IlLUminate Blog Transcript: Todd Watkins on How Financial Services Affect COVID Death Rates

Recorded May 4, 2023. Listen to it here.

ANNOUNCER: 00:03	[music] This podcast is brought to you by IlLUminate, the Lehigh Business Blog. To learn more, please visit us at business.lehigh.edu/news.
JACK CROFT: 00:14	Welcome, I'm Jack Croft, host of the ilLUminate podcast for Lehigh University's College of Business. Today is May 4, 2023, and we're talking with Todd Watkins about his recent research on how access to financial services affects the risk of death from COVID-19 globally. Dr. Watkins is a professor of economics and has served as executive director of the Martindale Center for the Study of Private Enterprise at Lehigh since 2015. Author of more than 75 related publications, his research and teaching focus on the intersection of innovation, entrepreneurship, public policy, and financial tools for sustainable development. The study we'll discuss today was published recently on PLOS Global Public Health. In addition to Todd, the study was co-authored by five Data for Impact fellows from across Lehigh University in economics, business, computer engineering and science, and statistics. They are Khue Nguyen, Hamza Ali, Rishikesh Gummakonda, Jacques Pelman, and Brianna Taracena. Welcome to the ilLUminate podcast, Todd.
TODD WATKINS: 01:35	I appreciate you having me, Jack. It's going to be a great conversation.
CROFT: 01:39	Yeah, so you've been researching the impact of access to financial services on the lives of people around the world for many years now, from what was then known as microfinancing to the latest innovations in fintech. I think it would be helpful to start by providing an overview of what you've learned from your prior research about the role that financial services play in the daily lives of people, particularly in nations where poverty is prevalent.
WATKINS: 02:08	That's a wonderful question to start with, I think at the 30,000 sort of foot level, maybe a few bullet point ideas that come to mind. One is that years and years ago, the tradition in banking was kind of to ignore the poor. They had no money. How could they possibly need financial services? What would they do with them? And I think that's quite the opposite. What I've learned over the years of studying this sector is that the poor actually might have significantly more need for financial services than the rest of us because their lives and their income flows are so uncertain that financial tools can really help them navigate the uncertainties of their day-to-day activities and lives and maybe be much more impactful on their own families than our own financial services. So that's kind of the big picture that got me really interested in this space. I'd also say that it's been, over the decades, impressive to see how profitable this sector has become. Most of the institutions who are offering microfinancial services around the globe, I think, are self-sustainable these days. They're not charities anymore. It really is broadly a commercial industry and self-sustaining. It does take grants and donations, but it doesn't rely on that for expansion and scale. And scale and scope have become really wide. The lines are very blurred now between what microfinancial services impact finances and what mainstream banking is. It's really hard to tell where one starts and one stops.

CROFT: 03:56 What was it that led you to look specifically at the impact of usage and access to financial services on the risk of death from COVID-19 globally?

WATKINS: 04:09 Before COVID hit, I had been following the sector and interested in the impact of financial services generally and the role of them in health-- Lehigh is introducing this College of Health. My Department of Economics, we have several health economists in there. It's in the ether around me, the importance of health and economic issues in public health. And I had been following the microfinance sector offering-- around the fringes of offering basic financial services, they had started offering health services and other social services kind of built into the packaging, if you will, of accessing other financial services. They have an infrastructure and toolsets that can help them offer other sorts of services. So it's kind of there. But there was a small literature in the academic world about whether microfinance was related or financial services were related to general health outcomes for families around the globe. Do kids get better nutrition? Do families visit doctors more often? Are they able to pay for services? Sort of insurance products are a fairly obvious use of financial services for health care. But because public health is such a complicated problem, it's really been hard to tease out whether it matters or not, whether these financial services kind of help people's health. There's so many other things in people's lives and what's going on around them that make it difficult to understand that. When COVID hit, it was just such a huge shock to the system everywhere that it's an unfortunate statistical reality that a big shock like that might actually show up in other evidence. It'd be easier to find statistical evidence if there's a big shock.

WATKINS: 06:06 And shock absorbing is one of the big themes in microfinancial services, that by providing financial tools like savings accounts and loans, and microinsurance products, it helps families absorb shocks to their daily lives. If they get sick for a week or if they can't work for a week and they have no income, they can go to their bank account and use some of that money to pay for food for their kids. That sort of financial shock absorber is a thing. It's a theme in microfinancial services. And so it was a natural extension of all that. When COVID hit, did financial service access help people absorb the shock of that happening either in their health or in their income flows?

CROFT: 06:49 Now your study only looks at COVID-19 through September 2021, which is when the first omicron variant appeared. So why was that date selected as the cutoff point?

WATKINS: 07:03 Oh, that's a good question. Really two pretty straightforward reasons. One is that when we had the team assembled, it was in late '21 into '22. So we had to use the available data. Why did we pick September 2021? Well, it was shortly after that that omicron hit the world, but omicron was spreading at very different rates around the globe, right? So some countries were experiencing it, others were not experiencing it. And the way it manifested in public health was very different than previous versions of COVID, still is. We needed to pick a cutoff date for when the study was. And instead of just sort of picking some arbitrary date, "Hey, this is when the team got together," we went with a date that was a month or two before omicron started getting detected. It just seemed clean and it made our lives a lot simpler not having to worry about other complexities that omicron might be introducing into the statistical analysis.

CROFT: 08:04

Talk a little about the financial services tools that you looked at in the study. And there were those that are called formal and also alternative or informal. So could you define each of those and give us some examples of what those would include?

WATKINS: 08:21

Formal banking services are generally what we think of as traditional banking, right? So you have bank accounts, savings accounts, you get loans from a bank, you might use a credit card, and so on. So those would be in the broad definition of formal financial services, maybe more traditional financial services. But people use a wide array of other financial tools, if you will, of accessing finance in different ways than going through banks and insurance companies. You might get a loan from your uncle or your mom, right? Friends and family as informal financial tools are an important characteristic in much of the developing world and among poor communities. They rely on informal financial services in a lot more ways. Another informal technique is, hey, if you get sick and you need to go to the doctor, you're going to sell your cow or you're going to sell off some financial asset or some household asset that you might own. It's called distress financing. So that would be an informal approach to dealing with some sort of shock or some sort of need. Alternative services that are emerging are pretty important in the developing world, primarily in the area of sort of digital and mobile money. Mobile money, just as an example, in Kenya, a large fraction of people in Kenya use cell phones. 80 or 90 percent of the population has them, and every cell phone in the country comes packaged with mobile money app right on it. You don't need a bank account. You don't need anything except a mobile phone to use this stuff. And then you can send money around the country. And it's way cheaper for people to do that than use a bank or to go to an ATM. So access to mobile money services is one of these emerging alternatives that are much more common, weirdly, in places like Kenya than they are even in the United States. So that's what we mean by sort of informal services and emerging alternatives.

CROFT: 10:30

The other side of the study was, and you'd mentioned this already, the complexity of health and how it makes it more difficult to tease out the health effects of any particular area, including the expanding financial services. So what are some of the most challenging, and in the study you would call them confounding, factors that you faced in doing this? And without drilling down too deeply into the methodology you employed, how did you ultimately tease out the health effects of expanding financial services?

WATKINS: 11:11

That's really one of the bugaboos of research in this space. Public health and population health, as you can imagine, is an amazingly complicated problem or a complicated ecosystem, right? You have wealth in general, wealthy people, wealthy countries can do different things than poor people, poor countries. You have big differences in health care systems. So this was a global study. We looked at a whole bunch of different countries, 140 countries, I think, around the globe. So just huge differences in their health policies and their health infrastructures, how many clinics are available, trained nurses, doctors, that sort of difference. You have lifestyle differences in the populations, right? Do people eat a lot of fatty foods? Are they obese? They have a lot of lung cancer. Is smoking problematic? Do kids get vaccinations early in life? Do you have a big COVID vaccination system? And on and on and on. So it's very complex. There's so many things that matter for population-level health outcomes and mortality rates that finding evidence that financial services might matter also, in addition to all that other stuff, has been really challenging. I think in part because all that other stuff matters so much that financial services might

be kind of in the noise of all those other important determinants of public health outcomes. And so it's been challenging for people who are interested in that connection between insurance products and other financial service products and health outcomes to find evidence, especially in microfinance, because we're talking about tools that are very small, hundreds of dollars of loans or savings accounts in the hundreds of dollars, microinsurance that covers $50 to go visit a doctor.

WATKINS: 13:09

Does that really matter when all that other stuff is probably more important? And so what we used methodologically, it was kind of standard econometric, standard statistical tools for doing that. But the difference was, unfortunately, that COVID was such a big shock to the system that maybe we're beyond the noise level of what was going on, and maybe we could tease out something. That was one of the main things that prompted us to look at this puzzle. So the basic methodology for dealing with it was just controlling statistically for other things, separating out things like nurses per capita and GDP per capita, and age distributions of the population. We just sort of teased that out statistically.

CROFT: 13:55

One of the interesting and counterintuitive variables that you found was, and I'll quote, that "nations with higher per capita incomes had statistically significantly higher mortality rates even after controlling for characteristics associated with wealth, like aging and obesity, that might be problematic for richer nations. Though curious, this finding is consistent with most of the COVID-19 literature." So I know this finding was outside the scope of your study, but I wonder if you could talk a little about what might be going on there.

WATKINS: 14:33

That is such an interesting and remaining puzzle in this literature. Obviously, wealth should matter and whether you can get access to good health care, and whether you can pay for going to the doctor and the medicines you need to do that, and the treatments you need to deal with it. And so our going in assumptions as kind of economists would be that wealthier nations should have been able to deal with COVID better than poorer nations and poorer populations. And the opposite has turned out to be true. The wealthy countries, United States, the United Kingdom, had, especially early on, really struggled with mortality and had much higher rates of it. And so there were all sorts of hypotheses about what might be going on there. Even after you start taking out or controlling for or accounting for things that really probably do matter, like how many nurses do you have or how many hospital beds do you have? How many old people do you have in your population, right? Controlling for the age distribution. Old people died a lot more from COVID than younger people did. You start removing some of those things that make a lot of sense, transportation, infrastructure, airports. There was a lot of hypotheses about airports being a vector for COVID early on. So wealthy countries had a lot more airports and a lot more travelers coming and going. Maybe that was it. Even after you do all that stuff, this positive relationship between the overall wealth of an economy, GDP per capita, and COVID, was positive. Even after removing some of those other things. So it's a puzzle and nobody has been able to tease this out. We added another piece to the puzzle, which was, "Yeah, wealthier countries have more financial tools and more financial access, and that seemed to help you in dealing with COVID." So that actually made the puzzle even more puzzling, right? If that's helping you, and yet the GDP thing is still remained in our study and other studies. And people are still working on this problem.

CROFT: 16:45

Now, getting to the main finding in your study, and I'll quote, it was, "Greater pre-pandemic national levels of use and access to formal financial services are related to substantially lower death rates from pre-omicron COVID-19." So what do you mean by substantially lower death rates and how do they compare to other determinants of COVID-19 mortality?

WATKINS: 17:14

One of the fascinating things, I think, that we found in completing this study was how important this financial access seems to be. It's one thing to show a statistical relationship, if it's kind of meaningless in the grand scheme of life, yeah, you can find a statistical evidence that this is maybe pushing you a little bit in this direction or a little bit in that direction. So there's this big difference between statistical significance and actually meaningful difference. But I think in this case, it's both of those things. It's a substantial and meaningful difference that we found that was surprising to us. And just to give a sense of the scale or the magnitude of this impact, I'll put it in a little bit technical terms, but we found, just as an example, if you go from the middle of the pack of access to financial services, we have countries ranked by their population's ability to access a whole host of different financial services. But if you're sort of in the middle of that pack and you move one standard deviation as a country up to maybe two-thirds of the way through the distribution or a little bit higher access, one standard deviation, higher access to financial services at the population level. So more people are getting access to bank accounts, savings accounts, insurance products, and so on. That mortality is cut in half from COVID. After you control for all the other things that we've put in our model, like age distributions and wealth per capita, and so on. So it's actually an amazingly big difference that you-- one standard deviation moving from middle of the pack to two-thirds of the way up the pack-- if you went from two-thirds to half COVID mortality rates would double. So it's an amazing difference.

WATKINS: 19:15

What's that compared to? One of the other big factors in COVID mortality in the public health literature has been fairly obvious, lung cancer. COVID is a respiratory disease. And so countries that had high lung cancer incidence where people had a lot of respiratory problems already, if you did the same one standard deviation change and lung cancer-- a country that was in the middle of the pack and then it compare that to a country that's two-thirds of the way up the pack in lung cancer, they had about two-thirds of an increase in COVID mortality. So it's roughly the same magnitude as the scale of-- but the opposite direction, more lung cancer, more COVID. We found more financial access, less COVID. Those are roughly the same order of magnitude and impact. So another example is income inequality. So one of the big things that people have noticed around the globe is that places where there's high inequality, big differences between the wealthy and the poor, the poor were getting hammered with COVID compared to the rich within individual countries. The same thing was happening all over the world, that poor people and marginalized populations were really getting much more severe problems with COVID and COVID mortality. And that influence is about 50% of the influence that we found in terms of the relative impact. So financial services turned out to be a really big deal.

CROFT: 20:59

Now you write within the study that excluding access to financial services from other studies, quote, "may be a major gap in the literature relating to COVID-19 mortality." And I think you've done a good job of just explaining why that may be the case. And

do you see your research as having broader implications for public health research beyond COVID-19?

WATKINS: 21:27

Yeah, it was more or less the last sentence in our conclusions, that's more or less what we said is that the literature in public health, it doesn't ignore financial services, but it tends to focus in a different way, right? Insurance is fairly obvious that that's important. Medicare, Medicaid studies are all over the place. A lot of people study nationalized health care systems where the national health care is free for people. But other forms of financial services can also be relatively important, especially in developing or poor economies. As I mentioned, shock absorbing is a really important characteristic of financial services. If you have a bank account, if you have a savings account, even if you don't have insurance, that can be your insurance. You can go and take money out of your bank - if you have a bank to go and take money out of - to pay for going to the doctor or paying for the medicine for your kid. You can put it on credit cards. You can go to a payday lender even, and get a loan in advance of your paycheck that's coming in. Those are financial services that are insurance-like in that sense that might be related to health. And I think those secondary elements beyond insurance have not gotten nearly as much attention in the public health literature as our study indicates might be justified. Maybe COVID is different in the way it behaved around the globe. But my intuition is that probably not. There's probably all sorts of other public health implications of these secondary, tertiary financial services and or informal sector approaches to it that we have yet to really delve deeply into. Just as an example, remittances is one of those things around the globe.

WATKINS: 23:17

People send money across the globe to friends and family in other countries. I recently sent a couple hundred dollars to a friend of mine in Kenya. His daughter was really sick, she needed to go to the doctor, he couldn't that week pay for it. So I helped him do that. And I just sent him money internationally to help his kid go to the doctor. That's not insurance, but it's a informal friend and family kind of deal of insurance. That's certainly what happened there. So I think there's a big role there. One of the literatures that is fairly robust is in what's called distress financing. I mentioned this before, but if you get sick or you have a crisis in your family, you can sell off your household assets to pay for that. But most of the literature points in the opposite direction, which is, what's the effect of health on your need to do distress financing or does it distress your family and does it distress your ability to do other things in your life, send your kids to school and so forth. So the directionality is kind of the reverse. What I'm suggesting is, here, the directionality is if you have more robust services and tools that you can use and a wider array of them, that might actually influence your health as much as health influencing your finance. So most of the studies in the literature, even in the COVID literature, have studied: What's been the impact of COVID on people's finances. What's been the impact of COVID on bank finances? What's been the impact of COVID on organizational finances and sustainability? And I'm flipping it on its head.

CROFT: 24:59

Now, we've talked about a lot of different things here, obviously, related to your study. I just wanted to give you a chance, is there's anything I haven't asked about that you think our listeners should know?

WATKINS: 25:12

Well, you started with it, and let me just praise the team that we worked with to make this happen. So it's not about the research, it's just about the research team and the process that I'm particularly proud of. When COVID hit back in a couple of

years ago, a lot of students lost opportunities to do internships during the summers. And so the Martindale Center that I run and the Creative Inquiry Office at Lehigh, we cooked up this Data for Impact experience for students to participate on research teams with faculty members over the summers. The last few summers this program has run, about 80 students joined the very first summer on a whole bunch of different research project having to do with data, with an emphasis on some sort of impactful outcome. So Data for Impact, D4I. And so these five students that you mentioned at the beginning, they're all undergraduate students and they participated on this team and we built a database with all this COVID and health and economic relationship data in it. Some of the students were in computer science, computer engineering, so they had database experience. Several of them were in math and statistics, so they were able to help work on the statistical problem-solving. One of them was an economic student, so it's in my discipline. So that team was all undergraduate students and me. And so I'm particularly proud of the fact that we got a publication before these students even graduated from college. They're going to walk out of Lehigh with a professional peer-reviewed academic publication under their belt. And it's fairly deep statistics that we tackled. So I'm pretty proud of that.

CROFT: 27:05 All right. That's fantastic, Todd. It really is. We're just about out of time. So I want to thank you for being with us today.

WATKINS: 27:13 I appreciate your being interested in it. And it was a interesting and very challenging project for us. And I'm glad we were able to get through. I think we're going to pursue more along this line of inquiry as we discussed there. I think there's a lot more to be done.

CROFT: 27:29 Todd Watkins has published in the journal Science, as well as Research Policy, Issues in Science and Technology, Technology Review, Small Business Economics, Industrial Relations, Environmental Science and Technology, and other journals and books. He also is author of the book, Introduction to Microfinance, on the international microfinance industry and inclusive financial services for the poor. This podcast is brought to you by Illuminate, the Lehigh business blog. And today's podcast, I think, is a good representative of the way that Lehigh faculty and students working together can create new knowledge in their field. To hear more podcasts featuring Lehigh business thought leaders, please visit us at business.lehigh.edu/news. And don't forget to follow us on Twitter @LehighBusiness. I'm Jack Croft, host of the IlLUminate podcast. Thanks for listening.