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www.reachmd.com
info@reachmd.com
(866) 423-7849

Coordinating COVID-19 Care at a Native American Reservation

Dr. Birnholz:

Coming to you from the ReachMD studios, this *COVID-19: On the Frontlines*, and I'm Dr. Matt Birnholz. Joining me today to share public health experiences coordinating contact tracing within a Native American reservation in Arizona is Dr. Ryan Close, an internist and medical officer with the Indian Health Service. Dr. Close and his colleagues have been working with the staff and community members of the Fort Apache Indian Reservation in Whiteriver, Arizona, to deliver care and contact tracing for COVID-19 patients onsite.

So Dr. Close, to get us started, can you share some more details about the setting and patient population you've been serving, and any unique challenges faced implementing contact tracing in response to the COVID-19 pandemic?

Dr. Close:

Where we work in Eastern Arizona, particularly serving the White Mountain Apache Tribe, is working with a population that lives in rural America, which means that there are always going to be issues with access, difficulty getting to the hospital or getting to healthcare. The reservation we work on is about the size of Delaware, and about 16,000 people live on it, and so it's a big space that's served by 1 sort of acute care access hospital, so transportation and access is always an issue. So, when it comes to contact tracing, being able to identify those individuals who need to be evaluated or tested, each patient and/or provider somewhere in that chain of who's going to get tested and who's going to get interviewed has to bridge that distance to provide those services.

And then in rural America, I think there are a lot of issues with connectivity and telephone or Internet access. A lot of contact tracing is done at least initially through the phone. If you look at sort of the traditional contact tracing model that takes place in just about anywhere else in the United States, it's a lot of phone banking. When I say that I mean people using the phone to do their case investigations, to reach out to the person who's recently tested positive and then using the phone system to reach out to all the potential contacts of that initial case. The issue we have here is that there are a lot of people who either don't have cell phones or don't have good cell phone access making using those systems difficult, and that's why we developed a program by which we physically reach out to them and go to their doors.

Dr. Birnholz:

So let's get a better sense of that program. Can you walk us through how your team set out to achieve contact tracing, which as protocols go, I have to assume evolved pretty rapidly in this context of COVID-19?

Dr. Close:

I think when we first identified the index case of COVID-19 for the reservation, we had a traditional contact tracing model in place. We, perhaps, naively believed that with a team of 8 to 10 public health nurses and myself, a physician epidemiologist, that as the cases moved along we'd be able to do each case investigation and then use a traditional contact tracing model to reach out to each contact and then reach out to those contacts on a daily or regular basis using cell phones to inform them to isolate, to quarantine, and to check on their symptoms. Those who then go on to develop symptoms we would then refer into the hospital to get tested or clinically evaluated depending on those symptoms.

We very soon through our process, probably within the first 2 to 3 weeks, realized that there were more cases and contacts than we'd ever be able to keep track of even if we doubled, tripled or quadrupled the size of our contact tracing team, so we had to pivot our objectives and focus more on those people who we were worried about having bad outcomes in the event that they contracted COVID-19—people we refer to as high-risk patients—and less focus on those who were low-risk cases who were less likely to have bad outcomes from COVID-19, and that pivot was done partly out of necessity because we simply didn't have the manpower to reach out to every single contact on a regular basis when there were new high-risk cases occurring on a daily basis.

Dr. Birnholz:

So with that being said, Dr. Close, how did you coordinate care with the local hospital and clinicians onsite, while establishing trust from the surrounding community itself?

Dr. Close:

I think what makes our setup relatively unique when you look at healthcare systems around the country is that as an Indian Health Service unit, we are both the medical hospital with an inpatient and outpatient, various ancillary services like dental and physical therapy, but we are also the public health authority that serves this tribe, and as such it assisted us in coordinating our public health outreach efforts for the purposes of tracing and chasing COVID-19 and then quickly being able to connect persons who needed clinical care back to the hospital.

We are also very fortunate to have an excellent relationship with the tribe that we serve. I think each service unit or hospital or agency has a different relationship with the tribe that they serve. There are hundreds of tribes in the United States, and we are just blessed to have a very good, productive relationship with the tribe that we serve. And specifically, they have their own division of health programs that provided community health representatives that assisted with providing wraparound services for all the COVID-19 patients. To give an example, what would often happen is we would be notified of a new COVID-19 case as the public health authority. We would share that information with our colleagues or community health representatives and the division of health with the tribe. We would do the case investigation and primarily lead all the contact tracing efforts. The division of health in the tribal services would follow behind us and ensure that those households who we have identified that had either high-risk contacts or COVID cases received boxes of essentials and food to help those families in those homes isolate and quarantine, because I think another thing that we quickly learned in the early stages of the epidemic is that you can do all the case investigating and contact tracing that you want and spread the word about isolation and quarantine, but if people don't have the capacity, meaning they don't have enough supplies to stay home for the requisite 10 to 14 days, they're not going to. They're going to go to the store. And so, to support them to isolate and quarantine, you need to provide the essentials that allow them to do that safely, and our tribal partners were huge in making that a reality.

Dr. Birnholz:

Last question to you, Dr. Close, given these steps you and your team have taken to improve COVID-19 contact tracing in this community: what are some lessons drawn from your experience that you think others should incorporate into their protocols going forward?

Dr. Close:

Some of the lessons I think that we could share that other people can learn from have to do with, 1) the approach to contact tracing in general, and 2) how to take some of those lessons and maybe to put them into specific practices. But the primary lessons are don't think of contact tracing as this cut and dry epidemiologic tool, that contact tracing should be adapted for the population that you serve and the circumstances that you're in.

Looking back historically, contact tracing has not really ever been used for such a transmissible respiratory infection like COVID-19. We haven't really used contact tracing to trace things like influenza in the past, with a few exceptions, and so we were taking a tried and true epidemiologic tool and applying it largely to new circumstances, COVID-19. So, to take the old contact tracing model, traditional contact tracing, and apply it to COVID-19, I think there's no doubt that it was going to break in some way, and so our experience in sort of seeing how that wasn't going to work out—namely the ability to keep tabs on every single contact of every single case for an intermittent period of time was just not going to be possible without a staff of contact tracers, that we were never going to be able to put together in the time that we needed to, so we had to shift our objectives, and for us that primarily meant shifting away from reaching out to and touching base with low-risk contacts who were either unlikely to manifest disease or were unlikely to have bad outcomes from COVID-19 and focus instead on elderly and high-risk individuals.

The second lesson was how, by going to people's homes, we realized the utility in doing in-person contact tracing, and that was by collapsing all the typical services that are distributed among a team but making 1 person both the case investigator, the contact tracer, the tester—because our contact tracers are equipped with nasal swabs who can collect point-of-care testing on-site and bring it back to the hospital for testing—but they are also clinical evaluators. When I say that I mean that they have pulse oximeters and thermometers with them, and so, when they are doing the case investigation or contact tracing, they can assess people for some basic symptoms, and anybody who they think is either high-risk to have bad outcomes, who might have the “happy hypoxemia” that's been spoken of frequently in COVID-19, we can quickly clinically evaluate them and check their pulse oximetry and check their oxygenation, and if it's poor, then they can bring them into the hospital sooner—not bringing another person to do all that same evaluation when they are already there on-site. So, just the sheer utility of having people on-site doing door-to-door tracing very much sped up our contact tracing efforts and our ability to trace and chase the disease through the community.

My hope is that people will start rethinking about their contact tracing models in the communities they serve, maybe moving away from the phone-banking strategy in which cities or localities are all often already broken up into neighborhoods, and perhaps we should all be thinking about how do we hire people in those neighborhoods who know those neighborhoods to do the home visits, to do the contact tracing in person. And then, because they'll be on-site and face-to-face, if anyone needs a quick pulse-ox check or a thermometer check, they are already there to do so, or if they need testing, we can train people to test in the field as well.

Dr. Birnholz:

Well those are great lessons for us to take with us, and I want to thank Dr. Ryan Close from the Indian Health Service for joining us to share his experiences with contact tracing in the Fort Apache Indian Reservation in Whiteriver, Arizona.

I'm Dr. Matt Birnholz, and this is *COVID-19: On the Frontlines*. For more episodes targeting COVID-19, and to add your perspectives on the fight against the global pandemic, visit us at ReachMD.com and become Part of the Knowledge. Thank you for listening.