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Episode 2: Battling Infectious Diseases with Dr. Zoe McLaren

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DI Dr. Ian Anson 0:05

Hello and welcome to the CS three podcast at UMBC, a production of the Center for Social Science scholarship. I'm Ian Anson and on today's show, as always, we'll be hearing from UMBC faculty, students, and community partners about the social science research they've been performing in recent times. Quantitative, qualitative, applied empirical, normative. On the CS3 podcast we bring the best of UMBC social science research to you.

DI Dr. Ian Anson 0:36

On this week's episode, we talk to Zoe McLaren, Associate Professor in the UMBC School of Public Policy. Professor McLaren has done a great deal of work in recent years on health epidemics such as HIV and tuberculosis, especially in Africa. What's more, Professor McLaren is an affiliate of the Health Econometrics and Data Group at York University in Toronto. Professor McLaren's expertise in health economics has led her to recently tackle a new problem, the novel Coronavirus. It should be obvious at this point that more COVID-19 research is desperately needed. As epidemiologists, biologists, and

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communicable diseases like COVID. Professor McLaren's passion for this work is evident in our interview, and I hope that her words can inspire all of you who are listening to keep advancing your own social science research enterprise.

DI Dr. Ian Anson 1:51

Zoe McLaren, thank you so much for agreeing to talk with us today. I'm really grateful for your time, of course. And I really am excited to hear about some of these insights that you have about public health, about your research on COVID that you've been working on recently, but also some other topics, obviously, that you've been studying over the long haul in several sort of aspects of your career. So the first thing I wanted to ask you really was to maybe talk a bit about this recent work that you've been doing on vaccinations and COVID-19. And of course, since this is a podcast that's focused on the social sciences, and on the sort of process of social sciences, I wanted to know what kinds of data or analytical tools or approaches have you used in the past to make the kinds of recommendations that you do in this recent research, that maybe even in some of your other research, sort of your overall approach to empirical social science.

DZ Dr. Zoe McLaren 2:38

Thanks Ian. It's a pleasure to be here. So my work is overall very data focused. So the idea behind the work that I do is that we have these important, often life or death policy questions that we want to answer. And then we have to see what kind of data is available. And so some of my work in the past has been about trying to develop connections that would get me access to data that hasn't been more widely released or isn't publicly available, to widen the range of data that we have to answer these questions. And then once we have kind of know what the data available is, and we know our policy question, the gap in between is the statistics that will help us analyze the data, develop evidence that can then inform our policy recommendations. But also being a little bit creative, and thinking about how to use multiple methods together or to kind of piece together and develop

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Yeah, that's fantastic. And certainly something that I've appreciated in my own work is many people come to the field of statistics and applied statistics and think that they're going to be able to take a data set and just immediately start running with it applying methodological tools. And they suddenly realize. no, the vast majority of the work that a lot of people are doing out there is just cleaning data and getting it ready for analysis. What is it about this data that's, that's so incomplete or so difficult to work with? What are some examples maybe of issues that you've encountered where you've had to apply some novel approaches to fixing the data.

DZ Dr. Zoe McLaren 4:06

So a lot of the work that I've done on tuberculosis was using a data set of tuberculosis test results. And so when we think about kind of data quality issues, a lot of them fall into the category of missing data. And so that is missing data in terms of you have individuals that are in your data set. And maybe there isn't information recorded for all of the characteristics that you want to know about them. But also, you can think about missing data as the people who aren't in your data set, the data sets only capturing a subset of the entire population that you might be interested in. And so you want to kind of think about what to do about those two things. And with this tuberculosis data that I worked with, we had both of those issues, and and many more. And so what I was able to do, and part of it was saying, Okay, well maybe we don't have the universe of all the people that have TB, but we have the universe we know all the people who have been tested for TB and saying, well, maybe let's think about the policy recommendations for that group. What can we learn about them? And what policy recommendations can we bring into the game to address that? So in that case, we're actually being creative to abstract away from the missing data problem. And so even if we don't have that data, we're able to reframe the question a little bit, and then develop really good policy recommendations.

DI Dr. Ian Anson 5:17

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and data cleaning and availability, now that influences it has such a strong impact on the actual policy recommendations and the scope of the analysis that we can actually do. I mean, I think that's an incredibly important insight for anyone who's interested in the social sciences, interested in being a practitioner in that respect. So I wanted to ask you a little bit more about your approach to your COVID research, and especially about what it felt like to make recommendations and sort of speak to the broader community out there. People who are being affected by COVID, you know, the population in general, you know, in fact, you've, of course, published a number of pieces in a number of news outlets from the New York Times to Wired Magazine to The Conversation in recent times. And I wanted to know about that, among these these recent findings that you've been able to sort of arrive at, in your analyses, what are the most important lessons that you've been able to relate to the public? And what was that experience like? How did you succeed in distilling some of these insights for public consumption?

DZ **Dr. Zoe McLaren** 6:25

My work on tuberculosis had given me a very broad grounding in policy for a respiratory infectious disease and thinking about kind of how it's transmitted, what the dynamics are in terms of a pandemic. And then thinking about I was talking to, you know, individuals one-on-one, and what they were worried about. And so it was about building a bridge between the academic knowledge that I had, and the real world problems that they were facing. And so a lot of my work that has since been published, came out of those conversations with people trying to help them understand the dynamics of the pandemic, what to expect, how to think about the dynamics when there wasn't good data, when we couldn't see the disease being transmitted through the air, thinking about that kind of stuff. The process of distilling information for the, for the general public from academic research involves a real back-and-forth an investment of time, and also have that information they're able to use in the real world or repeat back.

DI **Dr. Ian Anson** 7:23

Yeah, that's great. I mean, it really strikes me as a political scientist, that

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misinformation out there, especially about things like pandemics and I want to know a little bit more also about just your background in academia, sort of maybe tell us a little bit about kind of how you got where you are today, and what some of the steps along the way were.

DZ **Dr. Zoe McLaren** 7:48

I was interested in global challenges and was concerned about global poverty. I'm often kind of an idealist, want to make the world a better place. And so my career path has been very much about developing the skills, and especially the technical skills, to be able to say, Well, I did the math on that. And there's actually a way that we can do it. And there's a way that we can do it, that also saves money. And it's really a win-win. That is one way to kind of get a broader set of people on board for change. And so it's thinking not just about Okay, what's the problem? What's the solution? But what is the solution that is also going to be feasible, practical, and achievable in the real world?

DI **Dr. Ian Anson** 8:28

Yeah and so is that mindset, sort of what brought you towards TB research in particular, was that a specific case where you had some background in that or you observed that and thought this is really a pressing, specific problem that I feel like fits in that nexus where I can try to maximize sort of the the potential for the money, the impacts the global outreach and impact overall?

DZ **Dr. Zoe McLaren** 8:51

So I started working on tuberculosis, about four or five years after I was on HIV exclusively. And I kind of stumbled across tuberculosis actually, in the process of doing some planning for an infectious disease course that I was teaching, I kind of thought, well, I've been working on HIV for so long, and I never really stumbled across anything on tuberculosis. And I thought this is a really important disease, it's kind of invisible. And so I realized there was a gap in the literature in terms of the type of work that I was doing, and that I

was going to be able to translate the approaches I'd used for HIV towards

[Download on Android, iOS](#)[Log in](#)**DI Dr. Ian Anson** 9:25

Yeah, I agree entirely. That's an incredibly impactful sort of endorsement of the work that that we do as social scientists and the kinds of impacts that we can have. Policy is fundamental to so many of these outcomes. And so, in that sense, you know, if some listeners, maybe you're hearing this podcast and getting galvanized and thinking about doing some of their own social science research in the future, do you have any advice for fledgling social sciences, people who are interested in getting involved maybe in the study of policy, the study of health outcomes, maybe other topics that are adjacent?

DZ Dr. Zoe McLaren 9:57

I would say two pieces of advice or two avenues to pursue. One is to develop strong technical skills. And so in my case, that's quantitative analysis skills working with data. It could be developing technical skills in terms of collecting qualitative data and analyzing qualitative data. So whatever it is, you want to make sure that you develop really, really strong technical skills, because those are the bedrock of a lot of these fields. And that is also what lets you pivot a little bit, if you have good technical skills, you can develop new research agendas in slightly different areas, because your skills will transfer. And the second piece of advice I have is to spend time in the field. And that may be collecting data, may not be collecting data, depending on what you're working with. So most of the data I work with is big data. So it doesn't require any field work on my end. I download the data set were from wherever I get access to it. And so it really is about making it very collaborative and trying to spend time in the context in which your data is, where it comes from. So you get a much better sense of what's going on. Really helps in terms of developing research questions, and also in terms of interpreting what your results mean.

DI Dr. Ian Anson 11:09

I think what you just mentioned really speaks to the idea that our research itself in itself, the research enterprise, is very iterative, in terms of your findings at this very high level, at this quantitative technical level, and some real observation. And so yeah, I definitely see how with your particular research,

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very dire situations. So yeah, I want to thank you so much for agreeing to come on the podcast and a little bit about your work and Professor McLaren, we're very grateful for your time and we wish you all the best as you continue to work on this this work and we look forward to seeing what the next steps might be for you.

DZ **Dr. Zoe McLaren** 11:51

Thanks so much, Ian.

 11:56

Campus connections, clinic campus, campus connections, campus connections

DI **Dr. Ian Anson** 12:03

It's time for a regular segment. This is campus connections, the part of the podcast where we connect today's featured research to other work on UMBC's campus. Today's discussion of COVID-19 has highlighted some of the work that UMBC faculty are doing to help the world cope with this debilitating, ongoing public health crisis. But just as COVID-19 has long term implications for an entire population's health, so too might have an impact on traffic? That's the argument made by Professor John Rennie Short of the UMBC School of Public Policy. In a recent article for The Conversation, Professor Short applied his expertise on cities and urban studies to the subject of post-pandemic traffic. The big takeaway: as traffic rebounds expect old challenges to reemerge and new challenges to present themselves. Some of the biggest issues we might expect will revolve around public transit, which has been crushed by funding problems due to low or suspended ridership during the pandemic. We might also see some political battles on the horizon, as temporarily repurposed parking spaces and streets could be clawed back by cities which prioritize the right-of-way of drivers. Other cities, though, could expand these programs in an effort to make their roadways more friendly for pedestrians and cyclists.

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back in time, you can thank public policy for your frustrations just as much as you can that guy in the pickup who just cut you off. "Hey, come on, man, use your blinker. That's all for today. Thanks for listening. We'll see you next time. Retrieving the Social Sciences is a production of the UMBC Center for Social Science Scholarship. Our director is Dr. Christine Mallinson, our associate director is Dr. Felipe Filomeno. And our production intern is Jefferson Rivas. Our theme music was composed and recorded by D'Juan Moreland. Find out more about CS3 at socialscience.umbc.edu and make sure to follow us on Twitter, Facebook, Instagram, and YouTube, where you can find full video recordings of recent UMBC events. Till next time, keep questioning.

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