THE BROOKINGS INSTITUTION WEBINAR THE NEXT FRONTIER IN EVIDENCE-BASED POLICYMAKING: THE SCIENCE OF SCALING Washington, D.C. Thursday, June 17, 2021

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PROCEEDINGS

MR. WOODARD: Good afternoon everyone and welcome to the next frontier in evidence-based policymaking, the science of scaling hosted by Brookings and the TMW Center for Early Learning and Public Health at the University of Chicago. My name is Omar Woodard. I'm the vice president of Solutions at Results for America. Results for America, our mission is to make data driven and evidence-based policymaking the new normal for government decisionmakers at all levels. And we work at all levels of government to build government capacity and leadership capacity to do just that.

Relevant to me, prior to Results for America, I spent 10 years in venture philanthropy really working to invest to scale models in organizations and cities across the country. Including early learning models such as Parent Child Plus, New York's family partnership Appletree and many, many others.

I'm really thrilled to have an amazing panel here with us today who is able to talk not just from the research and evaluation side of scaling but also government sector side of scaling and how government can best be involved at the leadership level to really make these things happen successfully. But also identify areas where there is opportunity for growth.

I'd like to start by introducing our main panel and start with Elain Kamarck who is the director and senior fellow at the Center for Effective Public Management Governance Studies at Brookings. Next, we have John List who is the founder and co-director of the Center for Early Learning and Public Health at the University of Chicago. And he is, of course, the named professor, the Kenneth C. Griffin professor of Economics at the University of Chicago.

We have Dana Suskind who is the founder and co-director of the TMW Center for Early Learning and Public Health and she is among many things, a professor of surgery and pediatrics at the University of Chicago Medicine. And finally, of course, as a native Philadelphian, it's always a pleasure to introduce the former Mayor of the City of Philadelphia, Michael Nutter. Who last I spoke with him now has a number of new roles but is incredibly involved both at the University of Chicago, Columbia University and a range of other places. And, of course, the 98th mayor of the City of Philadelphia.

So I'd like to thank all of my panelists for being here. I'm very excited for the

conversation coming up. Before we jump in, I just want to let viewers know that you can submit any questions you have for any of the speakers we have here by emailing events@brookings.edu or you can just post at Twitter #ScaleUpEffect is the hashtag we're using for this discussion.

So I'd just like to frame a little bit of the conversation before we involve our panel and getting some questions and answers. The University of Chicago researchers, as we mentioned John and Dana and a number of other colleagues have worked to identify the four sources of challenges or threats in research around the challenge of scaling evidence-based programs. Particularly early learning but more broadly.

The challenge here, as you all know and may be aware, the government, philanthropy and non-profits generally work together to identify and scale and replicate models particularly in early learning every day, all across the country. But there have been varying levels of success to that scale.

And in fact regardless of model fidelity, a real concern is is there more than an art of scaling, is there a science to scale and what more can we learn to help local government, state governments, non-profit service providers as well as funders really figure out the best mix and configuration to ensure that scale happens and happens successfully.

I want to highlight just four key sources and threats that the research has noted. First, is that individuals that are often studied in the research setting aren't representative of the population at large. And so, it's very difficult to replicate in a different context.

Second, the specifics of the program generally in the way it's delivered and received is also not representative of how it actually is delivered in a broader real-world context once it's replicated. And third, usually the initial and promising results are interpreted incorrectly. Right, so meaning actually there is not enough sufficient evidence to actually support scaling in the first place despite the promising results that often lead to attract dollars to replicate.

And then finally, there are often spillover effects in the initial study that weren't accounted for. And so, the effects of the program may be stronger, they may be weaker but the research really doesn't measure those effects. And so, as a result, you don't really have a sense of the benefits or the harms to those who either participated in the study or didn't.

And so, there's a lot here and we're really happy to, you know, to have the researchers

who have been doing this work and really begin to dig into these questions. So, I'd like to start if I could with Elaine. And, you know, really talk to you about, you know, where are you seeing similarities, where are you seeing the differences in scaling failures across issue areas. But even more broadly, how have you from your vantage point then been learning about, thinking about it involved and scaling broadly. And then let's talk about where you see some similarities and the differences around barriers and opportunity to successful scale.

MS. KAMARCK: Thank you, Omar and thank you, it's nice to be on such a distinguished panel. And welcome everyone to Brookings, to a Brookings webinar. Let me start by saying I worked in the federal government some decades ago in the Clinton White House trying to reinvent government.

And we encountered many, many wonderful experiments that in fact failed to scale.

The one that comes to mind and I think you mentioned this in your policy brief is this is not just the case in education even though we have here early childhood education. But it's in all areas of government where we have promising experiments, promising research and a failure to scale.

Way back in 1993, we looked at an experiment in personnel at the China Lake Naval Weapons Center. This was very different from early childhood learning but you'll see the similarity here in a moment. There were over 5000 civil servants there. It was a very high-tech research center developing weapons for the Navy and they had one heck of a problem. They couldn't retain people and they couldn't hire people.

So they were losing talent all the time. They were losing scientists, they were losing researchers and they had to change the personnel system, the GS system just simply wasn't working. They got a special exemption to do so. That experiment started in the mid-1980s. By 1986, it was a terrific success, and we went into the White House somewhat naively in 1993 thinking that we could spread this to the whole federal government.

Well, we didn't, okay. There are some aspects of that experiment, hay banding et cetera or you can find in some agencies, TSA, the FAA have used some aspects from China Lake. But we could not scale that to the entire federal civilian work force.

The reasons why and that brings me to my next point is that frankly the experiment and the research are only the beginning of the policy change process. The policy change process almost

always starts with a smart academic or an educated government employee or somebody in a think tank or in a foundation doing some really interesting research. But that's only the start of the process.

So I wrote a book not too long ago called, "How Change Happens: The Politics of U.S. Public Policy." And I urged people looking at change to do something, again, a concept drawn from the military, assess the policy battlefield. In the military, everyone is taught to assess the battlefield. Well, assess the policy battlefield.

And what you find when you break that down is that you have to look not just at the idea and whether the idea is good and perhaps warrants scaling. But then you have to go to areas that don't have much to do with the idea. You have to look at the inside players, you have to look at the outside players. So inside the government you have to look at the outside players. Then you have to look at the public and whether or not there will be a public reaction and you have to look at strategy and tactics and what kind of conflict may or may not arise from this.

So we are only at the beginning of the process when we're looking at good, solid research that maybe should be scaled. And then we get into a very murky world, particularly when we're talking about government. Now I know, Omar, you have experience in the private sector so I can't -- I don't have any experience there. I can't generalize.

But I can tell you, in the government sector, the good idea at the core of a momentum for change is only one step towards the change. And so, I will say this is a hard question and one well worth pursuing and I'm glad to be here with you all.

MR. WOODARD: Elaine, thank you so much for really giving us some more context around the broader area in which scaling takes place. It's not just an early workforce development or what have you it's broader than that. I really appreciate that frame.

I'd like to take it to John if I could. John, you know, we laid out kind of the four areas of threats, right, from your policy paper. You know, what advice do you have for researchers and innovators, you know, for whom scaling is important right. The rapid spreading of what works across city to city, county to county, state to state is incredibly important.

Not from a competition perspective but because every city, every leader, every mayor wants to implement the best ideas that have worked elsewhere that could where they are. So could you give us

some advice for other researchers, your colleagues or others who are challenged with this problem and are trying to address the threats that you laid out so well.

MR. LIST: Sure, absolutely. I want to start by thanking Brookings for putting this forward and the other panelists. Thank you very much for joining. I think from both a policy perspective and an innovation perspective, this particular question is the most important question that scientists face today in trying to make change and make policy change.

So the way I think about the problem is if I take myself back to when I first started working in Chicago Heights which is a community just south of Chicago, I started a school for 3 to 5 year olds.

Now in that school, the goal was to give them human capital or to help them along in the process of these 3 to 5 year olds and this was called Check.

Now we received very optimistic results so our goal was to scale the program to all of Chicago and beyond. So we went to talk to some experts and what they told us just about uniformly is that your program will fail to scale because you will experience voltage drops.

Now a lot of you might be thinking, okay what is a voltage drop. Now I want you to think of it this way. If we had 100 kids in our Check program, our data show that we would help about 90 of them or 90 percent. If we scale the program to 100,000 kids therefore, you would hope to help 90,000 of them. But the voltage drop argument is that you will help many fewer children, maybe no more than 20,000 of them.

So my question then why does this happen. And this is a relatively new area of study that really not only spans all of policymaking but all of the idea generation space. On the side, I'm the chief economist at Lyft. And in many cases, we faced the same sorts of questions. What are the signatures of ideas that will scale.

So we got to looking at the literature and it's very difficult to find science around this problem. So what we've done is we've used behavioral economic models to explore the science of using science. That's sort of the moniker that Dana and my team and I use.

Now as you pointed out, Omar, within that model and within the broad data, as Elaine said, the data are ubiquitous. They're all over whether it's policy or ideas. Really a handful of signatures of scalable ideas comes out. And Omar, you talked about four of them. I want to add a fifth today.

So what Omar mentioned was first of all, the evidence just isn't there to justify scaling. So the question for the policymaker then becomes when is evidence actionable. Now the next point is well, were the wrong people studied. Another way to ask that question is are the people in the original sample representative of people at large.

The third bin is the wrong situation was used. And Elaine got to this a little bit when she was talking about well, the political will of the actors and are the constraints that will have at scale, are they the same constraints that are used in the original research plan. And then as Omar mentioned, you have spillovers. And these are, in many cases, these are features that you won't pick up in the small study but once you go very, very large the market can become imbalanced.

You can think about Lyft. If we give a lot of drivers a big benefit, a bunch of them come on and you have a market imbalance. So that's how I want you to think about spillovers. Now what I want to add to what Omar said was when economists would call the supply side. Are there diseconomies of scale? When you go really large, just it just cost a lot of money to expand your program.

And in a way, I want you to think about in the original Check program, we only had to hire maybe 20 or 30 teachers but what happens when you have to hire 30,000 really, really super good teachers. What happens to the cost. Either the efficacy of the program will go down. Why, because you have to hire lower quality inputs or you have to expand the budget to keep the quality really high so you don't have a voltage drop.

So now all of these five signatures, Omar, speak to any idea. They speak to any policy or any idea whether it's the private sector or the public sector, they all matter. You can kind of think about Anna Corinna. Leo Tolstoy talked about all happy families are alike and each unhappy family is unhappy in its own way. When I think about ideas or policies, if they don't satisfy these five threats to scalability, they'll fail regardless of how ingenious people are who are carrying them out.

MR. WOODARD: John, I really appreciate that and I want to keep it in the policy context. Mayor Nutter, I'll move it over to you. I think 8, 9 months into your first term, you had crash that you had to deal with that incredibly impacted the budget of the City of Philadelphia in your first year in your first term. I imagine what that did for your two terms is you had to begin to focus on what can I do that will get me impact and good results quickly with as low cost as possible.

So could you talk about in your two terms how you approached this issue of identifying something small and growing it and sustaining it and what some of the barriers were from your perspective. Giving some of those criteria that John just mentioned.

MR. NUTTER: Omar, thank you and certainly Elaine, John and Dr. Dana. Yeah, I mean we were, you know, we were rocking and rolling. I had just gotten elected in 2007. People were excited, I was the reformer, wasn't supposed to win, blah, blah, all that story. And, you know, we have a great budget, 4th of July and then suddenly the finance director and the chief of staff came to see me.

I was too new, too inexperienced to understand that when the finance director and the chief of staff need to see you, actually nothing good is going to come from that meeting. But I didn't know that, right because I'm like, you know, first year rookie mayor.

And they said well, we think we have some kind of problem but we don't even know what's going on. This is like July, August. And then late August early September they said no, we actually have a very serious problem. The recession had not yet been declared by the federal government but we already saw, that summer we were already seeing signs that something was wrong. And then the feds, you know, the federal government declared that we were in a recession.

The Phillies did win the World Series that year so, I mean, that was a little bright spot and Barack Obama became president of the United States. So and then the week after, two days after the election, I declared that the city had a \$1.4 billion 5-year plan deficit. That kind of crushed the hopes and spirits of just about everybody in the city.

One of the things out of that experience and we were fortunate to have, you know, you have to have a plan and we had some plans and then you have to make adjustments. And so, the critical issues for us were, you know, we have to keep providing service, we cannot run out of money, we have to keep operations going and people still expect their trash to be picked up, potholes filled and other fundamental services.

And so, when you strip it all down, we really had to take government to what is our fundamental mission? What is our daily responsibility to the citizens? They hear, they understand, maybe they blame me, maybe they blame the universe for this recession which is very different than what people are experiencing now.

We were not in a pandemic but a recession none the less which at the time, was characterized as the worse recession since the Great Depression. So, I meant that was the context of where we were.

And when you're the mayor, actually pretty much everything is your fault anyway, it doesn't matter.

People are not trying to figure it out.

I said this will be a shared sacrifice. Everybody has to give up something for the greater good of the whole and for the entire city. And that certain services must be preserved, we still have to educate kids. Again, we cannot run out of money and so fiscal integrity because a serious component. It already was but it became a serious component.

Because you ultimately realize, you actually can't really run the place if you don't have any money, right. I mean, it sounds kind of simple but it's real. And so, you have to make some tough decisions and that's where sticking to a plan, your own integrity, what you're willing to compromise on, what you're not willing to compromise on and reversing in many instances decisions or positions that you've held for a long period of time.

So, for instance, I was the leading advocate for tax cuts during my entire tenure in Philadelphia City Council. And one of the first things I had to propose was a tax increase to save the city. It was hard but, you know again, running out of money or not being able to provide service or having to lay people off I thought was even worse.

And so, every day we were presented with, you know, the worse choices and the decision is how do you pick the least worse choice that does the least amount of damage for the maximum number of people. There was a point where we literally, and I announced, that we were not going to pay any of our vendors to save money. Not one of them ever stopped providing service because we committed and promised that we would pay our bills but we needed to get through this time.

And so, when you talk about scale and trying new things, trying different things. You said something earlier, Omar, that reminded me of a little saying that I have that, you know, mayors always want to be the first to do something as long as someone else has done it before them.

And so, because you need to know in the public sector, I mean you have to know that this thing is going to work, right. I mean, you have a very limited amount of money, time, resource and, of course, the general public. And so, you know, you cannot be wasting money, you know, you can't be

failing, right, and you've got to read about it on the front page of the paper the next day.

As Mike Schmidt once said, you experience the thrill of victory and the agony of reading about it the next day. That's the experience of Philadelphia so they're not shy about expressing themselves. And so, what did John say, using science for science? You know, using technology, using science, using facts, using the data, the work that you do, you and Michelle and the whole team at Results for America. It really does help beyond anecdotal stories. It helps to have data. It helps to have evidence and then to be able to explain to people this is why we're doing what we're doing. Now you may agree, you may disagree but we have reasons.

And lastly, and this is what we're trying to accomplish. We want you to be safe. We want your kids to get an education. We want to have jobs or preserve them, right, and we have to run the government with integrity and transparency. Those were the four pillars and running out of money, deep recession, whatever the case may be, we never veer from those four fundamental principles which is what I ran on, which is what I committed to and ultimately which is really what saved the city and took us into the recovery period after 2011.

MR. WOODARD: Dana, what you heard from Mayor Nutter was something that we hear a lot at Results for America which is, you know, innovation in the public sector looks different than it does in the private sector. The idea, the appetite for risk is very different. And it varies from locale to locale.

And so as you're thinking about scaling a great model in Chicago, a great model in Minnesota, a great model in Virginia to another place, you have to be kind of honest about those local contexts and how it plays out. Mayor Nutter gave you a fiscal environment and a whole bunch of other things that without that some early learning models might have scaled much faster. So how do you react to the very real threats, right, and challenges to involving the government from the scale and rapid acceleration of early learning models or others. What are some of your reactions to Mayor Nutter's thoughts?

DR. SUSKIND: Yeah. Well, I think just the fact that all five of us are on this webinar and come from such incredibly different backgrounds speaks to the fact that this is not an easy issue to deal with. It's a multidisciplinary, you need every stakeholder as part of it. And actually, that's why I love the model of Results for America because really, everyone has their different incentives and biases.

You know, as Mayor Nutter said, we all want the same thing. We want our children to be

educated, people to be employed, good to happen but we all have our different, Mayor Nutter has to keep the fiscal balance, needs to be reelected. John needs, you know, his papers published, you need, we all need different things.

And really, this is why, you know, when we think about evidence-based policymaking, in fact, almost the easiest part is the first part. Figuring out programs that work. Doing it on small scale. You can look at this time with COVID. Ironically, the easiest part was developing the vaccine. All right, not so easy but that happened in rapid time. Where was the bottleneck, getting that vaccine into, you know, our population for all the different issues with scaling.

So while I don't have an easy answer, I think really it points to the fact that this science of using science is a team based approach which brings in all the other different complexities of human beings. I'm a surgeon. I always joke that the only people who don't come with their own biases and incentives are the patients under anesthesia. But otherwise at every level, we have to deal with it.

But on the other hand, if we are ever, ever to reap the benefits of science as the basis of social change, this is what we need to do and that's why it's exciting. I think Elaine's point that this is not just an early learning issue or workforce issue, it is an issue at every aspect of government.

And I think actually Clinton who you were in his during his time period said something to the effect there are interventions to address almost any issue. We have no lack of evidence-based interventions. But having those scaled and impact at a population level becomes much less. And this is why this is the next stage of evidence-based policymaking, so.

MR. NUTTER: Can I?

MR. WOODARD: Please, Mayor.

MR. NUTTER: I would say, Dr. Dana, but I'm increasingly nervous, especially given what we have just all been through for the last 15 or so months. That I mean now even science is under question. Science is under attack. If we had stuck with science back in March of 2020, I think it is without dispute fewer people would have died or gotten sick and the recovery would have gone that much quicker if we had stuck to science and the understanding of science.

And this is where, the other thing I didn't talk about which is, of course, this is where politics and personalities come into play. Which, you know, there's virtually no equation for that. As

much as there are equations in economics, equations in science, in Elaine's work and Results for America, the variable of politics and personalities, you know, I don't know where you put that, you know, on the black board.

DR. SUSKIND: If I could just answer that. I know John wants to.

MR. LIST: Yeah, I'd like to answer it to but go ahead, Dana.

MR. WOODARD: Elaine too. Everyone wants to jump in. Dana then Elain then John.

DR. SUSKIND: Two aspects. I think that what you speak to is incredibly important. You know, there was a time period where it was the credibility revolution. Everybody was like it's all about evidence. And because of this issue that it's not just about what happens on the small scale but how do you take that small scale result and figure out how to do it on a large scale.

You have people who start, I mean, there are some who are always going to disbelieve in science but those who even do believe, this is why this next step is so critically important. And I know that John wants to add but there is one part in this model that isn't there. The issues of public will, political economy and I'll let John speak to that so I don't know if that's what he was going to speak to.

MR. WOODARD: Elaine, I know you want to jump in then we'll jump over to John.

MS. KAMARCK: Yeah, I just wanted to jump in on the question. I think John raised a question that's kind of central to what we're talking about here. Which is the policymaker has a hard time knowing when is evidence actionable. Okay that is hard because there are always people who say not that it's not that your evidence isn't correct for the time but there are people who are looking down the road.

To quote President Clinton again, he used to say the job of the president is to look down the street and around the corner and that is the hard part. So with the China Lake experiment that I opened with, the problem there was that it ended up being about 5 percent more expensive than the old personnel system.

Now that doesn't seem like much but OMB whose job is to protect the federal treasury said wait a minute, we're not letting everybody do that, right, because this is just -- you may have some good results from here but frankly, this is a way to get to spend more money on personnel and we're not going there, okay. So people, if you think about the world, if you think about the policy ecosystem, right,

there are people in there who may admit to the science but who are skeptical that if you look down the street and around the corner, that that science will hold up. And I think that's why we have such problems with evidence-based policy.

MR. WOODARD: Great point. Absolutely great point. John, jump in.

MR. LIST: Okay so a lot to tackle there. Let me start by talking about what Mayor Nutter brought up. So I think of knowledge creation as a chain that has three links. The first link I would call the philanthropy of science which is a different research agenda of mine of how do we generate dollars both privately and publicly to fund science.

The second link is what we're all talking about here today. And I advocate Elaine sort of just brought this up. We always talk about evidence-based policy. We need to be thinking about policy based evidence. Our model is about what are the incentives in the system right now that researchers, policymakers and individuals are doing the right thing to put forward actionable evidence that will really work.

That is what our model is really about. What falls out of that are prescriptions like the original scientist should be on the implementation team. The original researcher should spell out all negotiables and non-negotiables in their original research design. So there are very -- and then various other aspects which I won't go into the weeds. But these are all things to try to accomplish the third link which is correct.

When the Mayor brought it up and Elaine brought it up too and Dana just said political will. And to think about the leaders, the administrators, the facilitators, do they have the right incentives just to stick with the status quo because it's easy and they think it's the right thing to do. Or are they going to go down the path that science tells them two.

Two levels with that. Our model teaches us that if we teach them about why the program works. So the underline of not only do this program but here's exactly the mediators for why it works.

Facilitators will stay truer to the program. The fidelity problem will at least be partly solved.

Now let's go to the other level where the Mayor mentioned and that's the fight against science. And here, you never know around the corner what the next politician will do. Or who is the next politician, who will be elected. So I would model that as a random walk. You can say what's a random

walk.

A random walk is think about the drunk who walks out of the bar and you try to guess, is the person going to fall down, are they going to stumble left, are they going to stumble right, that's a random walk. Very, very difficult to predict. It's like asset prices in a way.

So while it's true we don't know what's around the corner for the next policymaker, we do know what good science is. And we do know that if we give actionable evidence and the model that Dana and I and others have created, actionable evidence is essentially that we can be 95 percent certain that the policy works. So what does that mean? It means the original research and three or four independent replications. That's essentially what that means.

But at broader level, you're right. We need to figure out all three of these chains. What we're talking about are three of these links in the chain. What we're talking about here today primarily in my mind is the first one. The next model we'll take on the next one which economists have talked a lot about the political economy of decision making and the political economy of who gets elected and why. Those are great questions. Political scientists can help us too but I'll stop there and throw it back to Omar.

MR. NUTTER: I think a random walk was just me deciding, you know, coming out of my driveway which direction I was going to go for my walk. I hadn't thought about it in the context that John had laid out. That's interesting.

MR. WOODARD: I want to bring us back then to the fundamental issue evidence-based policymaking. And just like nail that for a second. Let's just talk about that for the audience. So I'll start with Mayor Nutter and then I'll go to Elaine and then come back to Dana and John.

MR. NUTTER: Well, you know, I'll maybe go a little more into the political will and where is the public and where are you and, you know. So, you know, people who are elected, you know, generally, you know, like to think of ourselves as, you know, leaders and we're leading a parade. You know, but again, I always recommend, you know, you might want to turn around from time to time and, you know, just see if anybody is back there.

Often, we can literally be ahead of our public which is a real challenge really because you're, you know, as Elaine talked about and I do remember the President saying that looking down the

street and around the corner. And sometimes you do actually know or have a really good sense of what's around that corner but you've still got to go on that straight path first to get there. And sometimes people can't see the same things that you see.

And so one of the important qualities of leadership is you're to bring people with you. You have to help them have that same vision. You know, we're not talking about just going to the optometrist and paint a picture, tell stories and help people to understand where it is that you're trying to take them. Where it is you're trying to go. Which ultimately really has to be the place where they want to go.

If you try to take people kicking and screaming even if it's good for them, right, I mean, how many of us have ever tried to get our kid, you know, to take some medicine. No, this is good for you. No, I've had this before, this is really bad. No, I don't, right?

So, you know, it's a different kind of challenge I think with the public and you have all the evidence you want but somedays at the end of the day, the data is not enough, it's just not enough. It will not carry the idea, the weight of the idea by itself. People have to imagine, you know, what that thing is. What is around the corner? How good is that going to be and why you're the person to take them there.

MR. WOODARD: Elaine.

MS. KAMARCK: Let me take off from that and the Mayor mentioned stories, okay. If you think about a pyramid of a policy development, right, at the bottom of that pyramid is almost always an academic study, a government study an experiment, right, some kind of innovation with data.

However, there are as those of us who've been university professors know, there are hundreds and hundreds of wonderful ideas that sit in the drawers in academic offices and never, ever see the light of day. So what do you need to move it, right, what do you need to move from that study to the world?

Well, usually the first thing is actually press coverage. And press coverage requires and this is what the mayor made me think of, press coverage requires stories. It requires anecdotes. It requires something that makes the data come alive. And I think that we academics frequently under value the importance of storytelling as a result of our data. And therefore, our data doesn't get passed our peers into the public.

If you can get press coverage and if you can get stories, guess what you can get a politician to talk about it and you can get a politician to give a speech about it. And politicians are experts or else they wouldn't be successful at turning complicated things into people language, into kitchen table language. So that's kind of the next step on this rung.

And then, of course, if you're really, really successful you get a bumper sticker, okay. It's on a bumper sticker and welfare as we know it said all, right. So that's the way an idea moves through the system.

Now the other thing to bear in mind is and this is John, an old political science concept called the scope of conflict invented by a guy named E.E. Schatzsnider in 1960 so it's really old, right but it still works. There are some policies where the scope of conflict is actually very small. The public never hears about it. The newspapers never write about it. Nobody particularly cares about it. But it is thought out in a small scope of conflict. One of the ways that people make mistakes a lot in policy is they try to expand the scope of conflict and the problem is you don't know what's going to happen. You could win with the expansion or you could lose with the expansion.

In fact, I wrote a case study not too long ago, not too many years ago about the 2007 immigration bill, the failure of that immigration bill. That's the last comprehensive immigration bill we ever had. And one of the reasons it flopped was because they expanded the scope of the conflict, created a massive counterweight and the two coalitions that might have come together to pass it simply collapsed at this weight. So there's a lot of things that when you move beyond the evidence have an impact and the evidence itself can be good, it can be bad or it cannot matter at all.

Now third point I want to make and then I'll shut up okay. Is that sometimes you get there's contradictory evidence. So I will call your attention to the failed climate change bill in 2010 under Obama. Okay that thing just died. Why? Well, because John Kerry who was one of the lead senators was saying this will cost Americans no more than a postage stamp a month at which doesn't seem like very much money. And other politicians were saying no, no your electricity bills are going to go up by \$4000 a month.

And each of them had their own methodology, right, and their own way that they had figured out their evidence. I mean there wasn't any bologna in this it was just a different way of going

about it. Well, the politicians said not us, we're not going there because we don't know which one of these evidences, right, we don't know which model is going to be the one that works. And the whole thing fell apart, they never called it up for even a vote on the floor of the Senate. So that's why the evidence alone exists in a very, very big ecosystem that's pretty complicated.

MR. WOODARD: I'll start with Dana and then go to John. There's a lot there for you all so feel free to go ahead. The only thing I would add here is, you know, data and evidence is clearly not enough. There's a lot more story telling that needs to be had in order to translate research into, you know, actionable next steps for policymakers to go forward.

But what does that mean for researchers? What does that mean for the folks who are, you know, early on, gathering the data, collecting the data and just putting it out there. What obligation is there for them to continue on the path in that journey and not just pass it off hoping that policymakers will do the right thing.

DR. SUSKIN: Yeah, I'll start off and I'll answer it in two bits. I'll answer the easier part of it. What is the obligation of the researcher? I think what is so critically important when you're thinking of these new innovative ideas, it really gets to John's point that it's not just about developing evidence-based future evidence-based policies but really putting yourself in the shoes of the policymaker and the practitioner.

You do no good by developing programs that are the Cadillac of all programs that are unattainable and incredibly expensive. So I think that part of this next journey is really getting researchers to start thinking in that way. So that's the easier part.

The more difficult part is, you know, how do, you know, we've brought the population along. I think most people would say look, data and evidence, you know, are critically important. We want evidence-based policies without, you know, without really starting to tackle this next step of how you take these policies to scale.

And, you know, I come from the world of medicine where it's complicated but not quite as complicated. I'm a surgeon and there is nothing easier than going into the operating room. I have an evidence-based piece of technology that I implant into a little child who is born deaf and suddenly they're able to hear. But what's very interesting in my own journey and why I'm in the world of social sciences is

that you can start off with this incredibly important piece of evidence-based technology or intervention.

Put the implant in and that really lays bare just this gap between what happens next. And the fact that all the difficult stuff, you know, education, intervention et cetera is much harder to implement.

And towards that end related to bringing the population along, I think having them understand that the promise of evidence-based policymaking requires us to go to this next step and really think about it in a detailed way. And I think one of the best ways to share this information is at this point, most of the population believes in general in the power of medicine and evidence-based medicine.

And sharing the stories that 50 years ago and I get this story from Jack Shonkoff, 50 years ago when I was born, a little bit longer, the results if you were a child with leukemia of survival were in the single digits, right. You fast forward 50 plus years, you have a 95, 97 plus survival rate. I mean, evidence, you know, and science works for changing the trajectories of lives.

At the same time 50 plus years ago, we had one of the most famous evidence-based early childhood interventions, abecedarian. Abecedarian not only showed huge impacts it was early childhood as you would wish every child education that you wish every child could have. It started in 0 to 5. It had huge impacts on the children both from an IQ test score, you know, workforce development, you know, teen pregnancy but it had huge spillovers. It had huge spillover effects for their moms. Their moms increased their education and employment.

You look at these two interventions, huge impacts for children with leukemia now. You look at abecedarian. We have tried repeatedly, you know, it has failed to scale. The promise of this incredible program has failed to scale. And really allowing people to know that because we haven't scaled it doesn't mean that program didn't work, we just need to take it to the next step.

And I'm not a powerful storyteller but these stories need to be shared because it's hard work, it's not easy. But if we don't do it, we will never get the promise. But I will stop there.

MR. WOODARD: John.

MR. LIST: So those are three difficult acts to follow but let me try to pick off an element from the various vignettes. And I'll star with Elaine's point about a narrative. And I think you're spot on there. When you look back to the '80s and the DARE program.

So I have a book coming out titled, "The Voltage Effect." And in chapter one, I talk about the DARE

program of Nancy Reagan. To me, that's a poster child for a false positive. It had one set of results from Honolulu and it could not be replicated or scaled but the narrative was just so wonderful that it ended up getting rolled out.

Narratives absolutely matter and one manner in which we can kind of unlock the academic journals and get the ideas out is to have people like Dan Economin and Steven Dubner and Steven Lebbit and Gladwell and Dana has a popular book. Write about that great science to unlock it. So I think narratives certainly do matter. And you can just look historically in the U.S. or abroad and you'll find that.

Now Mayor Nutter, I think you make a great point about decision making. 20 years ago when I worked in the White House, there was a rule and I think it still holds today that every economically significant rulemaking has to undergo a formal benefit cost analysis. And economically significant rulemaking back then was it had to have either 150 million in annual benefits or annual cost. And there were roughly 70 of those per year back then that we had to do a formal benefit cost analysis on.

Now that was just one piece of the decision process, the proceeds from that benefit cost analysis. Why, because that's really an examination of efficiency. You know, how much greater are the benefits than the cost. But many times more important is equity. Where do those benefits and costs reside? And in many cases when you talk to researchers about what evidence are you giving us, they say well, the benefits are 20 million a year, the costs are going to 5 million so let's go ahead with the program.

That's where we run adrift. Because we should be talking about that's a starting point but where are the benefits going? Where are the costs going and is this an equitable purchase for the government to make that and if not, we should reconsider it.

We've been talking about efficiency the entire time here whereby equity needs to have an official place at the table as well. And until we start taking equity seriously, evidence-based policy doesn't make sense, it's nonsense. It needs to be evidence both based on how big is the pie but also how that pie is divided.

Now we can do that as researchers. You can think about multisite trials. You can think about over space and time and people. Where do the pieces of the pie go? And that's what we should be doing as researchers. In the very beginning in the petri dish figuring out does this work and who does

it work for. And is that the value proposition we want society to take. And again, that's just one piece of the discussion but it becomes a very important piece where we can use science. I'll stop there.

MR. WOODARD: John, you were on a role, that was a strong role there and absolutely right. We're starting to get questions in from the audience and it's significant. So I'm going to go through a quick lightening round here, ask for quick thoughts on questions. So one, this is a really great question. When thinking about scale, should we just focus our work at current scale rather than bother at all with scaling up.

I think the assumption here is should we just improve the quality of our work at our existing footprint and deepen the quality rather than potentially watering down the quality as you broaden out. I'll start with Dana.

DR. SUSKIND: Well first, it depends on your goals. I think that the real question is that we need to figure out how things work and ensure that it's data driven before you start scaling up. And as you scale that it doesn't become disconnected from the data driven feedback that's so necessary that there isn't drift. So yes, before you scale up, you want to make sure it's working as intended. Because the one guarantee if you aren't when you scale up it is unlikely to get better it will likely worsen.

MR. WOODARD: Mayor Nutter, you said something before about, you know, growth for growths sake isn't necessarily beneficial. Could you say a little more about that.

MR. NUTTER: Well, you know, the easiest way to get something started generally, especially in the government, is the pilot, right. That's the governments level of, you know, risk taking. We're willing to do this little thing that may or may not work. It's not so big it's going to like cause the place to collapse if it doesn't work. If it doesn't work yeah, I'd be a little embarrassed but, you know, you can move on to other things pretty quickly.

The challenge is like most other things it's, you know, the quality, it's quality control, it's the how many more people are bringing into it, how well are they trained, what's the ethos and the culture by the time they arrive. Things that you were doing in your first term in a political sense in the government sense you know, with that crew of people. As certainly Elaine knows, folks come and go, right.

The second wave of people, you know, it's not their fault, they didn't come in with all the,

you know, the hoopla, the bells and whistles, right. They're like you know, yeah, I'm excited about this but they just unfortunately don't get all of, you know, what the start is. And so you start to expand, maybe some things start to slip, your time is starting to run out, how much attention can you pay to this. You've got other things you're trying to get done.

You know, I'm sure we did some of this. I mean, I tried to stay, you know, focused on the fundamentals but I mean you actually want to do a few other things. And the other part is, you know, you don't get to pick your moments, the moments pick you. So when stuff happens, this might be a family Zoom so I'll leave it at when stuff happens, you're going to get distracted, right.

If three people got shot today, I mean, you know, I think that might crater the rest of my schedule. If one of my, you know, public employees something happens to them. If somebody got indicted, if, you know, whatever, whatever. If City Council did, you know, some thing. I mean that's the end of that day because it is.

Other events take over. You know, can you maintain the momentum. You know, momentum is not self-sustaining. You have to keep pushing that thing. You or your team has to keep pushing that thing or it will slow down. And, you know, it's just it is a challenge, everyone is also looking at the calendar. You know, I mean, I tease all my friends in Chicago, you know, we actually have a two consecutive term limit in Philadelphia. I'm like, you know, Chicago.

So you've got X amount of time, you're fortunate to get a first term, you're really lucky to get a second and then it's out, right. So, you know, and then other people know how to count too so they're like yeah, you're in your sixth year, I don't have to do that thing. I'm just going to wait you out, right, and you'll be gone. Or I've moved on to, you know, the next thing. Because my team would say, you know, if we did all the stuff you wanted to do, we would actually get nothing done, right.

You have 15 ideas a day. One of them might actually be good and we'll try to work on that in contrast to the last great idea that you had last week that you redirected our attention to. So, you know, you only have so much time and scale takes time even when you're the mayor. You might think you're in charge, you know, it's kind of true but you're not completely in charge. It might be the same for the president of the United States as well, so you get done what you can get done. You can only pass the baton and then that's it.

MR. WOODARD: Please go ahead Elaine and then I'll go to the next question.

MS. KAMARCK: I mean, one of the ways to make change more permanent and the mayor talked about the other side of this is concentrate on the bureaucracy. So in the federal government, the bureaucrats are there for 20 or 30 years. So they're an important constituency. So when we set out to reinvent government, they were our audience. And if they liked something it would happen.

Now there are things people ask me well what did you accomplish. I said well, think about many items that 25 years ago nobody was doing, now they're standard operating procedure in the government and nobody even realizes where they came from. Well, that's because we embedded them in the bureaucracy not in the political will. Now we needed the political will for them to, you know, kind of move in the first place but what kept them alive year after year.

I do a little bit of work or I did a little bit of work in developing countries. And, of course, one of the huge problems in developing countries is they don't have a professional bureaucracy. There is no such thing. So, you know, you might get a reformed prime minister elected, you know, and the man or woman will come in and they'll do all sorts of great things and then the minute they're gone the whole things falls apart, it doesn't happen. So you see but in the developed world, there's a real value to having a career bureaucracy. Because when you get something over the hump it's likely to last.

MR. NUTTER: If I can, I just really want to reemphasize what Elaine -- so and this is said with respect. We used to talk about, I mean, you know, the people who are in the government for a long time who actually really run the government right. And we've said that's the B team and it's not a bad mark. It's here when you get here, be here when you leave, right. They run the place. They actually run the place, right. They make the things happen.

And not that I want to be known just to be my known legacy but as just one example. So, I mean, I didn't invent recycling, right, of course. I mean, the government was -- right? But what we did do, we made it easier, we put recycling on the same day as your trash day. The way to embed change and innovation is to make something so palatable, so easy, so enjoyable by the public that no one can change it.

Now they'll do a lot of things here in Philly about trash and recycling but no one is going

to change same day recycling as trash pickup, right, the public will go crazy. You've given me something I really enjoy, do not try to take it away. That's change.

MR. WOODARD: That's a really important part.

MR. LIST: I agree with that. Omar, can I answer --

MR. WOODARD: Please we're going, John. Go ahead.

MR. LIST: I'll just go fast. Just one minute how I would answer the persons question because I think it's a very good one. And I don't want people walking away from this conversation thinking big change could only happen at scale. And what they told me is that it has to be large scale to matter. It just not true. Exactly as Dana mentioned that first of all, it depends on your goals but secondly, it depends on the signature of your idea.

Like for example, humans don't scale very well. Look at the chef. Any good chef where the magic is the chef, they're going to fail if they try to go to hard with scale because that's their magic. If the magic is the ingredients like Dominoes ingredients can scale.

My brother and father are both truck drivers. And they're magic is they have the gift of gab. They can talk to people, they work with farmers, they take the farmers goods to the mill. They're perfectly happy with one truck and themselves and they have great lives. They don't have to worry about having an entire fleet of trucks. Why, because what they have won't scale. That's great, that's okay.

So I think the person is asking, what if we only have something that will work in our locality should we just give up on it, no, dig deeper, make it better. But remember, if you do have some magic that has signatures that can scale both horizontally across space or vertically do it. But we have to understand what are those signatures of good ideas that will scale and that's where we try to add science to that problem.

MR. WOODARD: That goes into the next question that just came in. On top of the challenges already discussed, what about the likelihood that human interaction works differently at small scale versus large scale. And a lot of what that could look like is to your point, you can hire 30, 40 really good teachers but if you need 30,000 that becomes more difficult.

So what are some of the ways that, you know, alternatives, not alternatives to scale but is it a series of smaller pieces or does it have to be a larger piece or can we recognize that instead of, you

know, instead of needing 30,000 teachers in once place, you have 100 places across the country that each have 30 or 40 teachers. How might you react to that? I'll start with John and work my way down.

MR. LIST: Okay I'll go really fast because the others have much smarter things to say than I do. So my first point would be it is possible in some instances to explore what the effect, for example, you brought up teacher quality might do on the benefits.

And there's a really nice academic paper written by Yuns Ludwig, John Geria and John Davis and others that essentially what they do is they explore the nature of let's say you only have to hire 25 teachers but why don't you hire them across the quality spectrum. So then that's now a way to see if the high quality teachers are leading to much bigger and better results than the low quality. And now you don't have to do that at scale, you're the good replica in the petri dish.

So our model says just like when we do experiments where we try it on different types of people, old, young, men, women et cetera, it's an experimental blocking on populations of people. What we argue is you should also block on properties of the situation and see what's negotiable or non-negotiable in your original research design because that's point one.

Point two is you brought up network effects really which was really a wonderful point. If you look at some products like Facebook or like any good that has network externalities, in the small scale having Facebook isn't really very beneficial. But if a zillion other people have it, now you having Facebook is really, really beneficial.

So a lot of our programs have these network type effects where you might not get them in the petri dish but you might have them at scale and then we're systematically underestimating the value of programs in the petri dish. One example is in Chicago Heights. It's a spillover example.

But what we find is that we randomly put people in treatment and control and we find if the control kids have a significant number of treatment kids who live by them it's like they were in treatment themselves. So I think understanding in the small scale what those network externalities and spillovers look like can really give us a lot of insight about what will happen at scale. So I think that's just a wonderful question, whoever inquired. I'll turn it over to the others.

DR. SUSKIND: Just to add to that, I don't think it's necessarily to use humans or not use humans. In general, having humans involved increases the impact and the effect of programs if done

correctly. And so, if you develop a program that requires a lot of human capital, understanding the different structures needed to ensure that fidelity continues to occur.

So for example, in early childhood development and workforce training, we know, I mean, you're not going to put your child in a daycare, a childcare center that doesn't have humans. At the same time, you know that continual professional development and coaching is necessary to have the impacts. So it's less, you know, to have humans or not have humans but to have the right structures to ensure that the program is implemented as intended and the core drivers are involved.

In that same way, having, you know, in government last with Obama, they had nudge units because behavioral nudges were all the rage and are incredibly important. In that same way I think starting to think about having implementation units to help support different branches of government who are implementing evidence-based programs are going to be critical as well.

MR. LIST: Maybe I was misconstrued. I never said not to include humans. I'm just saying humans don't typically don't scale. I'm not saying substitute robots for humans. As a father of 8 children, I think humans are important.

MR. NUTTER: You'll have a tough conversation tonight.

DR. SUSKIND: No, I wasn't implying that.

MR. WOODARD: That's very funny. I want to pivot quickly. We have about 15 minutes left in our conversation and so we're hitting the home stretch. I'd like to spend the last 15 minutes talking about something that John had referenced earlier which is the issue of an equity and scaling.

And there's a great question which I'll read directly which is how can we ensure that scaling up effective innovations is done in an equitable way reaching low resourced and vulnerable communities as well as higher income populations. As we've seen with COVID vaccines, richer places received the vaccine much more quickly than poorer places and now many developing countries are suffering.

And so, I would like each of you to kind of give your point on the issues of equity as it relates to evidence-based policymaking, understanding that data and evidence can be loaded terms, right. You know, data collected by whom, evidence to what end and who determines what in fact evidence is. So these are loaded terms and so with an equity lens on and I'd like for each of you to go around. We'll start with Mayor Nutter.

MR. NUTTER: When you started forming that question, Omar, the word that immediately, you know, kind of that word association game we play in our heads. The first word that came to my mind was intentionality. You have to be intentional about what it is that you're trying to accomplish. That means you also have to be honest about, you know, either what was or what is. And so, again you made reference to COVID.

So, you know, why don't we start a conversation by saying yes, we would actually like 330 million Americans to get a vaccine as soon as possible. We know that that will be a challenge. We also know as we've now seen with, you know, COVID sickness and death that there are significant disparities in communities of color. Black, Latino, people of color, you know, in cities, possibly in some suburban areas, maybe even rural.

Our plan is to focus on those who are most likely to get the least amount of service while at the same time we know all the rest of you who are most likely to get your own service, you know, provisions are going to be made for you as well. And not get into the false choice of well, you know, God bless the child who's got his own and everybody that can get to the right place at the right time, great for you and we'll get around to, you know, all these other folks at some point in time. Which to some extent is what happened, right.

So I think you just have to call it out, speak on it, talk about it and then take action on it.

And not be apologetic, you know, because ultimately people of means are going to figure it out to some extent. I'm not suggesting you don't have a plan for everybody but you have to call out what is so blatantly obvious in some of these situations. And then, you know, those who want to be upset about it, you know, hey sorry about that. But otherwise a lot of folks again end up getting left behind.

MR. WOODARD: 100 percent. Elaine, I want to go over to you. Talk a little bit about, you know, this issue of data and evidence with equity and then talking about evidence-based policymaking. How does policymaking address the question of evidence and equity in terms of what we want policymakers to do. Are we sure that what we're giving them is equity centered in and of itself?

MS. KAMARCK: Well, obviously the first place to start is to make sure that the design of your research, right, gives you the right data to get to the equity questions. And a perfect example the Mayor mentioned is the COVID vaccines. So my colleague at Brookings, Bill Gallston and I were

monitoring this and writing about this as the vaccines rolled out.

And in the first month to month and a half, almost no states were tracking vaccinations by race. And they were tracking them by age. So when they did track by race what was happening is since there are more percentage wise there are more older White Americans than Black Americans, we really couldn't get a good sense of this. we didn't know, is this a race problem or is this an age problem, right.

So people kept asking the question, asking the question. Eventually, the states started reporting the race data. And what we discovered was it was sort of in between. The problem wasn't quite as bad as it looked at first but it also wasn't very good, okay. Because as you went down the age, as you opened it up to younger people, there were still racial disparities.

So, you know, now that wasn't a research project but clearly what you have to do is you have to build into your data collection the equity issues. Are you looking at age, are you looking at race, are you looking not just at race but low income and race, you know, all of these things because you can't begin to get to equity issues if you don't have the data to begin with.

And it is amazing how many designs don't or can't include race because after all, I mean, if African Americans say are 11, 12 percent of the population, you know, a lot of research designs just don't get enough people in that to make any meaningful conclusions. So you've got to over sample, right, you've got to make sure that you have a big enough group that the numbers can actually tell you something real.

So I think that the first place to begin is actually with the design and that is something that is difficult and the reason it is, of course, it gets expensive, right. You want to do, you know, doing 3000 people is expensive. Doing 3000 and oversampling by 500 in order to get enough African Americans in sample the costs go up. So we run into, I think as researchers, we run into real problems doing this.

Now one solution is and the government is much better about this, the federal government is make sure that the feds produce data by race, by age, by ethnicity et cetera. Because they're the big data collectors, they've got the ability to do it. And I think that that's probably a good place to start. But if we don't have the data on equity, we can't make determinations on equity.

MR. WOODARD: John and Dana, I'll start with John. Equitable evaluation, right, you know, intentionality of, you know, of design, research design with an equity lens. How do you think about

that kind of first order or what advice might you have for the folks on this webinar.

MR. LIST: Well absolutely, it's a great question and it's evergreen. So on the one hand, Elaine is absolutely right that where you start is in the original research. And I mentioned this earlier about multi-site trials. Sort of an ironclad rule of policymaking is that on average, the policy doesn't work but it always works for some but not others.

So I think getting that in an honest way up front because there is so much heterogeneity in the world, sometimes it works sometimes it won't. When it helps one group, it behooves us to come up with other programs that might help another group. That's like first order import to generate science.

But where I would add is that when the program is actually rolled out or scaled where governments usually fail is they don't roll it out in a way where we can measure its efficacy. And they don't roll it out in a way where we can use continuous measurement to make sure that were the original promises on equity, were they actually true. Because we know the original promises because of the voltage drop aren't going to be true. But does voltage drop happen differently for different groups. Don't know.

But when we don't roll out programs at the government level in a way in which we can actually estimate did our program work, it's lunacy. And I see this all the time. People get an idea as Elaine said earlier, you have a narrative, the mayor will roll it out but then they roll it out in a way that makes it nearly impossible to measure its efficacy.

And I'm not even fully talking about rolling it out in an experiment. You don't have to. I mean, that's obviously the gold standard but there are many ways you can roll out a program using quasi experimental approaches that will at least give researchers a chance to figure out did it work at scale. We don't do that enough. We don't take seriously that each time we make policy change that's a unique moment in time in which we can measure if it works and who does it work for.

Fundamental mistake that we constantly make as humans and as institutions they have right in Silicon Valley. When we roll out something out at Lyft or I was at Uber before, you do it experimentally. Amazon is doing it. We need governments to do it as well. Because people who we serve in our governments are just as important if not more important as who is jumping in a cab or ordering from Amazon. And the fact that we don't require that and demand that from our policymakers is

beyond me. But I think we're moving in the right direction so I don't want to end on a sour note.

MR. NUTTER: And maybe that will change a little over time, John and I'm not disputing anything that you said. I mean but part of the challenge on the government side and the political side is generally when you announce something, you have to declare it a success already.

MR. LIST: That's a different problem now.

MR. NUTTER: I'm not waiting for some social scientist.

MR. LIST: I hear you.

MR. NUTTER: To tell me six months from now, six months later that your idea worked.

No, this is actually going to work it's going to revolutionize your life.

MR. LIST: I hear the kind of two counts there. One, I have to say it works. The other one is remember, even long term policies might have surrogates. It's called doing a surrogacy analysis and I understand that policymakers might not like a surrogacy analysis. But if they want the truth, even a long term policy you can estimate surrogates and if it's done appropriately at ground level you begin to get some evidence but I totally get your point.

MR. NUTTER: But the one last thing I'd add though. But the other thing that we definitely don't do in government enough is evaluate our ideas, our policies after a legitimate period of time. We don't go back five years later, how did this work. Is it still working, what else could we be doing. Because again as Elaine certainly knows, one of the hardest things to do in government is to kill a program.

A constituency has been developed, money has been spent, it was declared a success many, many years ago and nobody really wants to go back there. I mean, you really have to mess up badly to get a program killed. It really, it's either a disaster or a financial scandal. Otherwise, it will just continue on its own.

MR. LIST: Can I comment on that? Dana, I'm sorry I don't want to take your time. But that's an even bigger reason why we have to get it right at the beginning. Because when we roll out a policy that doesn't make sense, it's -- you're right, it's nearly impossible to undo it and that's exactly why we need to understand signatures of ideas and policies that work in what is actionable evidence and take that part seriously.

MR. WOODARD: Dana.

MR. NUTTER: We've got to get Dana in. In the green room, she did threaten me with a scalpel so I want to speak up for Dana. I'm not sure what she was going to do but I want to speak up for Dana.

DR. SUSKIND: It's easy to pontificate left. The bottom line is that I got into this work because I truly believed that science can be the core to social change. And equity needs to be a fundamental framework to go forward. So often as Mayor Nutter, you know, notes, these advances actually only widen, you know, gaps. And, you know, for us to really make good on it, equity needs to be at the forefront.

In addition, I think the beauty and the importance of science that populations need to buy into is that so often and I saw this firsthand in developing programs. People so want to make positive change in the world. So every stakeholder wants the best. But so often, things are sort of pushed forward based on gut and sort of ideology and these frameworks and maybe we need to just clone Omar and Results for America embedded into the bureaucratic aspect, the government will ensure that.

Because there are so many, you know, so many different issues related to all stakeholders and we need someone holding our country accountable in our policies and our researchers accountable. So I don't have much to add other than, you know, this is a critically important aspect to the work. Equity is at the core.

MR. NUTTER: We're good with the one Omar here in Philly.

MR. WOODARD: Oh yeah, I think so.

MR. NUTTER: Not sure we could take a second one.

DR. SUSKIND: Is Omar scalable.

MR. WOODARD: I don't know, I doubt it. Listen, we have now five minutes left and I want to give the opportunity for each of you to provide a one minute kind of close on what you heard today, some high level reflections.

I'll start with Elaine if you could kind of just provide your overview, brief thoughts and/or advice for those who are listening. We had over 800 people sign up. We have close to that number who are participating. So any thoughts you have, final thoughts would be wonderful.

MS. KAMARCK: You know all I'll add is on the final discussion here, there is the Evidence-Based Policymaking Act of 2018 and the federal government is supposed to be, when it designs new programs, it is supposed to be including a comprehensive evaluation of the program in the legislation. So that's a huge step forward.

Now of course as those of us in Washington know, there is a difference between authorizing something and appropriating it. Which means that sometimes these things are in the legislation but nobody ever gives them any money to do it so they don't always work. But I think that was a big step forward.

And it gets around the political problem that we've talked about so much here. Because what it allows is a program to go on. Sometimes you need a lot longer than a president's term in office or a mayor's term in office to figure out if something is going to work.

Because after all, the bureaucrats who are implementing it, they're doing fine tuning as they go along, right. They're fixing this and they're fixing that and they're saying oh, that doesn't work and this doesn't work. So sometimes it just takes a while to see if something is worthwhile or not. Therefore, having it embedded in the legislation from the beginning is I think a very important step towards getting evidence-based policy in our political and governmental life.

MR. WOODARD: Elaine, thank you so much for a wonderful almost hour and a half. It's a great conversation so far. I'll go over to John.

MR. LIST: Thanks Omar. Once again, I want to thank Brookings for putting this together and the other panelists. Thanks so much for participating. Now for my one minute, I want to go back to when I worked in D.C., I learned a very harsh lesson early on. I learned that you have to evaluate the effects of public policy as opposed to intentions.

Now we spend billions on governmental social programs every year from welfare to jobs to education to new mothers to various health programs. All great policies on the face of it. Now improving the quality of our lives should, of course, be the ultimate target of these public policies but the public policies can only deliver fruit if they are based on reliable tools to measure their improvement.

What we're advocating here today is the only way to achieve that goal is to understand the science of using science. Now our research advocates flipping the traditional knowledge creation

model from evidence-based policy to policy-based evidence.

What does this call for? This calls for scholars to place themselves in the shoes of policymakers whom they're trying influence. Understand that constraints at scale and when you put forward successful interventions, you should look at what it looks like fully implemented in the field, applied to the policy relevant subject population, sustained over a long period of time and working as it is expected because its mechanisms are understood.

In the end, experimental techniques and empiricism have been just a great boom for policymaking in the past several decades but we're never really going to achieve the great promise of science until we understand the science of using science.

MR. WOODARD: That was a great summation. Mayor Nutter.

MR. NUTTER: Sure. I encourage everyone, make a plan, work the plan, stick to the plan, pay attention, listen to other voices out there. Don't be afraid to make change or change how you're doing things. But do not get distracted by the negativity and nonsense of some and the loud voices of a few. Stick to the plan.

MR. WOODARD: Great advice. Dana, we'll wrap it up with you.

DR. SUSKIND: Thank you so much. I'll keep my comments short. You know, the science of using science and understanding scaling is without a doubt one of the most critical issues that we face. It's the key to a fiscally responsible government and to truly giving our population a better quality of life.

It is a team approach and it's not one that's going to be answered quickly but we need to move forward. I do want to just say now much fun this was. What a great group, thank you. Elaine and Mayor Nutter and Omar and you too, John. This is an issue that at the TMW Center we are closely studying and hope to engage more and more individuals and organizations in conversations like this. I thank you all.

Stay tuned for information on other events that we're going to be hosing with Brookings and we hope to plan to dive in even deeper into the challenges and opportunities of scaling in early childhood and far beyond. So thank you so much for involving us.

MR. WOODARD: And thanks to everyone listening who spent 90 minutes with us

learning about the science of scaling. Thank you very much, Elaine, John, Dana and Mayor Nutter for your involvement and commitment and engagement here. I think everyone listening learned a whole lot about the work you do and what an incredible panel of expertise. Thank you all so much. I'll sign off. Thank you. My name is Omar Woodard. I'm the VP at Results for America. Thanks for being with us here today. Take care everyone.

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