc, in that field, because the work of the Avahan programs, at the time, was so inspiring, and I've continued to stay involved with HIV work.

Michael
When you work with marginalized communities --sex workers, young women, people who use drugs, men who have sex with men, how do you make sure that the research is truly with and for them and not just on them? I mean, we see so much of this, where researchers go in, extract information, publish their paper and then they're done with it, right? And that doesn't seem like the model that the Institute of Global Public Health has been using.

Marissa Becker
No, and I thank you. I think the field of HIV has done this really well. Since the start of the epidemic, community advocacy and community voices have been core and really central and I think that's really driven how people have approached HIV work. And I think, as I mentioned program science earlier, we try to embed our research in programs and ensure that the questions that we're asking are really driven by the needs of community or where the program gaps might be. And I think that meaningful engagement means really valuing the knowledge of the community and people with lived experience. And it starts by listening. I think we've got a lot to learn, we can always do better, and we can always do more. But I do think it begins by listening and understanding where the needs are, where the priorities are, and then understanding if and how you can provide support and offer to stand, as an ally.

Michael
This is work that we've been doing at U of M for a long time. So, U of M turns 150 in 2027 and we've been reflecting back on our 150 years of big ideas. And I'd love for you to share a bit of the history of UM's global work. Especially around HIV, 'cause I think it started even before 2000, right? You've been a big part of that story, but you're building on a legacy of others in this field.

Marissa Becker
Yeah, it started decades before 2000s. And U of M should be proud of the work that's happened. Frank Plummer and Alan Ronald initially started the work on HIV in Kenya and were really leading transformative research that shaped our understanding of HIV, how to prevent HIV, how to treat HIV, real groundbreaking work that's happened and that work has continued. So, Keith Folk, Stephen Moses continued on that legacy and, now, many of their

students, many of whom are faculty now at the university, have continued that work in the Department of Medical Microbiology, Infectious Diseases, across now the Institute for Global Public Health. It's a long and really important history and one that's been done in partnership.

Michael
Yeah, and again, outcomes have been important, and partnership, as you say. Otherwise, it wouldn't continue this long. I had the opportunity to go to Kenya, to see Dr. Folk's work there. And what was amazing to me is the appreciation of the community and how embedded the work was with community and that commitment to community. I've seen that in the work you're doing in India.

Marissa Becker
Thank you. That's always been a key driver is ensuring that the work is being driven by the community's needs and in partnership with the community. Our institute's been working in Kenya since about 2012, when that first technical support unit had been established, and Kenya has achieved remarkable gains in the field of HIV. They've seen declines in HIV incidents, from up over 100,000 new infections every year to down to about 20,000 new infections. So, still ways to go, but really tremendous gains that they've been able to achieve.

Michael
One of the reasons that this has been so successful is the quality of people we've had working. You mentioned Frank Plummer and Alan Ronald. And you started in this project, you were based in India, but now you're taking over as executive director from Jamie Blanchard of the Institute. And again in attracting talent, I saw the quality of people who are working in India, in the office there. But we've now just celebrated the addition of Patty Garcia, who's gonna arrive from Peru. She's received a very prestigious federally funded Eddie Goldenberg Research Chair in Diagnostic Systems for Health Equity. And I wonder what this appointment means for the Institute and how is this gonna enhance the work that the Institute continues to do?

Marissa Becker
We have an incredible team, as you say, of people and we're very fortunate to be able to work with them, as colleagues and peers, here in Winnipeg, but also in the global country context, in which we work. We are very excited to be welcoming Patty to the University of Manitoba. She'll be joining us very soon. She is a remarkable woman, a remarkable researcher and leader, former Minister of Health, in Peru. And we're excited about the work that she's going to be doing when she comes here. She has a strong interest in thinking about how we can do more and how we can do better, in HIV and STI research, better work around women's health and how we can integrate more decentralized diagnostics, to

advance and improve outcomes for people that are most at risk or most impacted, and so we're excited for her to build the team here, to integrate into the country context, and to really lead what we see as transformative work.

Michael
When I was in Kenya the last time, literally at the same time, the government of the U.S. cut off USAID. And it went further than that. They asked the clinics to take stock of all the medications they had that was paid for USAID and they asked them not to pass those medications out. Those are obviously life-saving medications. And the impact, was, because of this, was felt right away. One of the other things we saw in the clinics is how international communities have contributed to those clinics, in Kenya. Can you tell us a bit about why it's so important for global powers, like the big countries of the world, to really be invested in global public health? A little bit in terms of the value of foreign aid, instead of the cost that we always think it is.

Marissa Becker
Yeah, the abruptness of the cuts and the extents of the cuts have been devastating. Not only have the U.S. government cut back on funds, but other countries then followed suit and have cut back on their global commitments and the funding that they have committed and sent, and the extent to the cuts has the greatest impact on those that are most vulnerable and will deepen and worsen health inequities. And we've seen it in Kenya, we're seeing it in other areas around the world, and it will have far-reaching implications. The worry is that we're going to fall back decades on those really important successes and gains that have been had.

Canada and Canadians, I think, pride themselves on our values and our principles. Think of universality in our publicly funded health care system, think of equity. Canadians and Canada has often approached global health through a lens of thinking how we can promote health equity. And we need to stand behind those values and those principles and we need to step up and stand in solidarity. Prime Minister Carney spoke about Canada as a middle power. And it's a really nice lens to think about how Canada should engage in global health, as a middle power, through collective action. And really, it's the time that we have to step up and stand in solidarity and offer our support.

Michael
A lot of this is medical treatments that the countries themselves can't afford. And as you said, it's the most vulnerable that often get cut, and feel the impact.

Marissa Becker
Yes, absolutely. I think that while there's a real importance in re-looking at how global aid is shaped and delivered and formed, it was the abruptness. So, countries were left with no

time to plan, no time to think through how to strategically reallocate resources with limited pools. It's a lot for countries to understand how to reshape that funding and ensure that services continue to be delivered. So, there's a lot of conversation now about where the leadership needs to come from. And I think, that will have important implications. But as we're moving through that period of transition, there's still a need for continued support, so that we don't lose so much of the gains that have been already taking place.

Michael
Thinking about that, impacting most vulnerable populations and HIV, and you talk about the successes in Kenya, right? But here in Manitoba, right here at home, the province has declared HIV as a public health emergency. And so from 2008 through 2019, you served as the associate director of the Manitoba HIV program, and you've clearly had measurable success tackling complex public health challenges since then. I'd love to hear your perspective on the situation in Manitoba. And do you think that some of the models you've implemented internationally could inform and address the strategies we use in Manitoba here, to deal with HIV?

Marissa Becker
So, we are a little bit different than the other provinces across the country and in important ways, in terms of what we're seeing with HIV. We've always had a high proportion and continue to have a high proportion of people, coming in or diagnosed very late, in their disease course, and really representing missed opportunities for prevention and missed opportunities for earlier diagnosis. We've also had a high proportion of women living with HIV, which is different than other provinces across the country. And we've had high rates of HIV among our Indigenous communities, our First Nations people, Métis people. And a lot of initially what was happening, with HIV transmission, was that transmission was through unprotected heterosexual sex, also different than what was happening across the Prairie Provinces and other provinces.

And now, we're in crisis mode. Rates have continued to increase. We're seeing more young women diagnosed and living with HIV, more transmission through injection drug use, and we're continuing to see overlapping and important structural vulnerabilities, through colonial trauma, through structural racism, through economic instability, houselessness.

And those are all continuing to drive what we're seeing, in terms of what's happening with HIV. There are amazing people working here, on the front lines, dedicated to working on prevention, working on care, with people living with or at risk of HIV. And increasingly, with the high rates of HIV amongst our Indigenous communities, we're seeing more Indigenous leadership, which is remarkable, but they need more resources. They need more supports. They need consolidated efforts to help really turn around what's happening. And I think that the solutions are not easy. These are big complex problems. And I think that some of the methods, approaches, tools that we've used globally could be adapted and could be contextualized to what's happening here. But the solutions and the leadership needs to be

local. It needs to come from the communities that are most impacted. They have the knowledge; they have the understanding of how things need to change.

Michael
But the resources have to be there.

Marissa Becker
But the resources have to be there.

Michael
And you mentioned you trained in infectious diseases. Then went on to do a Master's in Public Health in London, before returning to Winnipeg. What brought you back to Winnipeg and what keeps you here now?

Marissa Becker
Prairie roots. Winnipeg is home and will always be home. I've moved around for different parts of my training, different parts of my work, but always come back to Winnipeg. I think we've been so fortunate to have the support that we do, through the University of Manitoba, central leadership from yourself, all the way through. And that really presents, I think, unparalleled opportunities to grow, to try, to innovate, to connect, to really excel and to thrive and we're so appreciative of those opportunities and excited about what we can do.

Michael
Marissa, thank you so much for that. I know when I've spent time with you and spend time in the field, to me it's the hope. I can see the connections. I can see the hope in the eyes of the people who you're working with. I can see the hope in the eyes of the community. The last time we were in India, we went into a pretty poor area, and yet you and your team were so welcome there. And that to me showed this real connection between your work, between the University of Manitoba and the community and that inspired me, for sure. So I wanna thank you for that.

Marissa Becker
Thank you.

OUTRO

Michael
I hope you enjoyed this episode. I often say that Manitoba needs to brag more about our impact, and this is one of the many reasons why. Join me next time when my guest is Kirsten Hillman, UM alum and former ambassador to the U.S. We'll discuss Canada's future in a volatile world of Trump and trade wars. Until then, keep thinking big.

