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Q&A with Justin Denney from Washington State University

March 29, 2018

By Monica King

[Justin Denney](#) is Associate Professor and the William Julius Wilson Distinguished Professor of Sociology at Washington State University. We spoke to him about his work using electronic health records in Houston and Washington State, and his experience working with administrative data. Justin can be reached at justin.denney@wsu.edu.

This interview has been lightly edited and condensed.

Monica King: As a sociologist and social demographer, how did you become interested in using administrative data?

Justin Denney: I became interested in using administrative data because I was frustrated by using only survey data to try and understand how places influence individuals. At the time, I was also in Houston, Texas, right across the street from the largest medical center in the world, learning about some of the changes to electronic health records and whether or not they would become available to researchers. Part of my entire career has been trying to figure out how to use data that exists but haven't been used for research purposes. For the kind of work that I do, electronic health records seem to kind of fit that mold. Ultimately, it was a combination of being a little bit frustrated, but also just a little bit curious about what we could possibly do with those electronic health records.

MK: And tell me a little more about how you worked with electronic health records and the research that you've conducted using those data?

JD: With my collaborator Rachel Kimbro at Rice University and the medical center, we put together a multi-institutional and interdisciplinary team to link electronic health records to a variety of place characteristics in Houston to better understand how places influence individuals.

We worked with the School of Biomedical Informatics at the University of Texas located in Houston to compile several years of EHR data in Houston. After we got that going, Rachel [Kimbro] started working very closely with some folks in Texas Children's Hospital and led an initiative to get us access to pediatric records from the Children's Hospital.

At the same time, we were trying to build databases on place-level characteristics in Houston that we can then link to the electronic health records. We partnered with a number of Houston entities, including the Houston Police Department to get Houston crime data. We also purchased Walkscore data and used basic Census demographics and data from a few other sources.

Our research uses that linked database has looked at how places influence pediatric asthma and other chronic health conditions in Houston. We've published a few [papers](#) and are currently working on some projects that are looking at the pediatrics records.

Since moving to Washington State University, I've been doing similar work, working with interdisciplinary teams to try and create a research network linking electronic health records data from clinics in rural and underserved areas to place-based characteristics here in Washington state.

MK: Can you speak about the importance of working on an interdisciplinary team for administrative data research projects?

JD: The short answer is that it's absolutely essential. It's impossible to do the kinds of the things that I'm interested in without an interdisciplinary team.

For example, in Houston we partnered with physicians and computer scientists who work in the informatics world. They're able to take these electronic health records and put them in a format so that we can analyze data the way that we're used to. From a technical standpoint, there's a pretty huge learning curve for someone like me who wants to learn how to put this data into the correct format so that we can analyze it.

Once we actually got into the substance of the research, one of the things that we learned right away is that when you talk to physicians about medical records, it's about the furthest thing from black and white. It's not that a patient comes in and clearly presents with a certain condition and are coded as having that condition. It's a very intricate and complicated process that physicians are trying to navigate as they're seeing patients and trying to do the best for their patients. Having those insights in terms of what the data actually means and what it represents is just impossible unless you're talking to folks who are on the ground and doing the work.

The kinds of analytical skills that sociologists and demographers develop are also unique. Those skills are not the kinds of skills that my other collaborators have in terms of taking that data and doing population-level analysis of the data. That's what I bring to the team in terms of conceptualizing the ideas of what we can do with data and following through with the types of analyses that will help us get there.

MK: Looking forward, what resources do social scientists like yourself need in order to leverage the potential of using administrative data for research?

JD: That's a good question. There's a few things when I think really large scale. We need established data networks where data like this can be accessed. Similar to the Minnesota Population Center which compiles nationally representative surveys over time and makes them readily available for researchers to download and work with that data. Clearly there are a lot more confidentiality and privacy concerns with restricted administrative data. But in the grand picture, something like that would be what we need

to really start to utilize the kinds of information that are out there that we're just not even beginning to utilize right now.

Beyond that, we need funding to explore these things and build these networks. Using administrative data is one of the more exciting things that I've done, but it's also one of the most time-consuming and work-intensive things that I've done as well. For example, here in Washington, when we want to use electronic health records, we're talking about a relatively sophisticated operation where we need to go out and talk with clinics, find out what they need and what we can provide them to incentivize them to let us use their clinic data for research purposes. That alone is unbelievably time consuming.