Bob St. Peter: Hello, I'm Bob St. Peter. I'm a pediatrician and the former president of the Kansas Health Institute. I'm here today to interview Dr. Gianfranco Pezzino. Dr. Pezzino served as the state epidemiologist here in Kansas, was the health officer for the local health department here in Topeka and a colleague of mine at the Kansas Health Institute for many years. Thank you for joining us today.

This interview is part of the Kansas Oral History Project, exploring issues in Kansas. The Kansas Oral History Project is a nonprofit corporation that collects and preserves oral histories of Kansans. This series is supported by donations from generous individuals and a grant from the United Methodist Health Ministry Fund. Our videographer is former Kansas State Representative Dave Heinemann. Gianfranco, thank you for being here.

Gianfranco Pezzino: My pleasure, Bob. Good to see you again.

BSP: Tell me a little bit about your personal history and your career path that landed you here in Kansas.

GP: Sure. It's probably fair to say it's not a linear path. I'm from Italy. I grew up in Italy. I went to medical school there. I graduated, and I couldn't find a job that really would turn me on and would give me enthusiasm. I already liked traveling back then. So, I decided a couple of years after graduation to go and work overseas. I spent several years working in Africa. I really loved it. I thought that would be my lifetime career. I had already envisioned myself as WHO [World Health Organization] or a UNICEF official down there. That worked out well until I met the girl.

The girl happened to be from Newton, Kansas. To make a long story short, we dated across the ocean for a few years, and then that really was getting old because the ocean is very big. We decided to get married and start a family. At that point, that career in international health was no longer very appealing because once you start getting into babies and schooling and stuff like that, things become much more complicated. So, it was a kind of a natural transition. We decided to relocate to the United States.

So, we came to the States. I spent about three years in training, the first year at Johns Hopkins, the other two years with the CDC doing a fellowship in epidemiology. Then I came to Kansas in 1994.

BSP: That's great. And she had family here at the time that you guys relocated.

GP: She has family here. That was one of the reasons that we came to Kansas because she was a Kansan girl. She was from Newton, Kansas as a matter of fact.

BSP: That's awesome. We're glad that she brought you back here, that she got you to Kansas. When I first met you, you were the state epidemiologist. What is an epidemiologist? Tell me what that role involved.

GP: An epidemiologist, I had about eighteen years of practice trying to define epidemiology with my kids. “Is it skin stuff?” “No, not epidermis—it’s epidemiology.” In a nutshell, it’s really disease detective. That’s the easiest way I have to describe it. These are trained professionals, not necessarily physicians, but many of them like me are physicians who try to follow clues to understand the diffusion of certain diseases or conditions and what causes them. Then, of course, the next day would be how you can prevent them and cure them.

We typically work on aggregate numbers. Even though I’m a physician myself, I haven’t really done clinical care since I left Africa, back in the late eighties. Everything else I’ve done has been in epidemiology in the following thirty-four years was on big groups of people. It was not on individual patients. That’s perhaps a rather important characteristic of epidemiologists.

BSP: So very much of a public health perspective rather than individual medical care.

GP: Yes, population health, public health, and groups.

BSP: I remember that you used to wear a big beeper when you were the state epidemiologist. When you came to KHI, you said that you were glad you didn’t have to wear this.

GP: If you remember, I asked you, “Where is my beeper?” You said, “You don’t need it.”

BSP: But you wore it 24/7 for many years.

GP: Yes.

BSP: Why would a state epidemiologist beeper go off? What kind of things would happen?

GP: Let me just give you a couple of examples. You may remember after 9/11, several months after that, there was a little outbreak of white powder being mailed to sensitive and important, prominent individuals. There was a concern that that could be an act of what we called back then “bioterrorism,” meaning the white powder could be dangerous. It could be infectious. It could cause disease.

So, there was a period of several months where any white powder that was found anywhere in Kansas, I would receive a call. “There is white powder here.” We had to triage. Some things were clearly, they didn’t need any action. Other things would be more concerning. So, we’d investigate, especially things that are mailed to people. At that point, my beeper was going off almost daily.

Another example that I have is one day I was driving my car to Kansas City Airport. I was on my way to the CDC [Centers for Disease Control] for a conference. Just about halfway into the drive, my beeper went off. When I called back, they said, “We have a case here in the hospital in Leavenworth, and it looks like smallpox.” “Wait a minute. That doesn’t sound right.” I know you know, but just for the rest of the audience, smallpox is a disease that was eradicated decades before I received the call. There hadn’t been, and still today, there hasn’t been a single case

reported for many, many decades. But there was a concern that foreign agents could reintroduce the virus. There were still a couple of places where the virus was available.

So, it was something to take seriously. After a couple of phone calls, I was still driving, I decided to forget about my trip. I was already in Leavenworth. I went to the hospital. Within a few hours, we were able to rule out smallpox. It was actually something called monkeypox, which these days, actually today is something that there has been an outbreak. Back then, it was the first case reported in the United States for I don't remember how many decades. It took specialized lab tests to diagnose it, but it was through the epidemiology work that we came to the conclusion this was a low-risk situation. The person hadn't been in contact with anything that could remotely suggest an infection with smallpox. There wasn't any contact with animals, so probably monkeypox was more likely.

BSP: I see where the disease detective comes from through those two stories.

GP: That example was really a work of the detective, yes.

BSP: You've seen how public health systems operate in other countries and in the US, lots of other states. You've worked at lots of counties and cities around. What does the public health system look like in Kansas between the federal, state, and local roles?

GP: You're absolutely right. There are three levels of public health—local, state and federal. I was lucky enough to be able to work at all three levels at different times in my career. The first thing I tried to explain when people ask me this, it's not a hierarchy. The fed doesn't give orders to the state, which doesn't give orders to the locals. It's a joint effort essentially. The second thing is that most public health is really local, at the local level, both in terms of authority to run public health programs and in terms of actual action. I mean, the people that do the work, boots on the ground. They are 99 percent people who work at the local level with the local health departments.

And states have different models to organize public health, but in Kansas, we have what we call a decentralized system, which again emphasizes the fact that the main responsibility is at the peripheral level, the county level, or at the city level in the case of Wichita or Topeka. So, there are 105 counties in Kansas, and each of them is covered by a health department. There are not 105 health departments because a few of them decided to join efforts and cover more than one county.

Then there is the state. The state has a very important role in that. I was state epidemiologist for about ten years. It's mostly the role of establishing guidelines and protocols so that the ninety-five, ninety-eight health departments don't all work independently to the point that you never know what to expect from Health Department A as opposed to Health Department B and C.

BSP: You mentioned Wichita and Topeka, but there are a lot of communities and counties in Kansas that are very small, have very small populations. How does that work with having the same responsibility for the health of the community in Rooks County compared to Sedgwick County?

GP: That's a big challenge because it depends on how you see your own public health goals as a local health department. Traditionally, for many years, especially small local health departments were limiting themselves to what we call personal preventative services. So, immunizations is the typical example. They would take the kids in, get the shots, and then the kids can go back to school and meet the school requirements.

Over the last ten, fifteen, probably even twenty years, the concept of public health has expanded to encompass many other domains, many other areas, and that's where a small health department may find difficulties in addressing all those areas. So, a few of them have decided—

BSP: Like what kind of areas, just to give me an example?

GP: Chronic disease is definitely the first one that comes to mind—try to prevent and manage chronic disease at the population level is not the same thing as giving shots to babies. You need programs that are long term. You need very strong health education messages. You need somebody who knows how to develop these messages.

BSP: This can be more challenging for smaller—

GP: They can be more challenging for a small health department because they don't have the knowledge and the skills. They don't have the staff to do that. Now, some of them have decided to join efforts. If I'm a small health department, I can't hire a communication director because my budget doesn't allow that, I can join efforts with the two health departments next to mine, and maybe between the three of us, we can hire a communications director. I think that's a great model. I wish honestly that it could be used more often, but there is still a very strong sense of independence and local control. You know Kansas. You know the local control is extremely important. The analogy is the controversy around closing school districts when they become so small that they are not sustainable, and people don't want to close them even if there are only five kids enrolled. Something similar happens at the local health department level.

BSP: One of the roles you had at KHI was running a national program looking at how small local health departments can work together to maybe provide some of these important functions of public health. What do you think was the most important thing that you learned from that experience?

GP: Boy, there were many things that we learned from that experience. Perhaps the single most important thing is that everything starts with trust. That was perhaps one of the barriers we were facing here in Kansas. Local politics can become really complicated.

BSP: Yes.

GP: Not just in Kansas, but elsewhere. I remember an example from my experience that you were referring to of two health departments that really hadn't talked and worked with each other very well for the past twelve years. When we investigated why, "Why are you so upset?" it went back to a certain high school game in a certain year where a certain player did something that the

other team didn't like. From that point on, the two communities had a lot of hostility against each other. In the absence of a level of trust, you can't really say, "But now your two health departments can hire a communications director together." It's not going to work.

BSP: I'm going to come back to trust a little bit later when we talk about the pandemic and how public health sort of functioned in that world. But talking about counties and how they may be different, another thing that you got very involved with was developing a set of rankings to try to understand how health at a county level might vary across the state of Kansas. Tell me a little bit about rankings and why you like them or don't like them and how they can be helpful.

GP: We started the county health ranking project, which then became independent from us, a national project done in all the states. But we were actually the first state that did that before the national project was implemented. The appeal to me was the fact that for the first time, we could really measure health using the same parameters everywhere in every county. Now we can compare these counties and when people say, "Oh, no, this is not possible. We cannot do that." I said, "Look, they're doing that in sixteen different counties in Kansas," or whatever the number was, "Your peers are doing that." "So, this is what brings you down in the ranking by the way. If you could do these two programs, your ranking would go from 75 to 13." I'm making the numbers up, of course.

That comparison element is really important. It's very hard to make sense of numbers if you cannot put them in perspective. Compared to what? Is that too much? Is that too little? Compared to what? So, the ranking allowed that.

BSP: People don't necessarily like to be compared and ranked. What were some of the experiences or lessons when you did put out these rankings? How did communities that did well or the communities that did poorly, how did they respond to that?

GP: Very differently. Those who were at the top loved it. Those who were at the bottom hated it. Those who were in-between were trying to decide if they liked it or not. But that was part of the conversation. Obviously, over a period of time—we did the rankings every year for many—I don't know remember how many, more than ten. In the end, I became more and more convinced that the important thing was not the numbers. It was the communication that we could build around those numbers.

So, it became a communication tool. It became an opportunity to talk about these issues. The most helpful thing that I think we could do in the last four to five years that I was involved with the rankings here in Topeka was to go in front of the Board of Health in Shawnee County and say, "Hey, we have these rankings. These are the numbers. These are the areas where we are doing well. Thank you for funding the mental health project, by the way. And these are the areas where we could really improve. Look at how many counties in Kansas do better than us." That conversation would not have happened if we hadn't had the report printed that says, "These are the rankings in Kansas."

BSP: Having the information that other counties were actually achieving that level of outcome—

GP: And not the counties in Massachusetts, no, here in Kansas, next door to you.

BSP: So, it was attainable. That's interesting. One of the things that we're exploring through this whole series of interviews is the health ranking of Kansas as a state. So, previously, we were just talking about county-level health rankings. There's an organization nationally, the United Health Foundation, that for decades has put out an annual ranking of state health. Back in the early nineties, Kansas ranked very high. We were 8th at one point in 1991. Over the subsequent decades, the ranking of Kansas dropped to a low of 31st in 2022. We've crept up a little bit. We're about 27th in the latest health rankings. How do you think about that ranking for Kansas compared to the rest of the country going from a high of 8 to down to as low as 31, and now sort of in the high 20s?

GP: The first thing I will say when we say county health or state health ranking, it's all based on a certain given definition of health. In that context, health is usually not defined simply as which diseases people have, but it includes a variety of domains which are in part the social domain: how poor people are, how educated people are, how many good jobs they have access to and so on. I think without that idea in mind, it's hard to make sense of Kansas slipping from 8 or 9 to 30 or even further down. If we had defined health in a different way, maybe Kansas would still be #8. If we had defined health in different ways back thirty years ago, maybe Kansas would never have been #8. They would have been lower.

The point I'm trying to make, you need to take a very comprehensive look at what changed over the time. If you limit yourself just to the health, narrowly defined, the health domain, Kansas isn't doing very badly. If you have access to care, the care you're going to receive in Kansas most of the time is very good. Individual clinical preventive services are usually offered; they're very good. Mortality from cardiovascular disease and stroke has gone down.

BSP: So where do we not fare so well?

GP: Social issues, poverty. We are still—stay with a lot of rural population. If I don't mistake, it's about a third of the people who live in very rural areas and others may live in small towns. Access to jobs is limited. Education for a long time has been a problem although we are doing better now in terms of graduation from high school.

Let's take that as an example. When we were talking about county rankings, I still remember one of the first times I discussed it, we had our Board of Health, which is also our Board of County Commissioners. One of the commissioners asked, "Doctor, I respect what you are doing. I hear what you're saying. I'm just trying to see what graduation from high school has to do with health."

At that point, I felt I had failed my entire forty-five-minute presentation. But the question was totally appropriate because the typical Kansan is not trained in thinking about health in terms of graduation from high school or access to good jobs. So, think about the nineties, for example. There weren't a lot of good manufacturing jobs in Kansas aside from Boeing in Wichita and then many others. These days, there are many fewer. What happens if you don't have a good education? Well, you probably don't have access to a good job. You don't have access to good

housing, which in turn means the environment in which you live may cause more diseases for you and your children. You're making less money. So, you may not be able to afford clinical care. Certainly, you may not be able to afford preventive care. Your wife may have to forego her mammogram because she doesn't have the money for the co-payment. So, it all becomes a series of facts that are linked to each other.

BSP: Your comment about these rankings generating a conversation. I remember that commission meeting actually was covered by the local newspaper on the front page, that quote from the commissioner saying, "What does education have to do with health?" That was a great opportunity to begin a conversation in the community here and around the state about those linkages.

GP: I think it was also an eye-opener for people like us who work in public health because I felt at that point that we were guilty of preaching to the choir, preaching among ourselves. Nobody for years had asked me, "What does education have to do with health?" because we all knew.

BSP: We assumed.

GP: We were talking to each other. We assumed. The moment you go out and you go to an important local policy-maker, you get the question, and you were like, "Whoa! How do I answer that? I haven't had to answer the question for such a long time." So it was kind of a stop, pause, and rewind moment for us.

BSP: Do you think the state health rankings that come out, how is it something that can be used by policy makers in Kansas that are interested in improving the health and well-being of people in our state? How are they practically useful?

GP: I think that in many different ways you can access and use that information. Those reports are very valuable now because after several decades, people have really refined them to the point that it's not just a bunch of dry data. There is a lot of policy discussion behind the data. What's driving this number? What's driving that number? These are the best practices that have been established as producing positive results. These are the practices that are promising. You may want to pilot them if you are brave enough, but don't put all your money there because we don't know if they'll work or not. These are the things that don't work. We've tried it. They don't work. Don't try those.

So, as a policy maker, you can pick or choose whatever your area of interest is, and then you go back to what are the policies that can affect this particular area of interest?

BSP: One challenge we face especially in rural areas is a shortage of professionals, whether those are nurses or physicians or public health professionals, mental health professionals. That's one of the areas where we don't fare so well as a state. How do you see when you were in these various roles of state government, how do you see the challenge of getting the appropriately trained, competent professionals in all areas of our state providing services?

GP: It's been a challenge ever since I remember working in this country, not even just in Kansas. For many years in rural communities, foreign physicians, not necessarily foreign medical graduates, people who came to the United States, go to medical school, and then have graduated, they were able to at least in part fill those gaps because they were willing to work in rural communities. In fact, many of them were coming from rural communities back in their home countries. Things have become a little more complicated now for these people to be allowed to remain here and work here. I think I and many others are still very concerned about access to care. That's why I made a comment earlier. If you can access medical care in Kansas, you're going to receive good care, but that's a big if. We know there are a lot of people who have difficulty accessing that level of care. And nobody has I think the magic answer to how we can address that.

BSP: I think that's going to be a recurring theme that comes up through our conversation, the challenges of professional shortages especially in rural communities.

GP: Yes.

BSP: But, as you said, not just in rural communities.

GP: No.

BSP: Let me pivot just a little bit to thinking about public health at large. In some ways, you could describe public health as a tension between individual rights and liberties and the public good around things like vaccination, speed limits, any of the issues—clean indoor air ordinances or smoking bans, restrictions on guns, those sorts of things. How do you think that tension, what role does it play in public health in our country?

GP: Huge, absolutely huge. I think it's what defines the basic premises on which public health is funded. It's also something that varies a lot from state to state. That viability I think reflects differences in the history of every state. That tension between individual rights and social good is one that every state addresses in different ways and every country addresses in different ways.

For me, coming from a country like Italy and Europe in general, I would say where I think compared to the United States, there is more emphasis on the social value of what policies are implemented and what the government does. Coming here, it was a really big adjustment because I quickly realized I couldn't use the same construct and the same parameters I was using back in my home country of Italy or even just the entire continent of Europe.

I think there is also fluctuations in time where the line is between the social and the individual component and COVID definitely brought that up and out in the open. I think up until COVID, there was a kind of unspoken balance in the social contract that was given to public health. It wasn't really a signed contract by anybody, but it was an understanding. The public was allowed to do certain things including restrict certain individual liberties for the greater good, for the people.

BSP: Like quarantine, for example, or exposure to infectious disease.

GP: If you have a child with measles, the child cannot come to school for a certain number of days because the child should not infect children of other families. If I am in a family where my child has been immunized, then I don't want the child to be exposed. Yes, absolutely.

With COVID, everything has changed. I think the social contract has been broken. I don't feel that public health has received a new social contract. There was a sort of unspoken consensus before COVID. There are certain things that you as a public officer can do. Don't get too much past the line, but within that area, you can operate. Now I think people are kind of confused about what that safe area is because of all the changes in the political mood and public mood, the regulations, laws, and so on.

BSP: We saw a lot of differences between states and between countries in how they approached the pandemic. Is that what you think was underlying those differences that we saw play out?

GP: In many cases, yes. When the pandemic started, I see a family in Italy—I was following in real time the news that was coming from Italy and the news that was coming from the United States. The differences were striking. When we had the first cases in Italy, people were already in forced quarantine. When I say "forced," I don't mean—"We would like for you not to leave the house unless you need to go to the grocery store, the doctor's office, to pay a bill." No. There were police cars patrolling the streets, questioning people, "Where are you going?" And if you were found on the street, you had to have a certification saying, "At this day and this time, I have a doctor's appointment," and then they would let you go. I know it sounds very much like a police state. It was in a very friendly way. It wasn't in a confrontational way.

BSP: Not something that would have flown in the US.

GP: We had problems doing what I thought were pretty mild and reasonable restrictions. We had to convince people that it was the right way to do it. Of course, it was very little compared to what people were already doing in other countries in Europe.

BSP: You talk about the breaking of this social contract, which I agree has always been a fundamental part of public health and the role of public health. So, where are we now? What did we learn from the pandemic, and where do we go from here in trying to make sure that the value and the contributions of public health can continue to be realized?

GP: I'd like to believe that there is still value in providing accurate data as public health people. I think the main difference now compared to pre-pandemic is that a lot of the decisions now are not made by public health folks. They're made at the policymaker level. A lot of the authority, for example, has been moved from the public health officer, people like me, epidemiologists, trained doctors. They have been moved to the Board of Health. Well, the Board of Health is actually the Board of County Commissioners. These are local elected officials.

BSP: Not generally medical people.

GP: Most of the time, they're not. Some of them are retired people. They're not positions where people go to make money. Many of them are actually volunteer positions. They may receive a nominal token for when they go to meetings. But now they're in charge of making these decisions. In some cases, they're in charge of deciding individual actions for the case of measles that we were talking about earlier. If there is a case of measles in the school, this kid needs to be basically quarantined. Now many times, that decision goes to the local office, to the local policy makers.

BSP: In a system where there were a lot of challenges already for public health in terms of level of funding in the smaller communities, there was a large exodus of professionals from the field of public health during this time around the pandemic as well as medical care with the stress and the strain on nursing and other health care providers.

GP: There was. In my personal experience, I lived through COVID being the county health officer for Topeka, Shawnee County. There was the first eight months of the pandemic, and I was totally exhausted.

BSP: You were back to carrying the beeper.

GP: I didn't even have a beeper. I was back being online eight, ten, twelve hours a day. Beepers were not a thing anymore. People knew where to find me. I was online with some phone calls and stuff like that.

I think there was a level of exhaustion that really hit hard combined with the confusion created by the shift in the popular mood. "Wait a minute. Why are you telling me I can't go to work or I can't send my kid to school?" I think that caused a lot of people to say, "You know what? I've done what I could. It's time for someone else to move on."

BSP: That did happen a lot across the country and here in Kansas. What do you think the lessons are for the next generation of public health leaders that we can take from that whole experience?

GP: That we should never assume we can do any work in a vacuum, especially in the current time of social media, an easy way to disseminate news, whether it's real news, fake news, even pictures now. You can't even trust your eyes because pictures can be totally fake. You need to work collectively with people not just in your sector. We can't just keep talking to each other because we know that education is important in defining health outcomes. We cannot leave anybody behind especially when it comes to local policy makers because in a state like Kansas, now they have a lot of the authority that a public health policy had in the past. So, they need to be involved in those conversations. They need to be informed. They need to be receiving good data that can be explained to them, and that they can't be just an afterthought. "No, wait. Now I need to go in front of my commission to tell them I'm going to place the whole county in quarantine." That's never going to work anymore.

BSP: Any other thoughts or reflections on that period? Your role in public health before I move on to a couple of other things?

GP: I'm glad it's over, but I'm nervous that it's not over. I don't think we are done. I think one of the most frustrating things for people like me who have been working in public health for many years, when the pandemic started, some people were throwing their arms about, "Who would have known?" They had no idea. If anybody would have listened, I went back. I had presentations, PowerPoint presentations from seven years before the pandemic where I was saying, "We are way overdue for the next pandemic. We don't know when it's going to hit, where it's going to hit. We don't know if it's going to be influenza. We don't know what." We were way overdue because that's what history and epidemiology teach us. I feel a little bit in the same position now. I don't know that we are overdue necessarily, but I don't think I've seen the last pandemic in my life.

BSP: Well, speaking of pandemics and our local Kansas history, the big Spanish flu pandemic back in the twenties has a connection to Kansas, too. Do you want to comment about that a little bit?

GP: Sure. It was discovered later on over the years that actually the first case of the 1918 flu pandemic originated in Fort Riley—what is called Fort Riley. I don't think it was called Fort Riley back then. Of course, what happens when you introduce a new or a modified mutant virus like in the case of a military population is that it spreads like fire.

BSP: And they were then deployed all over the world.

GP: They were deployed all over the world. So, first it was admitted among each other [servicemen] and then it went out and took care of the rest of the world. For people who are interested in history lessons, I think there's a lot to learn there.

BSP: I think that people are surprised to learn that the Spanish flu epidemic started in Kansas.

GP: Yes.

BSP: Another thing that I know you spent a lot of your time on thinking about disparities in health, differences in health among different populations. Tell me a little bit about disparities and why it's something we should care about as a community, as a public health professional.

GP: We were talking about what an epidemiologist does. That's to track disease and describe the patterns of that disease. That includes an examination of whether the disease affects everybody equally, or there are certain groups that have a higher risk than others. It didn't take us very long to understand that some groups are at a higher risk on a lot of different diseases based on those social economic factors that some people don't really see as directly connected with public health outcomes, but in fact they are—education, poverty, and racial background, personal history, and so on. Just to give you an idea, the different mortality rates, the number of young children who die before the age of one in Kansas traditionally was higher than in the rest of the country. But when you broke that number down, you could see that the vast majority of those deaths occurred in minorities, especially in children from Black mothers. White children from White mothers had outcomes that were comparable to those in other states.

BSP: At what point, I think Sedgwick County had the highest Black infant mortality rate in the United States.

GP: That's correct. That's just an example, a little extreme. Thank goodness we don't have a lot of examples that are like that. Another one is maternal mortality, the proportion of mothers that die soon after a delivery over a certain number of days after the delivery. Again, Kansas is very high numbers, and most of the numbers are driven by mothers of color.

Again, it depends on what kind of approach you want to take to public health. If you just want to take the approach of only look at the number and nothing else, you can do that, but you're going to miss the boat. You're never going to affect those numbers to change, to reverse those numbers if you don't understand who's at risk and why. The reality is that in many cases, the background and the socioeconomic background and the racial background of individuals play a profound influence on those health outcomes.

BSP: On the health outcomes, going back to our conversation about rankings, does that difference in those different populations, the disparities that can exist, do they affect rankings of states or counties as well?

GP: Yes, absolutely. If you only have a very small number of—let's call them minority groups, that effect can be diluted throughout the state. But in most cases, especially with the growing number of what used to be minorities, but in some cases now are becoming the minority majority, they're going to affect the ranking. They're going to affect the statewide values of those parameters much more than they used to do before because they're a larger part of the population.

BSP: Does that impact change over time in terms of how minorities fare in terms of health status?

GP: Well, it can.

BSP: Between generations?

GP: There were some interesting studies made several years ago. In a nutshell, what they showed is that when people migrate from countries say in Africa and people of color migrate here, the first generation that arrives here usually fare just about as well here as they would have fared in their original country or as well as the general population in the community where they get settled. From the first generation that is born here on, those health outcomes deteriorate, and people fare worse than their mother or their father did when they migrated to the United States.

That was demonstrated and replicated in many different settings for many different conditions, especially for conditions where we know that stress is an important element to drive the outcome. Definitely, infant deaths as well as definitely maternal mortality—one of the main causes of infant death is babies who are born too small. Mothers who are stressed, we know that they give birth to smaller babies. The link is very immediate there. What that tells us is that there was something inherent in living in this country, being born in this country and being raised and

living in this country that made that lifetime trajectory experience stressful enough that would affect the health outcomes of those populations.

BSP: That's very interesting that just in one generation, you can begin to see those adverse health outcomes.

GP: Another way to look at it, there was a little bit of an advantage for people coming here from other countries. Within one generation, that advantage is gone.

BSP: You used the word in there a couple of times of "stress." I know you've thought about this concept of toxic stress, and how that plays a role and how these social factors may manifest in physical ailments, those sorts of things. Do you want to comment a little bit about that?

GP: Yes, it's a fascinating area, and one that's also very complex and evolving very rapidly. But to try to make it simple and short, we know there are physiological parameters to which stress can affect human bodies and how our organs work or do not work well. Again, the example I gave earlier, probably the most typical and visible one, we know that mothers who are stressed don't fare very well when they give birth to their babies. That goes back centuries again. Mothers are frail. They shouldn't be traumatized. They should stay in bed. That was an exaggeration. Pregnant women do not need to spend nine months in bed. But there was some truth there, which was the learning, the historical experience that the mother or the pregnant woman who was stressed would not have a very good outcome with the birth.

We also know that stress can actually go as far as making changes in the DNA that people already have. Everyone has certain DNA, and everyone has many more genes, which are portions of their DNA, that are not usually working. They are doing nothing, just sitting there dormant. There are many more those than those that are working. And stress can activate some of the genes, which in turn can cause adverse effects on the health of individuals.

BSP: I know that's an example of how this chronic toxic stress can be intergenerational. It affects this epigenetic information.

GP: Unless the chain is broken, it goes from parents to children to grandchildren.

BSP: I'm doing some work now with children in the foster care system. We've learned a lot in the last few decades about how chronic toxic stress affects the developing child and their brain and actually the architecture of the brain. It's another example I think of how chronic stress can have lifelong implications for health.

GP: That's a good example. To break that chain, we only have a relatively narrow window. The longer you wait—it's not impossible, but the longer you wait in the life trajectory of an individual to break that chain, the harder it's going to be. Early childhood, that's really the time where you can break that chain of negative health effects to erase the stress.

BSP: So, after a long, productive career in public health in our state, is there anything else, any observation, any comment that you want listeners to hear from you about this issue of health in Kansas?

GP: The first message is pay attention. I really do not want to be in the same situation where we have another pandemic, and people are totally caught by surprise. I don't think nobody is served well by that kind of attitude. Who could have known? If you pay attention, we collectively all should know, should be prepared because you can prepare for these events. You can't necessarily avoid it. People are still out debating how the coronavirus and the COVID pandemic started, but probably there was a way to avoid it, but there could have been ways to be better prepare to minimize the consequences and the effects of that.

The other thing is again back to the conversation about a social contract. Let's have these conversations at the community level. How do we envision a public health system? If so, what does it look like? What kind of authority and responsibility do we as a community want to give or relinquish in part and delegate to the public health folks as opposed to saying, "Nope, that's not your area. Don't even think about it. If you think about it, come back and talk to us, and we'll discuss whether you can do that or not."

Right now, I think one of the challenges for public health folks who are still actively working in public health, they don't necessarily know what their boundaries are, what they're allowed and not allowed to do. That's not a good situation to be in. I think that's also going to cause more and more people to leave in my opinion.

BSP: I hope that our conversation today has contributed to that discussion and awareness of some of these issues. Thank you very much for joining me.

GP: I hope so, too.

[End of File]

