Unraveling the Digital Tapestry: Pitfalls and Potential for Impact

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[Intro] Stuck? Wish you knew more? Well, listen up. The information landscape is changing rapidly and the communicators of today want the latest and greatest insights for action at their fingertips. *Listen Up!* is a podcast series brought to you by the CDC Office of Communications. In this series, we highlight hot topics with thought leaders, innovators, practitioners, and more. So, listen up and lean in as we share information to help you grow your knowledge base and improve your practice. Oh, and don't forget to tell your colleagues about us.

[Betsy Mitchell] Hi, I'm Dr. Betsy Mitchell. Welcome to this episode of Listen Up. At any given time, millions of consumers around the world are online, seeking answers to their health questions. And for public health communicators, the channels to reach audiences are vast and growing. Demonstrating the influence that health messages have on consumer knowledge, attitudes, and behavior in the digital environment is complicated, yet incredibly important to our field. Today I'm delighted to unpack this issue with Dr. David Lazer, who is a distinguished professor of political science and computer science at Northeastern University. He is affiliated with the College of Social Sciences and Humanities and the Khoury College of Computer Sciences**.** David is an elected fellow of the National Academy of Public Administration and visiting scholar at the Institute for Quantitative Social Science at Harvard University. He co-directs The NULab for Texts, Maps, and Networks at Northeastern Center for Digital Humanities and Computational Social Science. Dr. Lazer's work has been covered by hundreds of news outlets, including The New York Times, NPR, The Washington Post, The Wall Street Journal, and CBS Evening News. David, it's so great to be here with you today.

[David Lazer] Oh, it's terrific to be here, Betsy. Thank you for having me.

[Betsy Mitchell] David, last year in March, the Board on Science Education at the National Academies of Science, Engineering, and Medicine, or NASEM, hosted a workshop titled, Effective Health Communication within the Current Information Environment and the Role of the Federal Government. It was a really interesting couple of days. You spoke on a panel focused on the data infrastructure needed to better understand the health communication ecosystem. Take us back to that discussion. How would you describe the current ecosystem?

[David Lazer] Sure, well, you know, as a researcher, I'm trying to understand how people, both as individuals and collectively, get information and how 21st century information communication technologies have affected that, and if you look at the body of research in this space, I think that researchers have studied some systems way more than others. Twitter, now X, accounts for a vastly disproportionate share of research in this space. And not only that, but we typically, when we look at study Twitter or other platforms, we're looking at what is shared, but not what is seen. And there's a potentially big difference between sharing and seeing. And very little of the research on the internet, some, but it's more than zero but a small fraction actually looks at what people see and also doesn't really look at the interaction. In some ways we're all in this conversation with technology, right? Where our technological systems, of course, if we're searching for something on Google,

we're putting in some words. If we are on Facebook, we are putting some stuff up, we're clicking on some stuff, we're liking other stuff. And there's a way in which we are in dialogue with the technology and actually very little of the research looks at that dialogue because it's hard to see what people are seeing, it's hard to see that dialogue. It's much easier, say, to get some tweets and see what people have posted on Twitter. But that's actually, while that's important, it's actually missing probably the most important thing of all, which is what people are seeing and that dialogue between people and the socio-technological systems that they're communicating in.

[Betsy Mitchell] So, David, what you're saying is that we really need a window into human interaction with online channels to have the full picture.

[David Lazer] Exactly, exactly. We're not generally seeing what Facebook is showing people. We're not seeing what Google is showing people. We're not seeing what Twitter is showing people or X. And so, we're really generally missing what people are seeing and especially we're missing what people are seeing in those giant platforms that dominate the internet. We're not seeing what people are seeing on Amazon or Netflix, and so the list goes on and on. And you know you get hints of it in some ways, but generally we're missing 90-99% of what is arguably the most important thing.

[Betsy Mitchell] So, let's shift gears and talk about the National Internet Observatory, the novel study that you direct at Northeastern that aims to understand how people behave online. Tell us a little bit about it.

[David Lazer] Yes. The National Internet Observatory is a large National Science Foundation funded, data infrastructure. And the goal, the scientific opportunities we're trying to open up is to evaluate people's online experiences, especially prioritizing knowing what the internet shows people. So, as I mentioned earlier, one of the big missing pieces of research has really been studying or really focusing on what people see and how they have that dialogue with technology. And that's exactly what we are aiming to support. And the goal is not mainly for us, for the folks at Northeastern to do research, but it's really sort of like building a telescope for scientists to come and use and to look at the internet. It's to share data in a privacy preserving way for the participants that allows us to understand what the internet is doing, how people are searching for health information when they get exposed for health information, or other kinds of information. It's not just about health. It's about more generally how people seek and get information. We really hope to better understand that dance between the internet and humans on the internet, which is like the vast majority of human society right now, not just in the US, but globally.

[Betsy Mitchell] And can academics and practitioners use the platform now?

[David Lazer] Not yet. You know, there's a lot of engineering that's been taking place, but we're actually getting very close to the start line. I think we're likely to have our first external researchers using the observatory this spring. We're going to start with a small set of researchers who will help us deal with any early bugs in the system. And then hopefully late in the year, we'll open up more widely to external researchers to ask the questions that they're bringing to the table about the internet and how people get information.

[Betsy Mitchell] It sounds like you're at a very exciting place in your process, so what's next for the observatory?

[David Lazer] I think 2024 is a big year for us. So, we are currently scaling up data collection. So, we've been doing various pilots. So, we have like maybe one to 2000 people who we are currently collecting data from. These are people who volunteer to participate. And so, we're scaling up the data collection then we're sort of scaling out. So, like by scaling up, I just mean larger samples. So, I'd like to get from one to 2000 to five to 10,000. Getting participants is the major cost. So, there's a question of also figuring out a cost-effective way of recruiting participants. By scaling out, I mean expanding the places that we collect data from. So not the platforms, mainly the platforms and the places on the internet that we collect data from. So right now we are only collecting data from browsers on desktops or on laptops. So, if you're participants in the study right now, we're only getting information from them when they're on their laptop, and if they're on their mobile device or on their tablet, we're not collecting data from them. We are launching data collection from mobile devices. In particular, Android devices and what you get from Android devices are different from what you can get from browsers on laptops, but there's a lot of somewhat similar information you can get. And so that's the scaling out that I'm talking about, that we will be launching data collection from Android. And then this summer we plan to be collecting data from iOS. So, Apple phones have a completely different operating system than Android and the data collection works differently so we are furiously engineering data collection from iOS systems, from Apple phones right now. But that's going to take six months or so to get in the field. This is not trivial engineering to do, in part because we want to get the data, we want to do it in a secure way, we want to make sure that it's all good for the participants, meaning it doesn't affect their performance of say their phones and that it keeps their phones totally secure and so on. So that's the scaling out. And then the third big thing really will be getting access to external researchers. That's our primary mission. It's like building a small business. We are trying to develop this incredible tool to allow researchers to study what's happening on laptops, on mobile. It would be great eventually to get to other devices like, Alexa devices from Amazon or the equivalent from Google and so on. And so we would really like to develop this as a way to deeply understand the effects of each of these things on the information we get and how we connect with each other.

[Betsy Mitchell] And right now it's only the companies that have that sort of backdoor, that view of what's actually happening with customers
.
[David Lazer] That's right, and even the companies have…In some ways they have this incredibly comprehensive view because they can see everything that happens in their platforms. But in another way, they have a very narrow view, right? They have a narrow but incredibly deep view because they can see what happens in their platforms, but they're not really looking at the interplay among platforms.

[Betsy Mitchell] The observatory will undoubtedly help to paint a more complete picture of the role the Internet plays in society. It will be so exciting to follow your progress.

[David Lazer] Thank you. We are very excited, and we certainly already have researchers from many different fields, from communication to people interested in mental health and how our use of the internet might affect our mental health, to help people get information about events of the day.

And so, there's this really vast array of interest in the platform and I think it could make a big difference on understanding contemporary society.

[Betsy Mitchell] So, to close what are the takeaway messages for public health communicators?

[David Lazer] Well I hope that we learn a bunch of things that are useful to public health communicators. So, we could imagine asking or answering questions, asking and answering a question like, how much do people see content from public health sources? How much do they see content about health from other sources, right? How do they get there, right? Is it through Google, is it through Facebook, we could see how much of the content they see on TikTok is about health, right? There are ways we could look at the kinds of language or videos that people are seeing and how much of that is health related. And so, we could really get a, not only just the information, understanding the quality of information people are getting and how do they get to high quality information, how do they get to low quality information, but also things like what platforms are getting them to high quality places or to low quality places. And then we can even link that in turn to what they believe and what they do after. And so, we may be able to really chart out that whole pathway of people have a health question that they want an answer to, or maybe not even that they know they need an answer to, but they get exposed. How they get exposed to information through that dialogue with technology, and then what are the effects down the line in terms of what they believe and what they do in terms of health behaviors. And so, I think the observatory could be uniquely powerful in illuminating each step along that way. But my hope is that five years from now we can do another podcast and I'll have a lot more to say.

[Betsy Mitchell] Thanks David, I'm going to hold you to it.

[David Lazer] Thank you so much for having me, Betsy. It was really a great honor.

[Outro] Findings and conclusions in this discussion do not necessarily represent the official position of the Centers for Disease Control and Prevention. We hope you enjoyed this podcast. You can find past episodes of Listen Up archived in the CDC public health media library and at CDC.gov/listen up podcast. CDC, protecting health, improving lives.

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