

illUminate Blog Transcript: Chad Meyerhoefer on the Role of Government in a PandemicRecorded Dec. 18, 2020. Listen to it [here](#).

- ANNOUNCER: 00:02 [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: 00:13 Welcome. I'm Jack Croft host of the ilLUMinate podcast for Lehigh University's College of Business. Today is December 18th, 2020, and we're talking with Chad Meyerhoefer about the role of the federal government in a global pandemic. Dr. Meyerhoefer holds the Arthur F. Searing Professorship in Economics at Lehigh's College of Business. His research focuses broadly on the economics of health and nutrition. Much of his work involves the use of microeconomic methods to evaluate and inform public policy. Thanks for joining us again, Dr. Meyerhoefer.
- CHAD MEYERHOEFER: 00:51 Thanks for having me, Jack.
- CROFT: 00:54 Today we want to explore the question of what the federal government's role should be in a global pandemic. So let's start at the beginning: Was the federal government prepared for the COVID-19 pandemic when it swept across our country in March?
- MEYERHOEFER: 01:09 Well, the federal government had made some preparations for a pandemic, but what we found out was that they weren't sufficient in this case. There's a variety of reasons for that. One factor was that the government's stockpiles of things like N95 masks, surgical masks, and respirators were at a very low level compared to what they'd been in the past. So in 2009, the government experienced the H1N1 virus. For example, during that time they released 85 million N95 masks. But when COVID-19 hit there were only 12 million N95 respirators in the government's stockpile. So there were low levels of protective equipment and also tests that were not working properly. The tests developed by the CDC had some manufacturing and implementation difficulties and it didn't work very well. So another alternative test had to be acquired and that took time. And so during that time the virus was able to be transmitted undetected. So there's also some more fundamental problems, like the U.S. didn't really have a surveillance system that was able to track the pandemic as well as needed in this case.
- CROFT: 02:36 Now epidemiologists and public health experts have been literally warning us for decades that it really wasn't a question of *if* we would face a pandemic, but *when*. From your research and your experience in public health, what steps should have been taken before the novel coronavirus was even discovered to better prepare us?
- MEYERHOEFER: 02:56 Well, this is a tricky thing because it's always difficult to raise funding for an event that is not imminent. There so many priorities over government funding. And what we find is that countries that experience these types of epidemics in the past were better prepared than countries like the U.S. that really hadn't had an event like that. But a couple of things that are important are, number one, global disease surveillance. And that really requires engagement with the World Health Organization and working with other countries to develop systems to track these viruses across the globe and alert countries when they're at high risk. Another thing that's really important to have is sort of a multipronged strategy to contain the virus. One issue

with the U.S. system is that most of our disease surveillance is through reporting by health care providers to the CDC. So we essentially collect data from hospitals and physicians offices and that does get reported to the CDC, but we don't have tracking at an individual level.

MEYERHOEFER: 04:15

So in some other countries that have national health care systems, they have a database of essentially all people in the country and can link that database to others in order to intervene and figure out at an individual level like who is at risk for acquiring the virus. So that's a system that needs to be established ahead of the pandemic because it takes a long time to build those types of networks.

CROFT: 04:44

Now when looking at the federal government's response - and this might be an oversimplification - but is it fair to say that in the U.S., the federal government put almost all of its focus on developing a vaccine, while turning other forms of mitigation over to the states, or in the case of face masks and social distancing have really left it to a matter of individual choice?

MEYERHOEFER: 05:11

I think that is a fair assessment. The federal government really allowed states to develop their own policies with regard to social distancing, the mandatory use of masks, and also restrictions on economic activities. There wasn't really a coordinated federal response. And that's problematic for a variety of reasons. One is that even under the best circumstances, developing a vaccine takes a long time. First of all, there are some viruses for which it's extremely difficult to develop a vaccine. Think about HIV, which we've had it for a long time as it is a problem. We have therapeutics for that now, but we don't have a vaccine.

MEYERHOEFER: 05:58

The other issue is that in some cases people just don't develop natural immunity to the virus. We know that there are some people who've contracted COVID-19 more than once. We don't know how long immunity lasts after an initial infection. So all these factors really interject a lot of uncertainty into how long it would be before a [vaccine] was developed. Now we did end up developing a vaccine fairly quickly and that's a good thing. But in the meantime we've lost the opportunity to have a coordinated response. And there's actually lots of justification for national mask mandates and social distancing requirements. And it has to do with something that economists call a negative externality. Meaning that if I take an action, I bear the consequences of that action. So you could say, "Well, it's my choice not to wear a mask and you know I'm deciding that I'm going to take that risk." But in fact, you could be infected with the virus and not know it and therefore spreading it and putting other people at risk. So that's a negative cost you're imposing on someone else, but those other people you know are not being compensated for your negligence.

MEYERHOEFER: 07:22

You know if, if a you know it was possible theoretically to levy a tax on a person who put other people at risk, so every person you come into contact with you have to give them like \$500, then individuals would decide that it was worthwhile to wear a mask and protect their friends and neighbors from the virus. So that is that negative externality is a justification for government intervention to require masks.

MEYERHOEFER: 07:54

And then the other problem with the federal response was that this-- you know this sort of differential standards across locations allowed the virus to persist in the country. So in order to fight a virus that you need to, like, it needs a host to survive, so you need to attack it on all fronts. You have to give it nowhere to go. And by having

some regions of the country where there were very few mitigation strategies and others where there were, the virus could sort of survive in those you know those host areas where mitigation and mask wearing was low. That's exactly what we saw and so it would flare up in those areas. Those areas might decide to then impose measures to reduce the virus, but then in places where it was contained people were eager to get on with their normal lives and so restrictions would be loosened and that would give the virus an opportunity to go and flare up again in that area. So you know these differential standards that not only did they lead to a distrust, you know, for the logic behind the necessity to do things like wear masks, but they also allowed the virus to keep moving around and surviving in the population.

CROFT: 09:13

Now this week our nation passed two grim milestones in the COVID-19 pandemic. Since it started here, we have 17 million Americans who have been infected with the novel coronavirus and more than 300,000 dead, which is beyond the highest level that was discussed even back in the spring and the first surge. And we're hearing now that it's going to likely, you know, wind up somewhere around 500,000 before it finally gets under control. Now those numbers are significantly higher than what's been recorded in any other country. So what are the main differences in the way the U.S. federal government responded compared to what was done in other countries in Europe and Asia and other parts of the world?

MEYERHOEFER: 10:08

So the numbers are really staggering. And a lot of it is due to social norms in the U.S. and I think a failure for government to coordinate to really implement policies to mitigate the virus. And so I think what would be instructive is to really think of, compare the U.S. to Taiwan, which is a country that I've done a lot of research in myself and know about. And Taiwan is interesting because it's only 80 miles from China and when COVID-19 first broke out in Wuhan Province, it was predicted to have one of the highest infection rates. But in fact, it has one of the lowest. And the reason why is Taiwan was very well prepared to manage a pandemic. They had been through SARS in 2004 and the MERS outbreak in 2012. And after SARS, they developed like a National Health Command Center to address pandemic control.

MEYERHOEFER: 11:11

And so one of the things that Taiwan did, for example, they have a national health care system. So they linked their health care database to the database for Immigration and Customs Services, which allowed them to identify like who had traveled to high-risk areas. And then they again linked that system to the cell phone network and they were able to send individuals SMS, so short text messages, if they were at high risk and tell them that they either needed to get tested or they needed to go into quarantine. So they did that immediately when the virus was first discovered to have potentially come to Taiwan. And so they could track people. They implemented testing. They had high, much higher stockpiles of equipment. So for example, if you know that I said the stockpiles in the U.S. were pretty low, there were only 12 million N95s and we had 30 million surgical masks in our stockpiles Well, Taiwan had 44 million surgical masks, more than the U.S., and 2 million N95s, which is less than the U.S. But the population of the U.S. is 14 times the population of Taiwan. So if you look at those stockpiles, they were just much, much lower in the U.S. and the same thing is true about testing capacity. So really what Taiwan did was they aggressively tracked individuals who were at risk. They implemented widespread testing and they followed up with actually a hundred different items in their response plan in order to not only track the virus, but also help people who were in quarantine. They would actually check in on people who were in quarantine to make sure their

needs were being met. So it was just a coordinated response on the scale that's well above what we experienced.

MEYERHOEFER: 13:09

And you know the final factor that I think is important is consistent messaging and addressing, you know, misinformation. So in the U.S., we had misinformation just coming out all over, even at the highest levels. Whereas in Taiwan, there was daily factual, science-based press conferences alerting the public to what was going on. There was a little bit of a panic in Taiwan when the cruise ship that, the Diamond Princess, stopped there and people were released and that was something that made the international news. And so they immediately, like, determined where people from that cruise ship had gone and they, you know, they implemented testing for people who had been in those locations. And that was able to calm people down because they could determine if they were at risk.

MEYERHOEFER: 13:59

And so those are very important factors that the government can do. But there's also, like, a different, you know it's not so much a government response, but also just something related to social norms and that's the fact that in Taiwan, you know, wearing face masks is seen as a necessary and patriotic thing to do. So there's a lot of - there's actually quite a bit of stigma against people who don't wear masks in public. Which is interesting to contrast to the U.S., where you have in some places stigma against people who do wear masks. And so those social norms are also really important in how effective a government could be in containing the pandemic.

CROFT: 14:40

We're, you know, currently celebrating the first of the vaccines which is being distributed across the nation. The one from Pfizer and the German biotech company BioNTech. And a second vaccine even as we speak is speeding its way to FDA approval that was developed by the National Institutes of Health and Moderna. So I'm wondering, looking back on one of the great vaccine successes of the last century that we still talk about, the polio vaccine, what were some of the similarities and differences between the federal government's role in advancing the COVID-19 vaccine development and what happened with the polio vaccine?

MEYERHOEFER: 15:28

Well, one of the big differences between the development of the polio vaccine and what we have today with the development of the Pfizer vaccine and the vaccine by Moderna is support for basic science research through the National Institutes of Health. So the NIH was actually developed or it was implemented in 1930, so that's before the polio vaccine was approved in the U.S., which was in 1955. But its funding was at a much lower level and initially focused on the study of bacteria. So over time, NIH funding has grown significantly and the scope of the NIH has increased. Actually, the National Institute for Allergy and Infectious Disease, which is the, you know, of course the prime component of the NIH that's responsible for issuing funding on viruses and vaccines, was actually developed in 1955 as well, the same year that the polio vaccine was approved. And so, you know, the NIH's role has really been to support basic science research that is informative and helpful in the development of therapeutics, vaccines, and other drugs, as well as, you know, to study diseases at a very fundamental level.

MEYERHOEFER: 16:49

But if you know, so for example, if you look at there was a report in 2000 that looked at the impact of the NIH over time, and what they determined was if you consider the 21 most important drugs that were developed between 1965 and 1992, public funding through agencies like the NIH was instrumental for 15 out of those 21 drugs. So that is one thing that has changed the amount of effort and money that we put

towards research that can be used to develop therapeutics and vaccines much higher than it was in 1955.

CROFT: 17:29

What typically are the roles of the federal government as opposed to private pharmaceutical companies in developing vaccines and should the government be more involved?

MEYERHOEFER: 17:41

Well, that's changed over time actually. So one of the landmark pieces of federal legislation that governed how involved the government would be in the development of drugs and other vaccines was the Bayh-Dole Act, which was in 1980. It was a bill co-sponsored by Birch Bayh of Indiana, who was a senator there, and the famous senator Bob Dole of Kansas. And what it did was it put more of, more patents and the rights to inventions that were discovered under federal funding out to the private sector. So prior to 1980, if a group of individuals or a university or a company was receiving NIH or other federal funding to investigate, say, a virus and they ended up developing a vaccine, well the patent for that was kept within the federal government. So the federal government retained the ownership of any patents or inventions where the inventors used public funds, unless it was determined to be in the public interest to allow those patents to be held by the inventors.

MEYERHOEFER: 18:56

Now there were some agencies that had allowed nonprofits to retain ownership of some patents in a way, in a fast-track type of way, so they didn't have to ask for agency approval and that was in the cases of the NIH, the National Science Foundation, and the Commerce Department. But what the Bayh-Dole Act did is it allowed all nonprofits and small businesses, for-profit small businesses, to retain ownership of patents or inventions that used federal funding. So what that did is that it sort of put those inventions and patents immediately into the private sector for development and allowed-- and as a result of that many more products were brought to market from those discoveries. So prior to this act in 1980, only 5% of federally held patents had been commercially licensed. So the government was essentially, yeah, they were essentially holding all these patents, almost 30,000 of them, but they didn't have the expertise or the funding to really bring them to market. So by putting those out immediately, you're giving companies sort of a profit motive to continue on in the development of those products and to bring more of them to market.

MEYERHOEFER: 20:17

And it also gets into what is the relative comparative advantage of the government versus the private sector. So the private sector has experts that are, you know, developing drugs and therapeutics all the time there. They know how to develop, Manufacture, and distribute these products. And so they have the expertise and it makes sense to really keep that function in the private sector. However, when a pandemic occurs and we're sort of beyond our normal productive capacity to either manufacture or to distribute the vaccine, the government needs to step in. And you know that's one of the things the government has done, in this case, in terms of the vaccine distribution through Operation Warp Speed, is that's they're helping to distribute, but they still had a limited role in some cases in developing some of these vaccines.

CROFT: 21:10

Now you mentioned the productive capacity and one of the areas, you know, I think that we've seen as a result of the COVID-19 pandemic is the importance of government oversight when something like this happens and all of the sudden governments are spending billions of dollars to try to get protective equipment they need, or the tests, whatever. And we've seen in the U.S., the aid that was intended for

small businesses a lot of it went primarily to large businesses and not to minority-owned businesses. In Britain, we just saw the New York Times had a report yesterday that they had analyzed some \$22 billion in British government spending to procure personal protective equipment, ventilators, tests, and other critical supplies during that initial surge of the virus and found that about half went to companies with political connections, no prior experience, or histories of controversy. So where does that-- where is that balance between harnessing the productive capacity of private industry and the need for government oversight?

MEYERHOEFER: 22:33

Well, I think that, you know, the situation in Britain, which I'm sure was repeated in many other countries but hasn't fully been investigated, is, it's really a case study in the need to establish a system for the manufacture and the procurement of supplies in advance. So what happens is if you don't have-- if you're not prepared, if the government isn't prepared, then they're trying to acquire supplies and coordinate production and distribution on very short notice. And so I think it's-- you know, it introduces an opportunity for maybe the inappropriate allocation of funds to certain groups or people that have political connections. But I think it's also a response of the government to say like, "Well, you know, what companies, like, who have we worked with in the past and who's been able to do things for us in the past?" And it's just easier for a government to tap those same individuals on short notice. And so you get, you know, maybe people being selected for these, for these tasks that are familiar to the government, but not necessarily as well suited as other individuals or businesses.

MEYERHOEFER: 23:53

And you know that happens if you're not prepared. And so I think or what-- you know one of the things the government needs to do is develop these contingent contracts in advance with companies, where they may, that they may subsidize or have a contract with a company to have a certain amount of productive capacity that when there is no virus, where there is no pandemic, that capacity isn't really used, but it's being held in reserve. And the government may issue a contract for that with the company and that contract, you know, when there's-- when we're not in a pandemic could be scrutinized to make sure it's appropriate and fair. And then when the pandemic hits, we have already a system in place to develop that, you know, that surge capacity.

MEYERHOEFER: 24:40

So I don't think that the, you know, the government is necessarily going to be very good at producing the things that we need themselves, but they can partner with the private sector to develop that type of surge capacity or develop, like, essentially a market for procurement for these supplies in advance so that everything is sort of on the up-and-up and the companies are tapped efficiently. So I think that it's more government management of the problem as it relates to scaling things up that's important.

CROFT: 25:16

Now over the past week, I think most of us have been watching footage of the trucks being loaded up in the, you know, carrying the vaccine out to different parts of the country and the first vaccinations being given in city after city and hospital after hospital. What's your assessment of the government's plan that's being implemented now to distribute the vaccines over the coming months?

MEYERHOEFER: 25:42

Yeah, so it's interesting, I think the government's organization of vaccine distribution is really in contrast to the government's poor management of public health measures. So I actually think the plan that's been developed for distributing the vaccine is a very good one through Operation Warp Speed. So it had all the-- it has the elements we've

been discussing. So this system was put in place in advance. The government through the military was able to coordinate this vaccine distribution in a way that no individual private firm could, and they tapped public health experts to develop, like, a priority for who should be vaccinated. And of course, it's, you know, people at high risk and first responders, then essential workers. And then lastly children, because in part they're lower risk and also there hasn't been an NIH vaccine trial on children yet. That actually starts right-- it's to start shortly and it'll be some time before the results of that are put out.

MEYERHOEFER: 26:49

The other thing that I think helped this effort, or will help this effort in the future is changes made under the Affordable Care Act. Prior to the ACA, there were different incentives people faced to get vaccines, financial incentives. Because in some cases, they had large copays or coinsurance amounts that they had to pay to get vaccines and the ACA essentially made it a requirement that vaccines be required. All insurance companies had to cover those vaccines at zero cost. And so that's something that helps here and also will help in the future. But going back to, you know, the earlier discussion, it's really in contrast to the poor implementation of public health measures like mask wearing and social distancing that we've had with this pandemic response.

CROFT: 27:42

Now, finally, what lessons, you know, the most important lessons should we learn to be better prepared for the next significant public health crisis, whether it's a pandemic or something else?

MEYERHOEFER: 27:58

So I think that, you know, there's a number of things that we've learned. One is that all countries have learned that we need better global disease surveillance. So we need to have better partnerships through the WHO to develop systems that can track the spread of a virus more effectively and more quickly. That's number one. Number two, within the United States, we need a better action plan for containing the virus and that means developing a surveillance system in the U.S. that's not just based on aggregate reports from health care providers, but is tied more closely to the individual level, so that individuals who are at risk can be notified immediately. So we need a better action plan. We need more stockpiles and surge capacity for personal protective equipment and for tests. And then we need consistent policies to implement public health measures.

MEYERHOEFER: 28:56

So many countries, many parts of the country in the U.S., they had to shut down their economies essentially in order to reduce the spread of the virus. And that's caused hundreds of millions of dollars in economic losses and hardships. And one of the main reasons for that, you know, the need to take those measures was lack of initial surveillance of the virus in testing and containment and also the lack of public health measures. There's a lot that we can do in terms of maintaining the economy and keeping everything open if everybody is to wear a mask, everybody is to engage in reasonable social distancing. That allows you to keep the economy open. And so the failure to do that on a broad scale immediately was one of the major reasons why we've experienced such economic hardship.

MEYERHOEFER: 29:51

So I think that that is really important lesson for future pandemics, but it's not an easy one to fix because we're obviously divided in this country on whether the government should impose those measures on individuals. In other countries, you know, wearing a mask is really not seen as is a big imposition, but here, you know, it is among some groups. And so it's going to require, I think, a change in culture and really I think the

country and the government needs to help us develop a better culture around public health and explain to, you know, make sure people realize the importance of it doing things collectively to improve the health of everyone. And that's one of the major things that's been missing in the U.S., and one of the reasons why the pandemic has been so severe in our country.

CROFT: 30:51

Yeah, that idea of we're all in this together is something we've heard a lot, but has not always-- we've always seen in practice of late, so ...

MEYERHOEFER: 31:01

Unfortunately no, yeah.

CROFT: 31:03

So Dr. Meyerhoefer, thanks so much for being with us again today. I just want to wish you and your family the happiest of holidays and look forward to talking with you again in the near future.

MEYERHOEFER: 31:16

Thanks, Jack. I hope you're well as well.

CROFT: 31:18

Thanks. I'd like to once again thank my guest Chad Meyerhoefer. Dr. Meyerhoefer is a research associate at the National Bureau of Economic Research. Prior to joining the faculty at Lehigh, he served as a research economist at both the CNA Corporation and the U.S. Agency for Healthcare Research and Quality, AHRQ. This podcast is brought to you by iLLUminate, the Lehigh business blog. 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. [music]