**Health Disparities Affecting Indigenous Populations**

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Dr. Warne comes from generations of traditional healers. He became a primary care physician and grew frustrated that so much of what he was treating could have been prevented.

Worldwide, health disparities exist for indigenous populations. For many thousands of years indigenous people lived stable, healthy lives. Then colonization, travel and movement resulted in taking over lands, food systems, languages, and cultures – an entire way of life.

In the U.S., Indian tribes were grouped into one reservation. Each reservation is considered one Federally-recognized tribe, even though more than one tribe may live on a reservation. This practice has left people without services and largely invisible to the rest of the country.

Poverty, inequity and lack of access to health and education contribute to poor health and are responsible for health disparities. Life expectancy for American Indians is 20 years less (77.4 years for whites and 56.6 years for American Indians), basically third world health conditions.

One such example is Warne’s home Kyle, SD. In Kyle, the school dropout rate is 50%, the schools are substandard and people live in ongoing poverty. People have been encultured to unhealthy foods. Most popular food among kids: spicy Cheetos washed down with soda – toxic, unhealthy food that is cheap and easily accessible. Cancer is a gene/environment interaction. Some communities are food deserts where the primary place selling food is gas station and the closest supermarket is 90-100 miles away. People buy things in a bag or can -- frozen food that can be put in deep fryer. Costs are higher creating a poverty tax – not a real tax but people have to pay more for healthy foods. Diabetes: leg amputation, dialysis, heart disease – the bar has been lowered so much that these health problems have become normalized. Programs exist to build free ramps for amputees. Wouldn’t it make more sense if we made sure people had healthy food so they would not need a ramp?

School programs provide breakfast and lunch – kids are hungry so they eat one, two, three, four ‘cinnamon rolls’. We can change this practice by providing good, tasty, healthy food.

**United States socially unjust history**

Understanding American Indians’ health – or poor health – requires understanding their history. American Indian history is not discussed or taught, which has a great impact on intergenerational disparities. In 1497, all of the US was Indian Country. As Europeans settled in the US, American Indian tribes were eliminated through land grabs, slaughter, disease, forced movement to reservations. Going to reservation resulted in land loss; many died on the Trail of Tears; in one documented case small pox was intentionally spread to indigenous populations by giving them infected blankets.

As Europeans moved west, the discovery of Gold in California was not good for Indians. It was legal to kill Indians to make room for gold exploration.

Dakota War of 1862 – Legal to kill Dakotas (Lakotas). President Lincoln signed Emancipation Proclamation, an admirable effort, however, within months he signed an order to hang 38 Dakota chiefs, successful campaign to move Dakotas further west.

An 1863 ad from Winnona, Minnesota: “State reward for dead Indians has increased to $200 for every red skin sent to purgatory.” These horrendous actions are part of our history. Sharing these facts is not an attempt to make people feel bad but we have reasons for social determinants of health and we have to be honest about the cause, “historical trauma.” Trauma passes from one generation to the next.

An additional trauma was sending Indian children to boarding schools. Children were removed from their homes and sometimes put in schools a thousand miles away to eradicate the Indian in them. Motto from one school: Kill the Indian, Save the Man. Conditions were harsh, many children died at age 6 or 8 or 12. Others were scarred, albeit invisibly. Warne’s mother is a survivor of boarding schools so this atrocity still impacts this generation.

By 1900, less than 200,000 American Indians remained in the US. *Almost a complete genocide. Not framed as American holocaust but that is exactly what is was.*

Long term impact of social injustice: loss of life, loss of culture, loss of food resources, and loss of a healthy way of life. When we look at intergenerational reasons for chronic diseases, including cancer, we can actually map a timeline. *We must come to terms that there was genocide in America and be truthful about history.* And the effects linger and get passed on -- physical and mental health, chronic disease, substance abuse, suicide, premature death.

**Implications in terms of individual health, healthcare and policy**

* 35 states have tribal populations, leaving 15 states that do not. That is 30 per cent of the Senate. These senators have no incentive to advocate for American Indians, who are the most underrepresented group.
* Genetically what is the impact? Toxic stress can change gene expression – DNA impacted. Shortening the genetic telomere. (definition: Inside the nucleus of a cell, our genes are arranged along twisted, double-stranded molecules of DNA called chromosomes. At the ends of the chromosomes are stretches of DNA called telomeres, which protect our genetic data, make it possible for cells to divide, and hold some secrets to how we age and get cancer.)
* Cancer a gene/environment interaction. Epigenetics the platform to understand impact of historical trauma.
* American Indians receive later prenatal care due to a shortage of facilities.
* Self-medicating untreated trauma. Babies born with drug dependencies.
* WIC program. – originally, WIC did not advocate breastfeeding. WIC was a baby formula distribution campaign. In a culture of poverty, woman were getting product basically free, highest rate of formulation feeding of babies. Huge impact on subsequent health outcomes.
* Commodity food program consisted of flour, sugar, lard, spam-like meat product, cheese, sugary drink mix, pure corn syrup (label encouraged using in baby formula). Remember, this happened in our lifetime. “Fry bread” has its roots in the commodity food program. Fry Bread is not a traditional Indian food. Should call it “USDA fry bread!”

**Long-term effects of treatment of Indians linger**

Adverse Childhood Experiences “ACE”. A study of abuse, neglect, and household dysfunctional behavior. With a score of 4 or more, a person is twice of likely to get cancer and/or experience higher rates of diabetes, suicide, and depression. Good research on link between ACE score with cancer incidents.

Adversity does not stop at age 18. Poverty is highly stressful. Racism exists.

ACE questions were added to a survey that was developed for a South Dakota health survey – screened for mental health. All tribes participated, 520 respondents were American Indian. Anxiety, depression, and PTSD were significantly worse for American Indian. 50% non-American Indian had ACE score of 0. And 83% American Indians had at least one adverse childhood events. Some had ACE scores of 10.

**Open our minds to find solutions**

*Stand in the wind – Face the wind.*

Blackfeet quote: A child is sacred, when that child comes into the home, we must welcome it. If that child is happy and feels it, it will be very, very strong, and not to know this is to know nothing.

An approach to change is summarized in this story: Three sisters are walking along river and see babies and young children in the water. First sister says we need to get babies out. Second says, no, we need to teach the how to swim. The third kept walking up river. When asked where she was going, she said I am going to find out who is throwing these babies in the water and stop them.

* Need comprehensive solutions.
* When looking at health and social services, take down silos.
* Witnessing violence is just a dangerous as experiencing violence.
* Support programs to stop Violence against Women – this will prevent cancer.
* Promote healthy childhoods and you will prevent cancer.
* Equality is different from Equity. If we incorporate a culturally appropriate approach, we will create different outcome. One size does not fit all.
* Equality giving everyone shoes. Equity is giving everyone shoes that fit.
* Social determinants: poverty, trauma, politics, inattention neglect, racism, education.
* Health disparities, educational disparities, and intergenerational poverty.
* Holistically -- physical, mental, social.
* Why don’t we subsidize healthy food production and availability? Some tribes are starting to rebuild food sources. Community gardens not fully developed yet.
* We cannot prescribe a way out of this. We must understand their history and the truth.

Expanded Medicaid brings great opportunities to improve outcomes. Why isn’t Medicaid expansion happening everywhere? One cause is that only 7 states have at least 3% indigenous populations. Not many states have significant numbers. Politicians without indigenous populations do not support programs for these people.

Programs have been rolled out in underserved communities, which may or may not work for American Indians. They have not been well tested. And data is essential. American Indians aren’t broken out in most data sets.

What is being done?

* At UND: 5 year program in indigenous health
* At UND 6 American Indians are getting a MD, bringing total to 244 AI physicians.
* Summer youth programs for American Indian, taking summer courses for high school students to expose them to biology and they meet a cohort of colleagues

Create a better world for them – it is all of our jobs.