

UNNATURAL CAUSES

...is inequality making us sick?

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Bad Sugar

TRT 29 min

DVD Chapter 1: Tohono O'odham & Pima

NARRATOR: Diet and exercise, drugs and medical care... These are what we usually associate with health. But what we don't think about are structures. Not just physical structures, but economic, political and social structures. They may be hard to see, yet they can be powerful determinants of our health.

TERROL DEW JOHNSON: We've been doing a series of photos for a book...I never get tired of taking pictures of the desert.

NARRATOR: Terrol Dew Johnson is a member of the Tohono O'odham American Indian Tribe. Terrol is an artist and an activist on the reservation south of Phoenix, Arizona.

TERROL DEW JOHNSON: How was Hopi? What'd you guys do?

NARRATOR: For the last forty years, the tribe has suffered the highest rate of Type II diabetes in the world. Half of Tohono O'odham adults have Type II diabetes.

TERROL DEW JOHNSON: She died.

NARRATOR: More than seven times the national average. Rates for children are climbing rapidly.

TERROL DEW JOHNSON: Are you staying with grandma? Go with them...you're going to go to the party. You can go swim. We'll see you later. Bye you guys.

NARRATOR: For hundreds of years, the O'odham lived self-sufficiently on tepary beans, cholla buds, local game, crops irrigated by rain and ground water. Their way of life kept them healthy. Today, that has changed.

TERROL DEW JOHNSON: Danny, I was just asking people when I was taking pictures of them, how diabetes affects them. If it does affect them. What their thoughts are about that.

DANNY LOPEZ (Tohono O'odham Elder): I think some people they get kind of depressed. Somebody had stated, well, my mom and my sisters, they have diabetes so, I'll probably get it

anyway. So that kind of, that attitude that you know, that you're going to eventually going to get it, you know.

TERROL DEW JOHNSON: A lot of people in my family and around me have diabetes. Some...somehow, I always thought well, ok, that's just part of growing up. But, they never said they had diabetes. They've always said that, 'I just have bad sugar.' I've actually had family members die on the operating table during the process of an amputation.

DANNY LOPEZ: He lost his leg.

TERROL DEW JOHNSON: Oh, he did!

DANNY LOPEZ: A couple of weeks ago. Yeah.

TERROL DEW JOHNSON: Oh no.

DANNY LOPEZ: He was at the Elder's Conference. He was in the wheelchair.

TERROL DEW JOHNSON: A lot of people still don't know.

NARRATOR: Further north is the Gila River Reservation, home to the Pima.

HENRIETTA LOPEZ (Public Involvement Specialist, Pima-Maricopa Irrigation Project): We are the same O'odham tribe, it's just that they're desert people, which is To'hono. And we're Achimel O'odham which we live by the river. See where those little mountains are at? The river is just on the south... probably at the base of that mountain there.

NARRATOR: Henrietta Lopez works with the Pima-Maricopa Irrigation Project.

HENRIETTA LOPEZ: At that point there, they diverted out of the river and into a canal like this, OK. This is what we call the Pima Canal. You know, connecting to the river...

NARRATOR: Her Pima Ancestors were master water engineers. Over the centuries, they transformed the desert into farmland in the Gila River Basin.

HENRIETTA LOPEZ: Living along the river meant our life. It was a part of us. Having the river flowing through our community meant having natural vegetation growing along the river – the willow, the mesquite, the cotton wood trees. I don't believe that really the non-Indian world understands how we're tied to the water. But, water is our life.

NARRATOR: Those were healthier times for the Pima. But within two short generations, they, like the Tohono O'odham, began dying from Type II diabetes.

DVD Chapter 2: Genetic Research

PETER BENNETT (Scientist Emeritus, National Institutes of Health): Most of our records are computerized....

NARRATOR: For years, the medical community believed Pima susceptibility to diabetes was an anomaly, that something in their biology was unique.

BENNETT: ...these are files that are being collected from our longitudinal studies.

NARRATOR: The National Institutes of Health collected hundreds of thousands of Pima blood samples, tissue biopsies, and medical histories.

BENNETT: Our collection of EKGs...

NARRATOR: Dr. Peter Bennett has devoted most of his professional life to studying diabetes among the Pima. After 40 years, 200 million dollars worth of research has increased our understanding of the biochemistry of diabetes. But neither the cause, nor a cure has been discovered. And rates among the Pima continue to rise. Like many researchers, Bennett now turns his attention to genes for answers.

BENNETT (to researcher): So, how's it going?

BENNETT: The genetics of diabetes has turned out to be really quite complicated. It appears that there are not just one or even two genes involved in the pre-disposition. In fact, today, we still don't know what combinations of gene abnormalities really lead to very high risk of the disease.

NARRATOR: But research has shown that whatever genes might increase the risk of diabetes are in fact found the world over, not just among the Pima. And, whether they have the genes or not, some population do have a higher incidence of disease.

BENNETT: Very dramatic figures. These are not our own data but from a paper a couple of years ago.

NARRATOR: Pacific Islanders, African Americans, Aboriginal peoples in Australia, *all* suffer from Type II diabetes at rates double or triple the national averages.

S. LEONARD SYME (Epidemiologist, UC Berkeley): They have totally different histories. They are all different populations, and yet they all have the same manifestation...what's going on? What's the common denominator? And in every case, we're talking about people who have been dispossessed of their land and of their history. They haven't been able to re-create it. In all these far-flung parts of the world the social circumstance of being ripped from roots ends up with the same manifestation of disease.

DVD Chapter 3: Poverty as Risk Factor

TERROL DEW JOHNSON: This used to be where my sister and I and all the kids slept in... And the room next door was... It was a two bedroom place, you know...

NARRATOR: For the Tohono O’odham and many others across the globe, land, culture and work vanished in the last century.

TERROL DEW JOHNSON: No indoor plumbing. We used to take our showers, cook, and umm, clean. And this was our only source of water.

NARRATOR: Today, over half the Pima and the Tohono O’Odham live below the poverty line. This condition is the *real* risk factor for diabetes for Dr. Donald Warne.

DONALD WARNE (President & CEO, American Indian Health Management & Policy): Well, I went into my modern medical training kind of naively thinking that I was gonna make an impact on Indian health as a primary care physician.

NARRATOR: Warne has treated Native American tribes in Arizona for years. He’s also a health policy consultant from a family of Lakota traditional healers.

WARNE: ...and in truth, it can have an impact on the individual’s lives and their healthcare, and that’s very significant and meaningful. But the health problems occur long before people get to the clinic or to the hospital.

NARRATOR: When Dr. Warne’s patients have Type II diabetes, their bodies make the insulin needed to convert glucose – or blood sugar – into energy, but the energy isn’t used efficiently. Glucose then builds up in their blood stream and can choke off small blood vessels, leading to blindness, kidney failure, amputation...

Diets high in sugar, fat and carbohydrates can elevate glucose levels. But something else increases those levels as well.

WARNE: There is a direct biochemical connection between living in poverty and the stress that people are under and blood sugar control. When we look at measures of stress we look at different types of hormones like cortisol or epinephrine, which is adrenalin. All of those chemicals increase blood sugar.

NARRATOR: And when stress hormones remain high, they continue to trigger production of glucose. Glucose builds up in the bloodstream, leading to diabetes. Diabetes in America has reached epidemic proportions. We spend over \$132 billion a year to treat it. Obesity is a risk factor, and a third of us are obese. But the other critical risk factor is low income. Americans in the lowest income brackets are at least twice as likely as those in the highest to become diabetic. Dr. Warne might like to prescribe more affluence, but instead he prescribes a change of diet, more exercise, and if this fails, medication and insulin injections.

TERROL DEW JOHNSON: That’s a picture of my sister. She has to take two shots of the syringes. She has to fill them up to the max and she takes them on both sides of her belly. And her doctors said that her kidneys will go. But she told me that, with this amount, ‘I’m alright for right now,’ she said. Which really bummed me out, I was sad. I’m a diabetic, I found out in ‘96.

And so they gave me some pills and boom. You know, I was stamped and approved and put on that list of diabetics in the native community.

DVD Chapter 4: Stolen Water

NARRATOR: The genocide of Native American peoples may be a familiar story, but its unfolding varied from tribe to tribe and place to place. To understand its continuing impact on the health of the Pima today, we need not look far beyond one series of events.

ROD LEWIS (Former General Counsel, Gila River Indian Community): There is direct connection between the diversion of water in the upper Gila River and the health status and economic status of the Pimas and Maricopas. In the 1890s, water simply stopped coming down the Gila River.

NARRATOR: Upstream, water from the Gila was diverted by dams and water projects, giving the white settlers, farmers, ranchers and mining interests the water they needed.

LEWIS: And we were depended on that water to grow crops, to provide for ourselves.

NARRATOR: Not even the 1908 Supreme Court decision upholding water rights for all Native Americans could protect the Pima. The Coolidge Dam: in 1930, one of the largest in the world. Its promise: to provide water for everyone, this time including the Pima.

Former President Calvin Coolidge celebrated its opening with politicians and businessmen. They dined on china, crystal and linen. The Pima ate bag lunches on makeshift tables. Coolidge passed the peace pipe, but in the end, the Pima got little of the water. Again.

LEWIS: We were practically without water for almost an entire century. We were among the poorest people in the United States of America, as are Indians who live on other reservations and still are in that situation. Unable to grow crops, unable to get out and work in the fields, unable to develop economically because of the lack of water for almost a hundred years, it was just, it's an absolute shame as far as this country is concerned, as far as the State of Arizona is concerned.

WARNE: What is a metaphor for the rest of the country to try to think about in terms of damming the rivers? It would be like saying to this entire country, okay, survive now without money. And how would you do that? How would you change your entire economy, how would you change your entire culture? How would you change your entire lifestyle? And would you be successful? Would people die?

NARRATOR: And the Pima did die. But they died from starvation, not from diabetes. A survey conducted in 1902 found only one case of diabetes among the Pima. But within 30 years of the building of the Coolidge Dam, there were more than 500.

DVD Chapter 5: Diabetic's Nightmare

WARNE: If we had not dammed the rivers back in the 1920's and 1930's, we wouldn't be able to have this lifestyle that we enjoy in Arizona with the swimming pools and golf courses and

artificial lakes. And with this lifestyle we are really living outside the laws of nature. And what people, I think, generally speaking don't realize is that all of the prosperity of Phoenix and the prosperity of this entire state was built on the backs of the health of the local tribes.

LEWIS: Pimas lived a very, very difficult life at the bottom of the economic scale. We had almost no recourse except to become dependant upon governmental benefits.

NARRATOR: **Shortly after the dams were built, the US military began distributing free commodity foods to Native Americans.**

TERROL DEW JOHNSON: And, it definitely brought us through the hard times. This is the commodities building, where they house the commodity food. This is where people used to come get their cheese, their beans and their grape juice and stuff. There used to be just rows and rows and rows of those.

NARRATOR: **But this surplus food – white flour, cheese, refined sugar, lard, canned foods – is a diabetic's nightmare. As it was for Terrol's neighbor.**

TERROL DEW JOHNSON: They asked her 'how many people were in her household' and she said 'about five' and the guy said 'well you can get five boxes of food'. And there was chips and candy and canned food and I thought, well that's an idea...that's a nice idea about having food, but it's just the wrong kind of food. And I asked her, I said so what kind, was their any kind of normal food? She goes, 'well there were cans of gravy.'

NARRATOR: **It was not until 1996 that fresh produce was offered in the program. And authentic tradition foods are still not included.**

WARNE: When we think of traditional American Indian food for example, fry bread is one of the things that comes to mind. Well in truth, tribes did not have fried bread historically. The roots of fry bread are in the commodity food program. And fry bread is essentially, trying to do the best that you can with your commodities: flour, lard and vegetable shortening. Over generations, when people grow up with that, it becomes a part of the culture. It becomes acculturated into the community, that that is part of the norm.

NARRATOR: **There is only one small market on the 581 square mile Gila River Reservation, with a small produce section. A regular supermarket is an hour's roundtrip drive.**

WARNE: If you are in an impoverished community and you don't have healthy choices for food, and you don't have safe places to exercise, you are tremendously disempowered when it comes to a disease like diabetes. And that has nothing to do with how much medication is in the pharmacy, it has everything to do with social determinants of health, which include that sense of control, that sense of self empowerment that is important to all of us, whether we're native or non-native. It has an impact on self-identity and it has an impact on one's sense of hope for the future.

HENRIETTA LOPEZ: Some of our people have just given up... our people lost our identity, when we lost our water. Within our community we have elders that have gone... I always have that in the back of my mind, that those people will never see the water. When I leave the reservation and I see those same people that live out there and use that water. How they've benefited from our loss. They've benefited so much for so many years.

NARRATOR: Decisions to benefit some are made every day. They create winners and losers, in wealth and in health. In upscale cities like Scottsdale, Arizona, the diabetes rate is only around 5%. In less affluent towns like Bullhead City, the rate is closer to 11%. And on some poor Native American reservations, it continues to be 50%.

This a disease pattern repeated across the country. Across the world. And not just for diabetes. Whether you are poor or wealthy or in between is a powerful predictor of how healthy your life will be.

DVD Chapter 6: Staying Hopeful

TERROL DEW JOHNSON: So, Margaret, How long have you been a diabetic?

MARGARET ACOSTA (Tohono O'odham Elder): Oh gosh, about 30, 36 years, something like that. Maybe even closer to 40. I am losing my eyesight, and my left eye is worse then my right eye.

TERROL DEW JOHNSON: Really?

MARGARET ACOSTA: From diabetes.

NARRATOR: Margaret Acosta is a respected Tohono O'odham elder and craftsperson. She's one of Terrol's teachers.

MARGARET ACOSTA: In the past 3 weeks, I have been a little bit more serious taking my sugar count as often as I should.

TERROL DEW JOHNSON: It's really, really hard....

NARRATOR: Managing diabetes is demanding... taking blood sugar counts four times a day, monitoring diet, staying productive and engaged.

TERROL DEW JOHNSON: So Margaret, do you think diabetes will get you at the end?

MARGARET ACOSTA: Uh huh, I know, I know so.

TERROL DEW JOHNSON: How does that make you feel?

MARGARET ACOSTA: Well I keep telling everybody, I'm going to live 'til I'm 100, and I am going to live 'til I'm 100, I tell that to diabetes every day. You're not going to get me yet.

NARRATOR: Studies confirm that hopefulness helps to manage diabetes. But for the O’odham, hopefulness has been in short supply – up to now.

TERROL DEW JOHNSON: I think I got my shot.

DVD Chapter 7: Rebuilding Community

ROD LEWIS: We have a hundred years of neglect and poverty to make up for. We have to put in water delivery systems. We have to put in paved roads. We have to put in the hospitals and schools. We’re a long ways behind most other segments of American society both in Arizona and nationally.

NARRATOR: **Regaining water is a high priority. The Pima have been fighting for their water rights for centuries, facing opposition by non-tribal economic interests, and skepticism and resistance at high political levels.**

LEWIS: It was difficult, and there was, underlying all this, was I believe a lot of...um... not racial hostility...hostility...but a lot of feelings about tribes that... we didn’t deserve the water, we didn’t deserve to be in these negotiations, we didn’t have a good strong valid claim for water.

NARRATOR: **By the early 1980’s, new players entered the fray. Citrus growers, energy producers from several states, resort developers, all joined the scramble for ‘liquid gold.’ Rod Lewis spent several decades on the Pima legal teams.**

LEWIS: We have sat down with each one of those parties, spent literally thousands of hours right here in this room working on deals to settle our differences between us. All of that effort led to the Arizona Water Rights Settlement Act of 2004.

NARRATOR: **After a hundred years, water is flowing down the Gila River again. The Water Rights Act provides the Pima the water and resources needed to rebuild their farms. But it also promises something more...**

GOVERNOR NARCIA: It is not about economic gain, it is about rebuilding our community. It has never been about personal gain. It is about the return of our culture. I truly believe the warm gentle winds of heaven are once again blowing on the Achimal O’Odham and the Piposh. God bless you all. God bless the Gila River.

BOBBY STONE (General Manager, Gila River Farms): This is Durham wheat. We contract Durham wheat this year with Arizona Grain. Desert Durham Wheat is what we grow here. Basically, it’s for the pasta manufacturers. A lot of it goes to Italy for the making of pasta. Most of the time we get a better contract for that than other varieties.

HENRIETTA LOPEZ: So the allotment that you’re in is section 12, okay. And this is Gilbert Road right here.

NARRATOR: **The tribe and some individual members are now planning to expand their farming. It’s been nearly 20 years since Tony Anton cultivated his own allotments.**

HENRIETTA LOPEZ: So does that kind of make it clear?

TONY ANTON: A lot, a lot...

HENRIETTA LOPEZ: A lot better than just trying to explain it over the phone and ...

TONY ANTON: ...that way I won't argue with you next time.

DVD Chapter 8: Taking Control

DONALD WARNE: In truth, we have more control over the problems like diabetes than we realize. We can't think of diabetes and colonization just simply from the role of the victim. The disease patterns like diabetes occur over many years. So we're not going to see a dramatic change over night. But I think in the long run, as we see more success in economic and workforce development, we're going to see improvements in healthcare systems, education systems and in social policy. We have to take more control over our own communities.

S. LEONARD SYME: Things like diabetes get our attention. But by focusing on diabetes, you miss the underlying phenomenon, and that's really the important stuff.

TERROL DEW JOHNSON: I feel like taking pictures of the graveyard.

SYME: If we took everyone at risk of disease and cured them so they were no longer at risk, it would do virtually nothing to solve our problem because new people would continue to enter the at risk population at an unaffected rate forever.

TERROL DEW JOHNSON: This is my aunt. She died of complications of diabetes.

SYME: The issue is we're not paying enough attention to prevention. Overwhelmingly, funds are spent on fixing people who are already sick. We have to change that formula.

TERROL DEW JOHNSON: Here's my grandpa. He died of diabetes. He was a medicine man. He was a cowboy. He was in the navy. I don't want to die of this. You know I don't want to die either with one leg or two legs missing. I still see hope, I don't have to die of diabetes. You know, I'll die of some natural cause or something.

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