

# Impact of Historical Trauma and ACEs on Health Disparities

Our Nations, Our Journeys  
Indigenous Public Health Forum  
August 30, 2018

**Donald Warne, MD, MPH**

*Oglala Lakota*

Associate Dean of Diversity, Equity, and Inclusion

Director, Indians Into Medicine (INMED) Program

University of North Dakota School of Medicine & Health Sciences

# Pine Ridge Reservation Kyle, S.D.







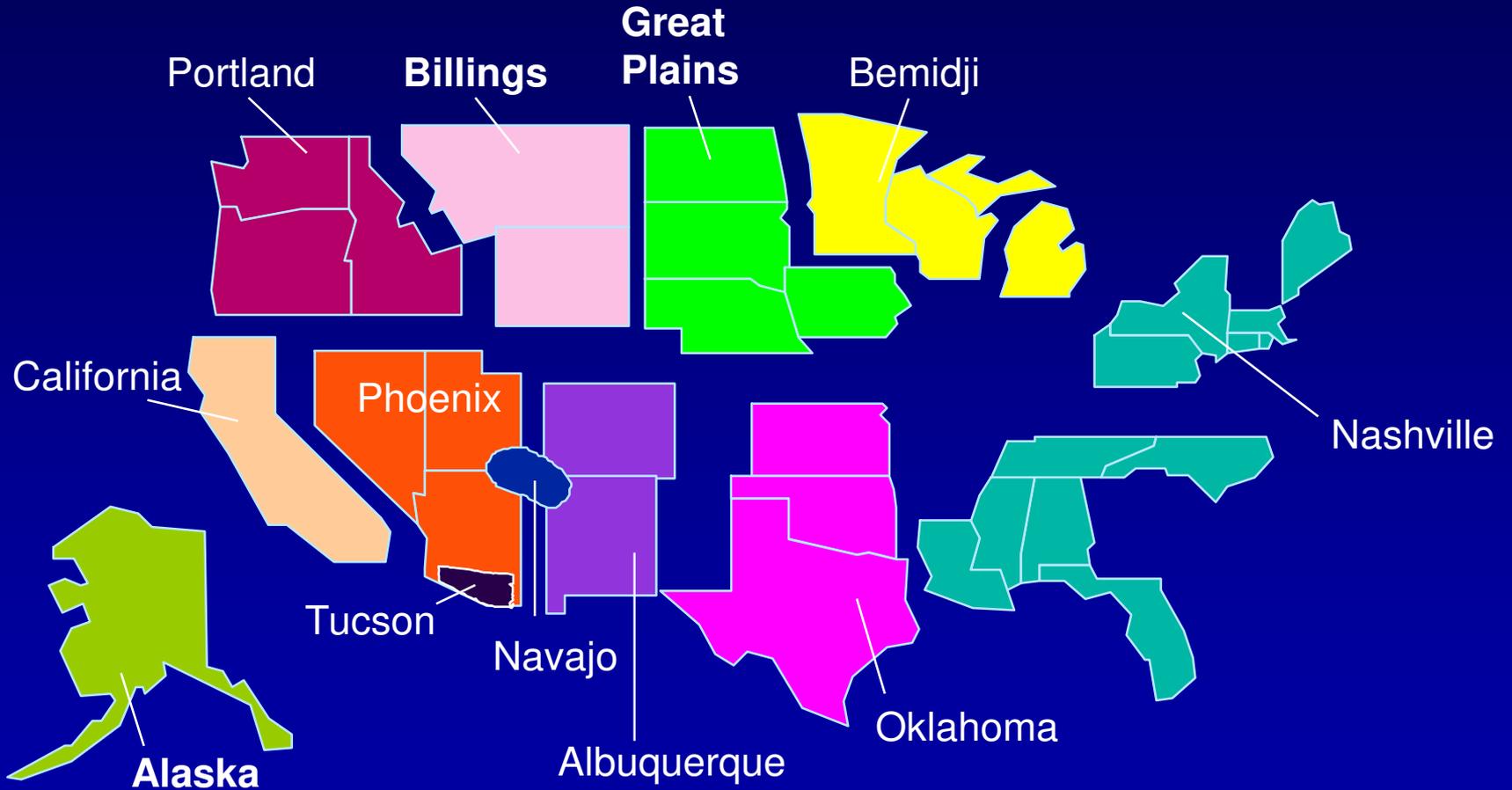




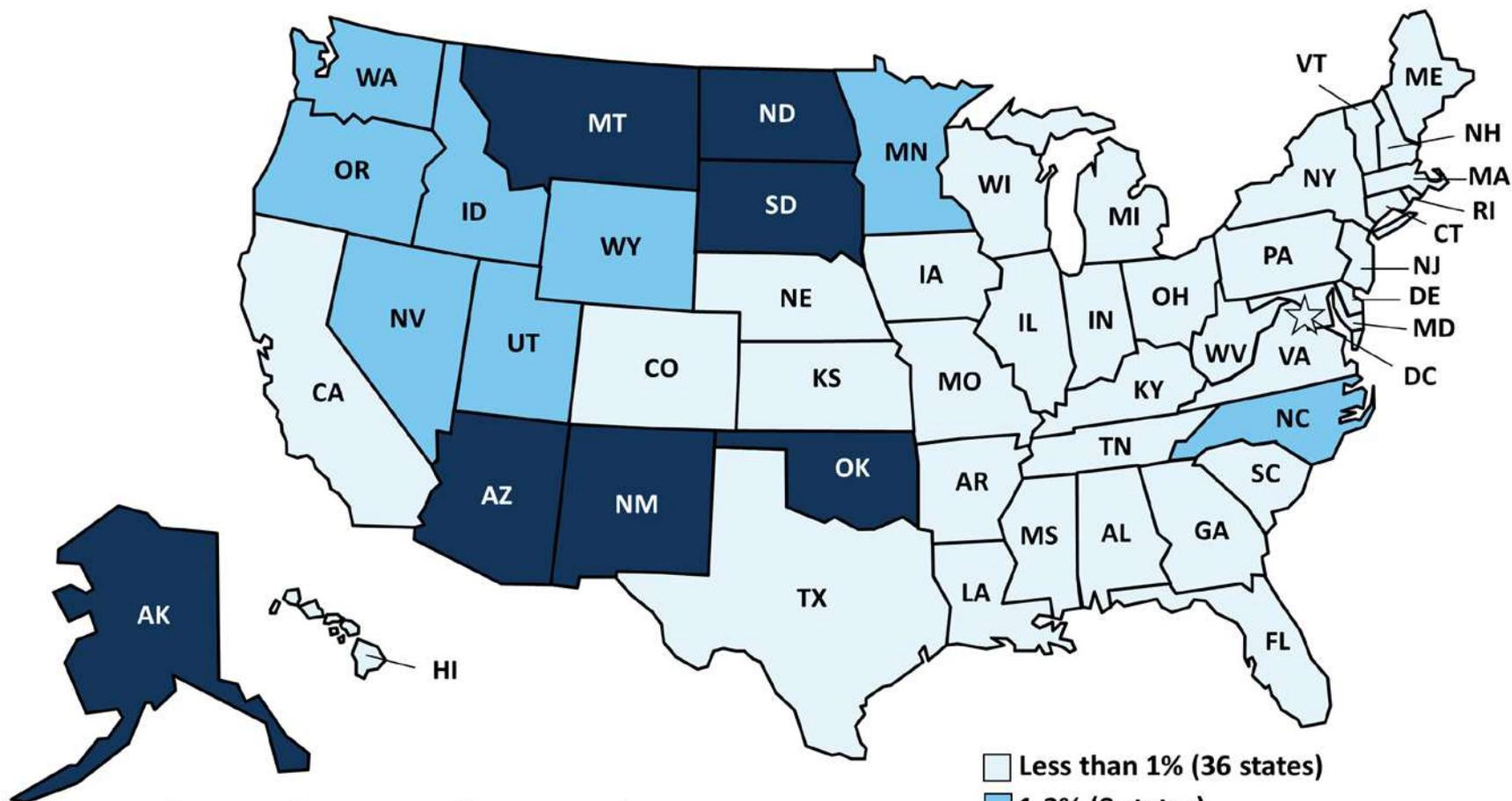
# Traditional View of Public Health



# IHS Areas



# American Indians and Alaska Natives as a Share of the Total Population, by State, 2009-2011



**Total: 2.5 million = 1% of U.S. Population**

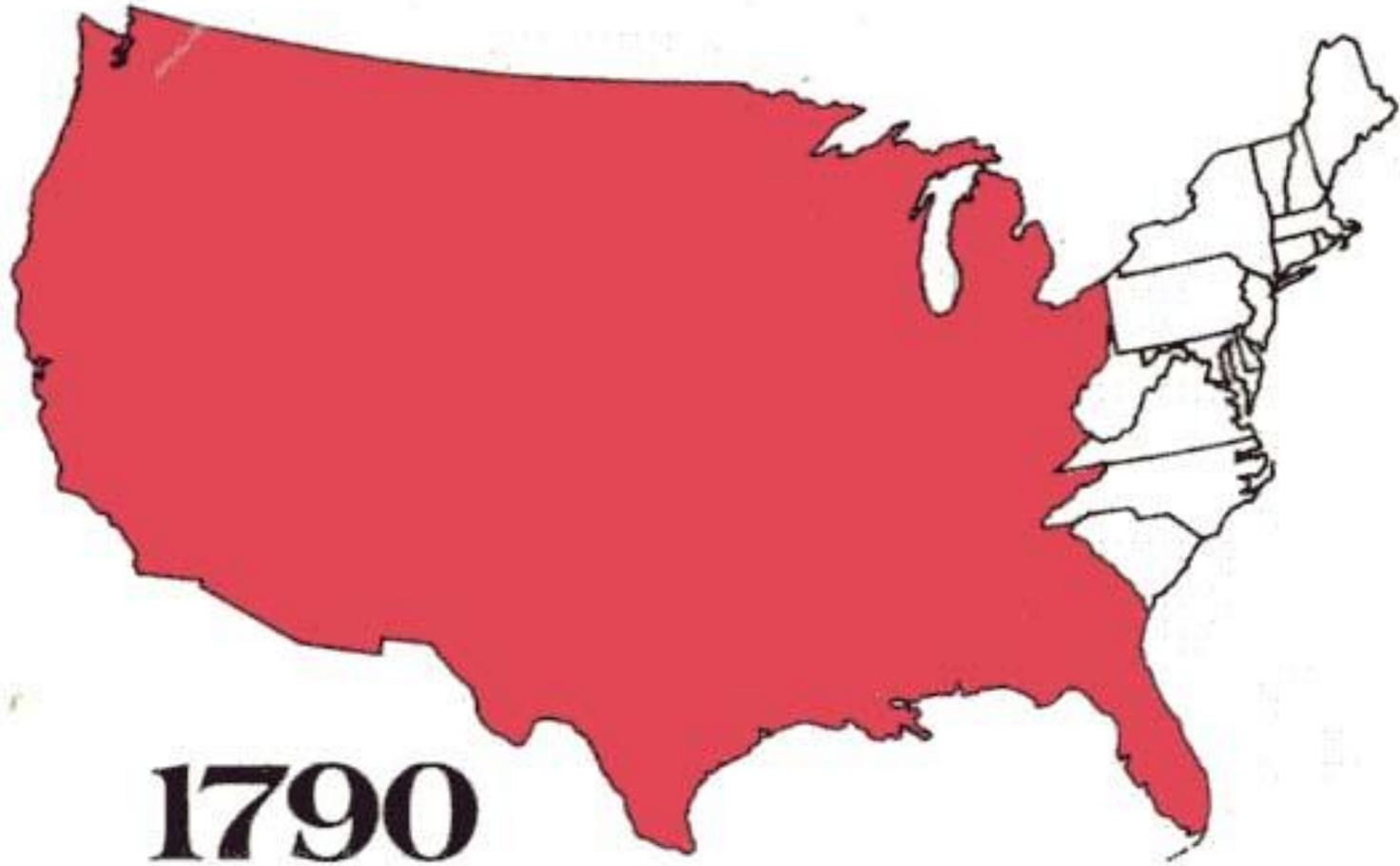
- Less than 1% (36 states)
- 1-3% (8 states)
- More than 3% (7 states)

American Indian and Alaska Native includes people of Hispanic origin.  
 SOURCE: KCMU analysis of 2009 - 2011 ACS.

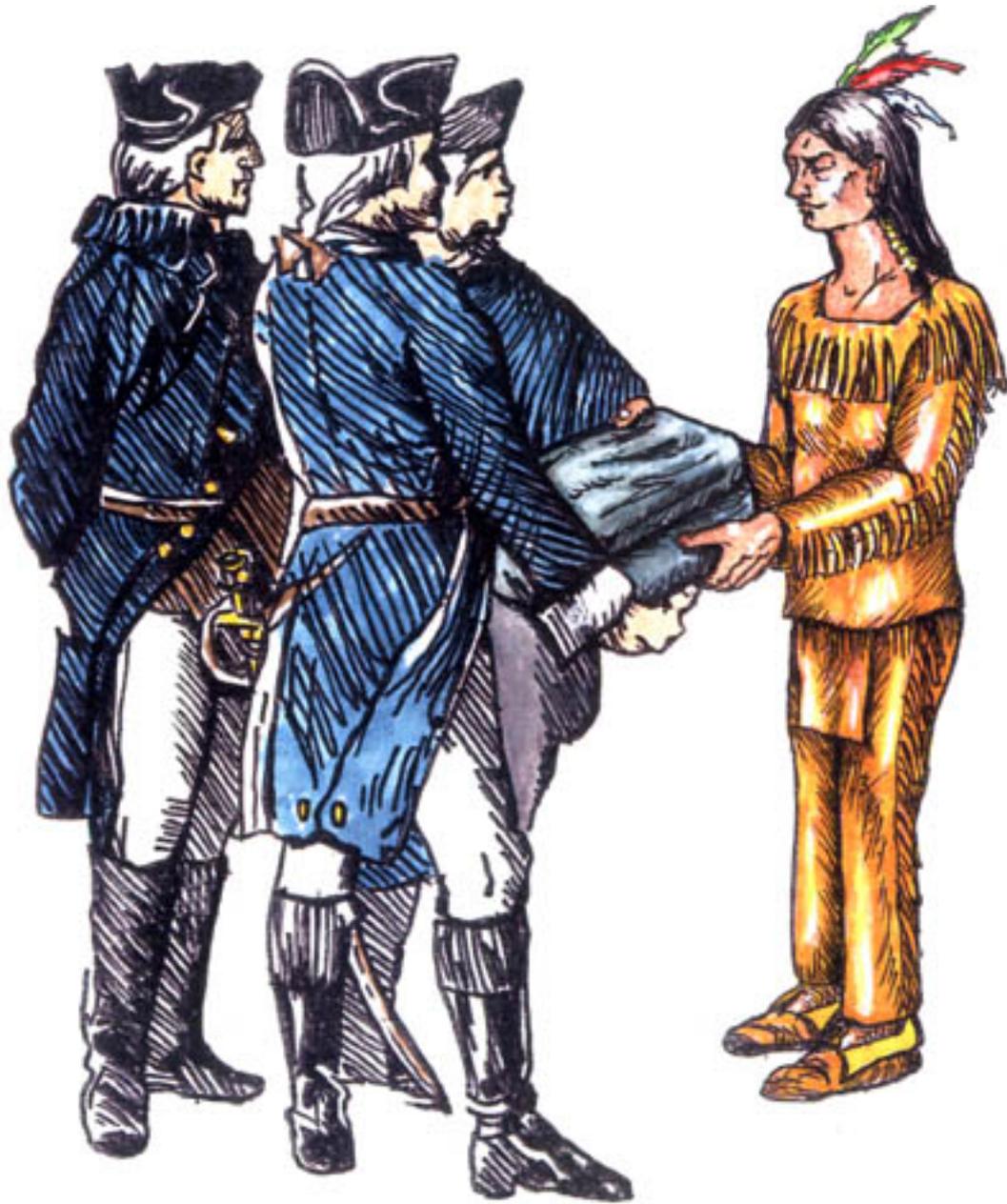
# Historical Context



# Historical Context



**1790**



PETERS '01

B.S.

You will do well to try to Inoculate the  
Indians by means of Blankets, as well as to try  
Every other Method that can serve to extirpate  
this accursed Race. I should be very glad your  
Scheme for Hunting them Down by Dogs could take  
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Effect, but I find it is at too great a Distance  
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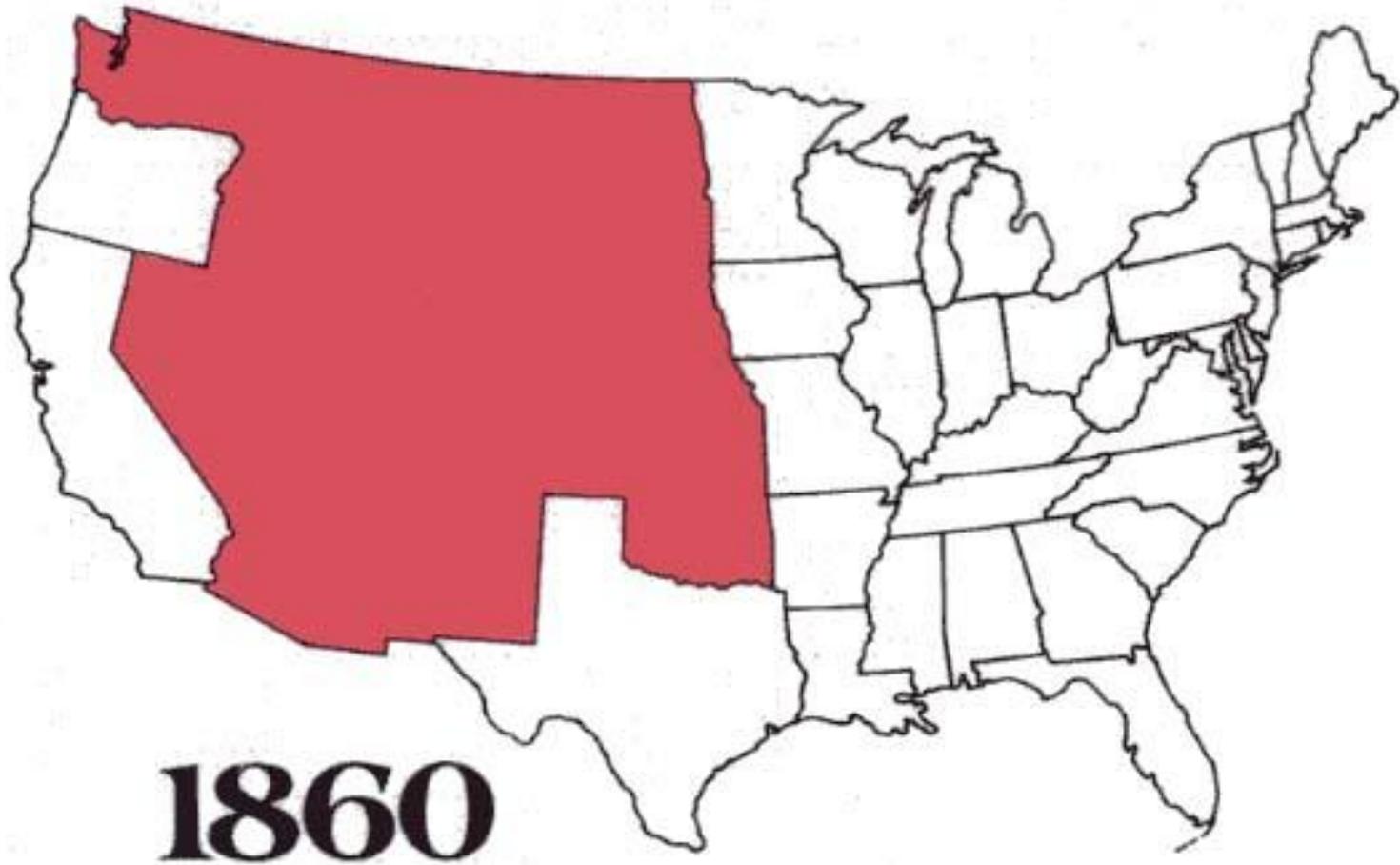
# Historical Context



**1830**



# Historical Context



# Dakota War of 1862

## VALUE OF AN INDIAN SCALP

### Minnesota Paid Its Pioneers a **Bounty** for Every **Redskin** Killed

It is not generally known in latter day Minnesota history that the state treasury once paid out cash as bounties for Sioux Indian scalps, just as this and many other states are now paying for wolf scalps. State Treasurer Koerner yesterday, in looking over the 1863 report of State Treasurer Charles Schaff, discovered the following item among the disbursements of that year:

J. C. Davis, Sioux scalp.....\$25

This item occurs in the list of disbursements, amounting in all to \$7,870.06, under the head "Suppressing Indian War." The \$25 paid to J. C. Davis for

# Dakota War of 1862

# The Daily Republican Winona, MN—1863

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## State Ticket.

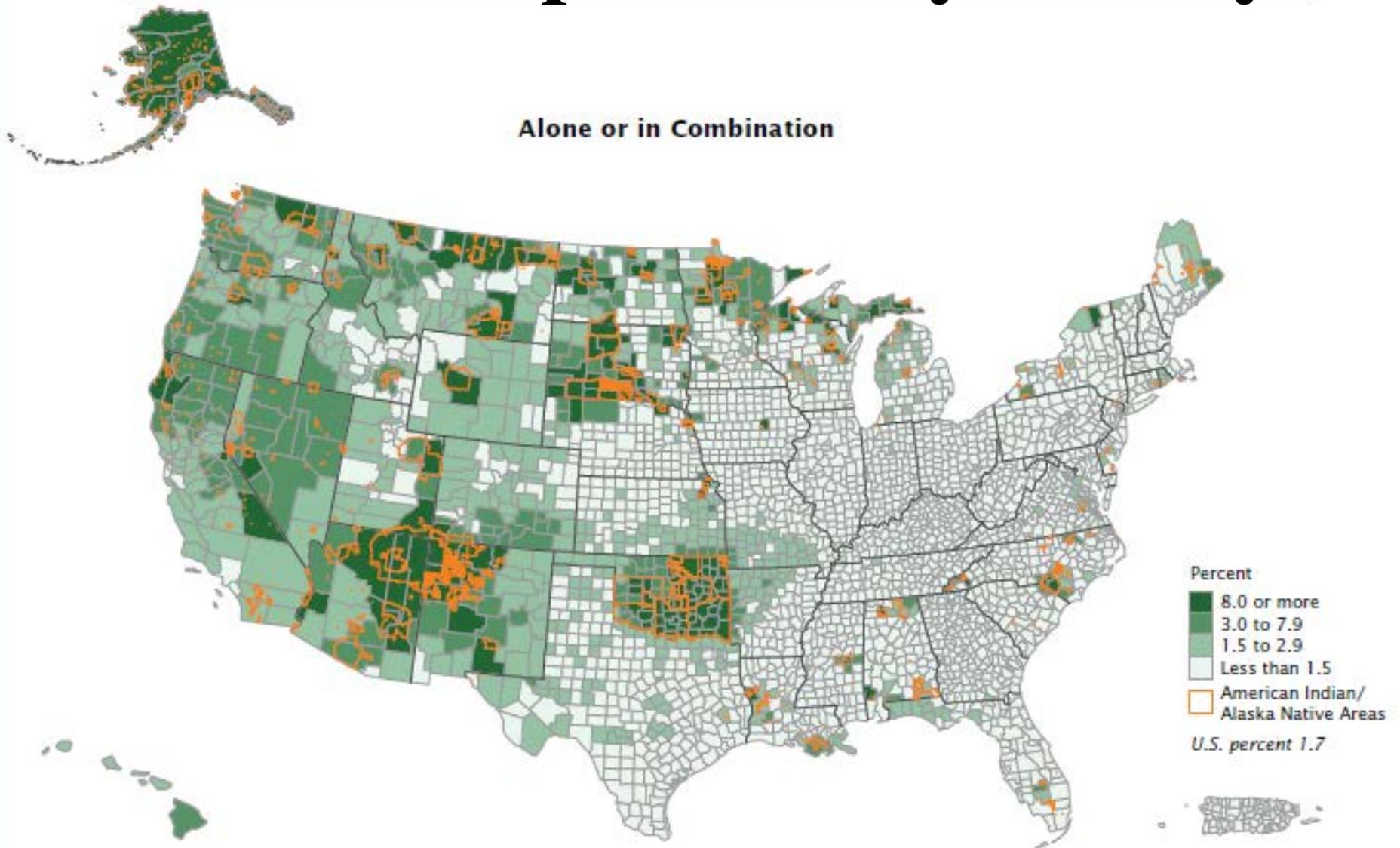
For Governor.....STEPHEN MILLER, of Stearns.  
For Lieut. Governor...CHAS. D. SHERWOOD, of Pillsbury.  
Secretary of State.....DAVID BLACKLY, of Ollisted.  
Auditor of State.....WAS. McILRATH, of Nicollet.  
State Treasurer.....CHAS. SCHAEFFER, of Washington.  
Attorney General.....GORDON E. COLE, of Rice.  
Clerk Supreme Court...GEO. F. POTTER, of Houston.

## County Ticket.

For State Senator.....THOMAS SIMPSON.  
For Representatives.....EARLE S. YOUNG,  
THOMAS P. DIXON.  
For Sheriff.....LYNCH J. KING.  
For Treasurer.....MATHEW J. NORBYN.  
For Surveyor.....N. FELIX HILBERT.  
For Coroner.....EDWARD ELY.

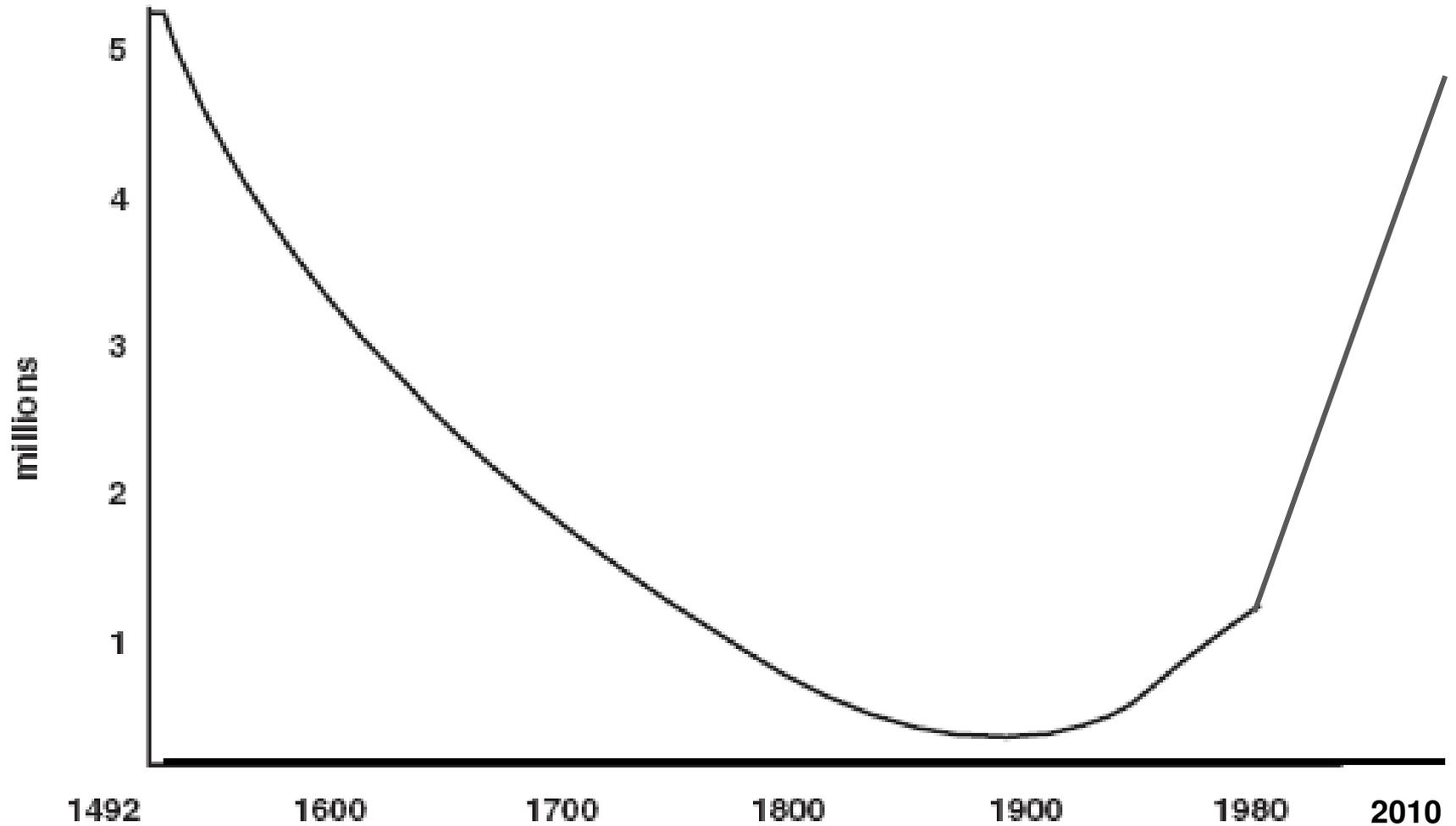
THE State reward for dead Indians has been increased to \$200 for every red-skin sent to Purgatory. This sum is more than the dead bodies of all the Indians east of the Red River are worth.

# AI/AN Population by County

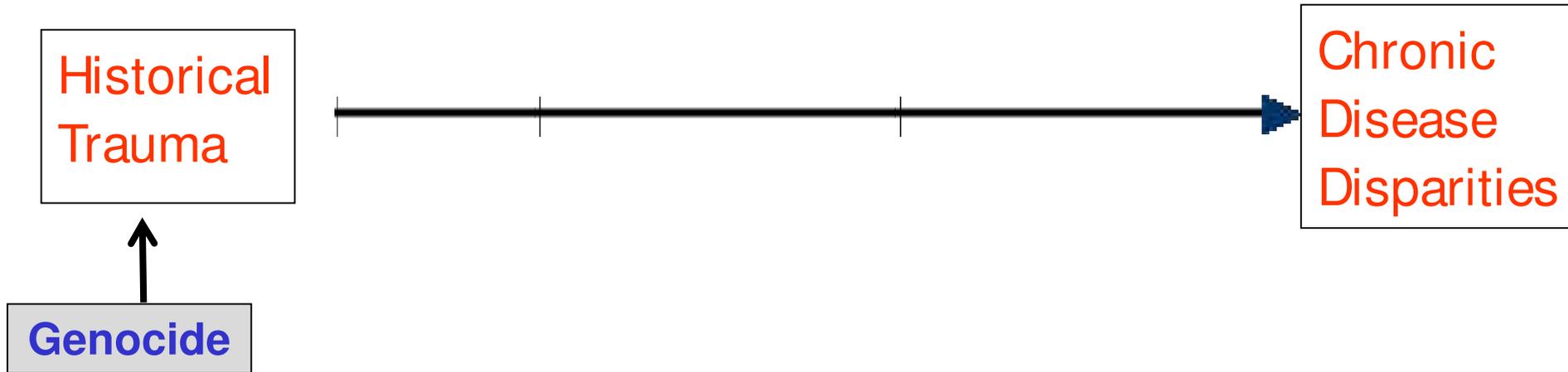


Source: U.S. Census Bureau, 2010 Census Redistricting Data (Public Law 94-171) Summary File, Table P1.

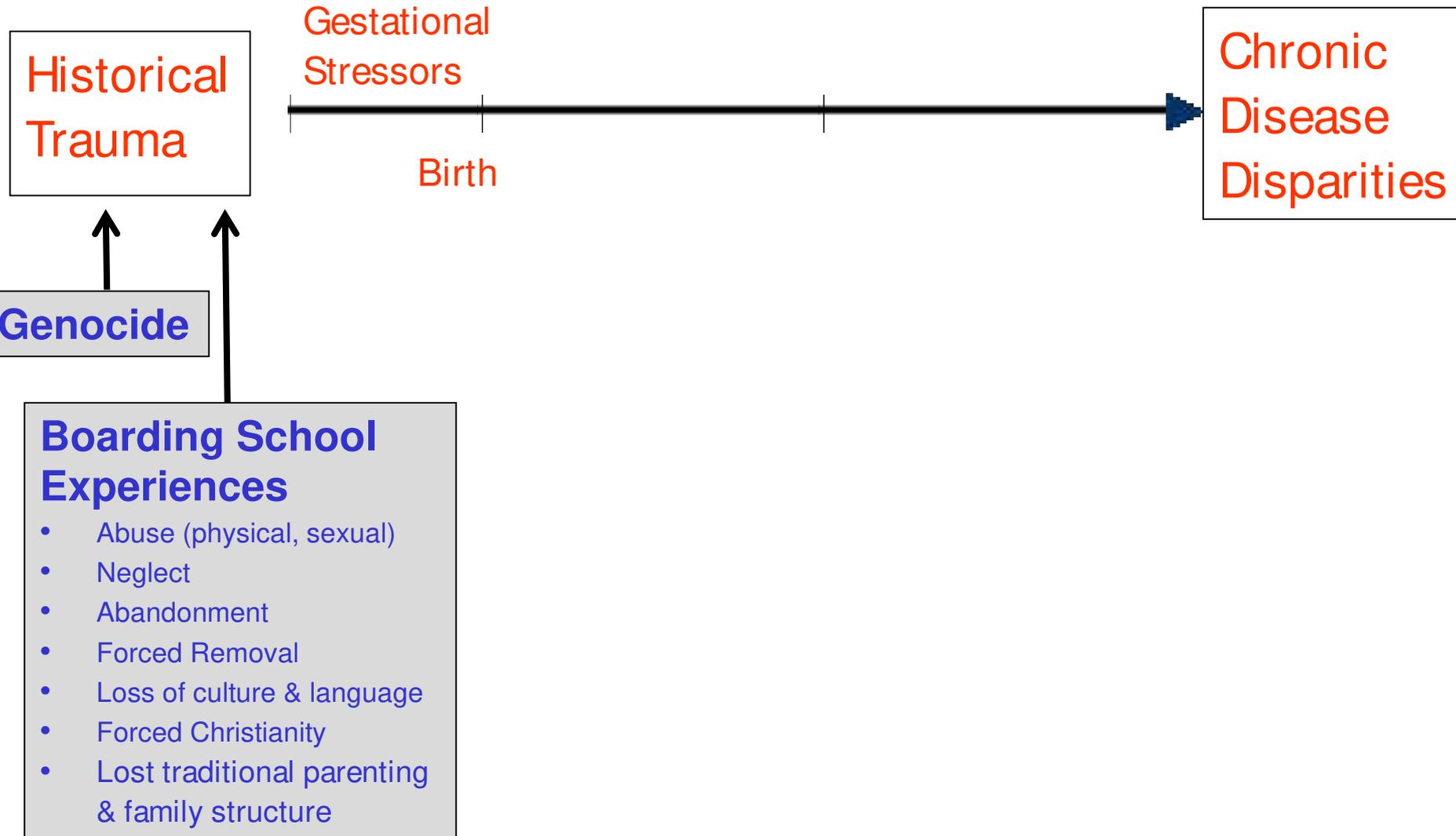
# AI/AN Population Decline and Recovery, 1492 – 2010



# Inter-Generational Basis for Chronic Disease Disparities Among American Indians and Alaska Natives



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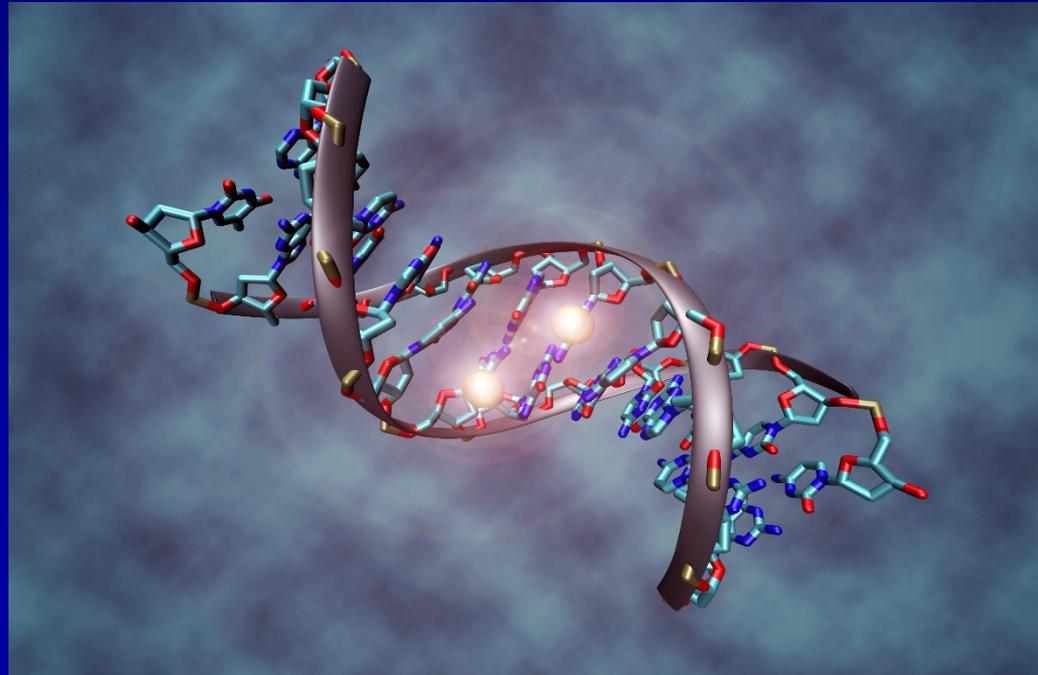
***Historical trauma is the collective emotional wounding across generations that results from massive cataclysmic events – Historically Traumatic Events (HTE)\****



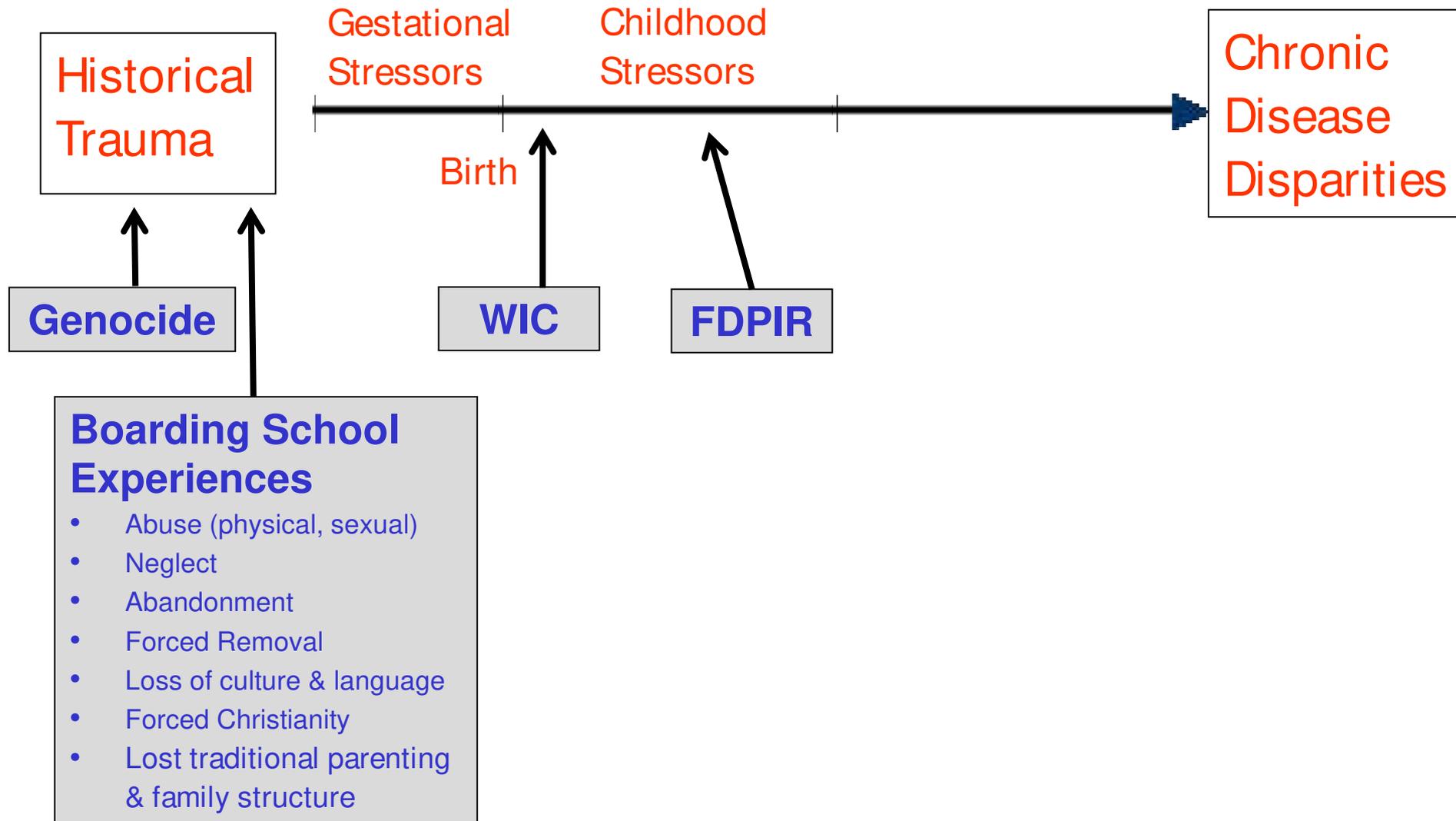
- The trauma is held personally and transmitted over generations. Thus, even family members who have not directly experienced the trauma can feel the effects of the event generations later

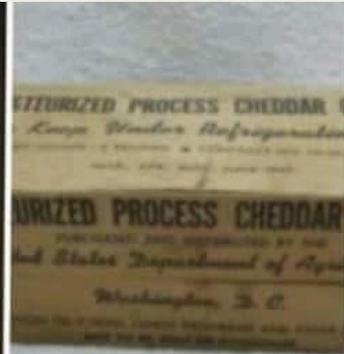
# Epigenetics

- Epigenetics refers to the study of changes in the regulation of gene activity and expression that are not dependent on DNA sequence.



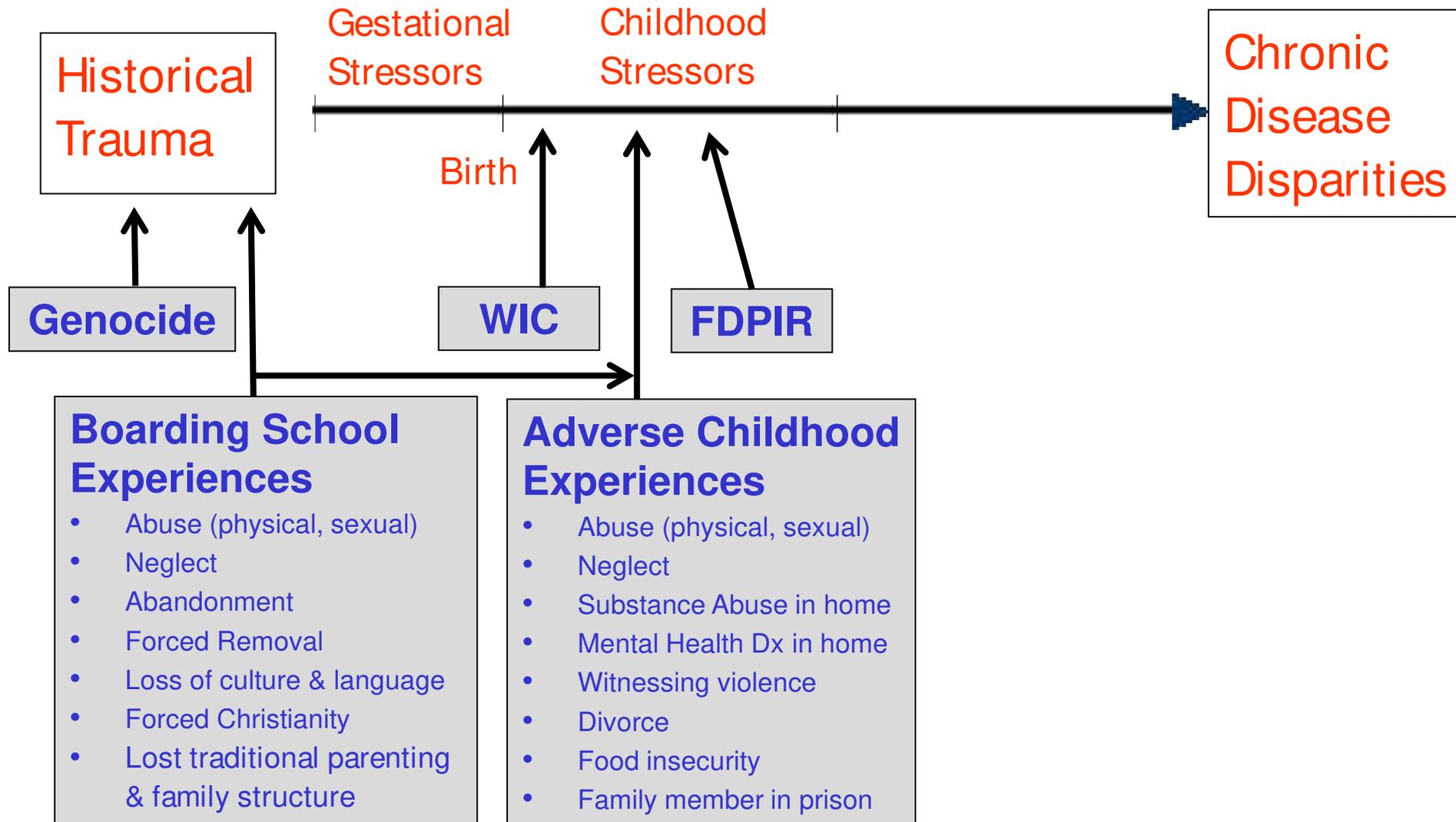
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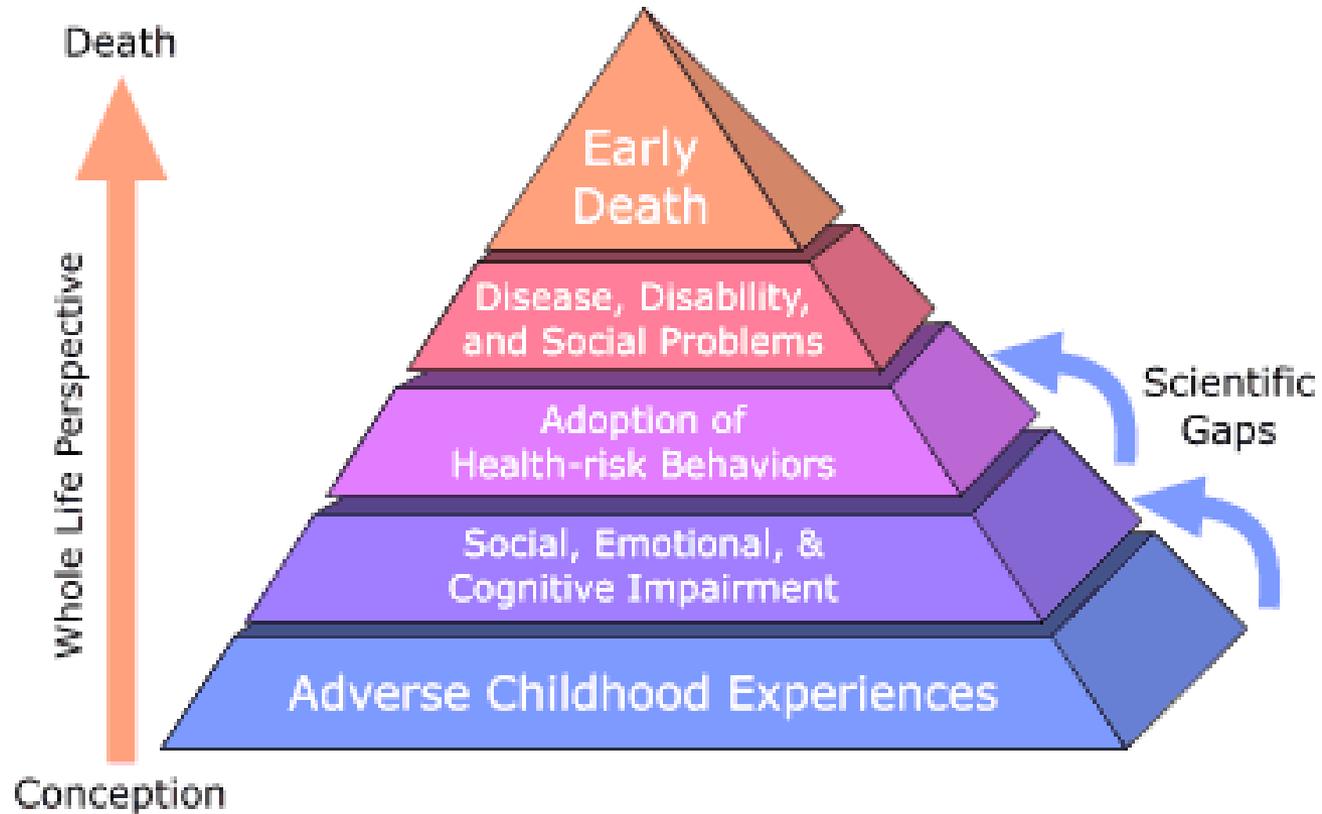




# Inter-Generational Basis for Chronic Disease Disparities Among American Indians and Alaska Natives



# ACE Study Pyramid



# Impact of ACEs on Health

## ACES can have lasting effects on....



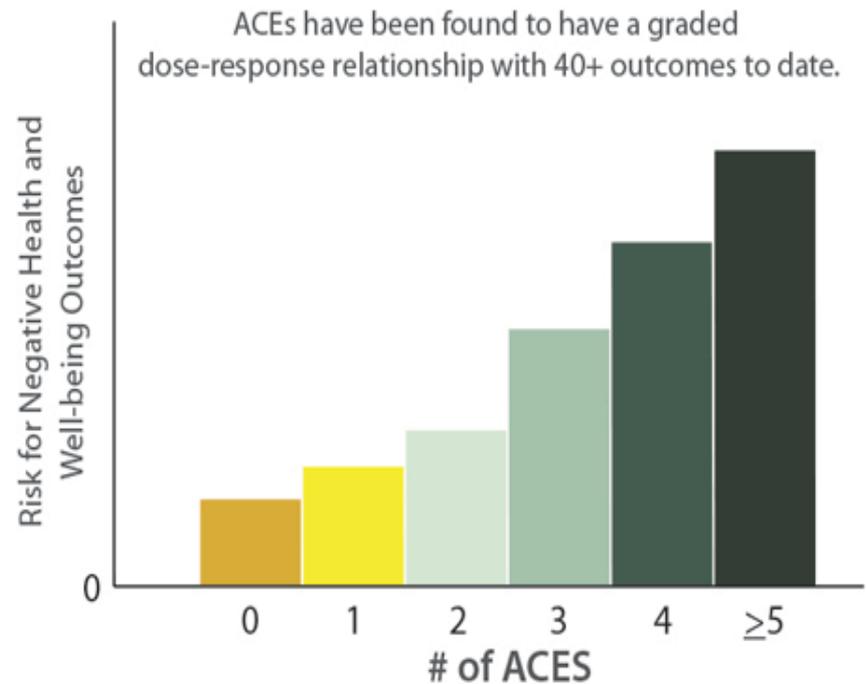
Health (obesity, diabetes, depression, suicide attempts, STDs, heart disease, cancer, stroke, COPD, broken bones)



Behaviors (smoking, alcoholism, drug use)

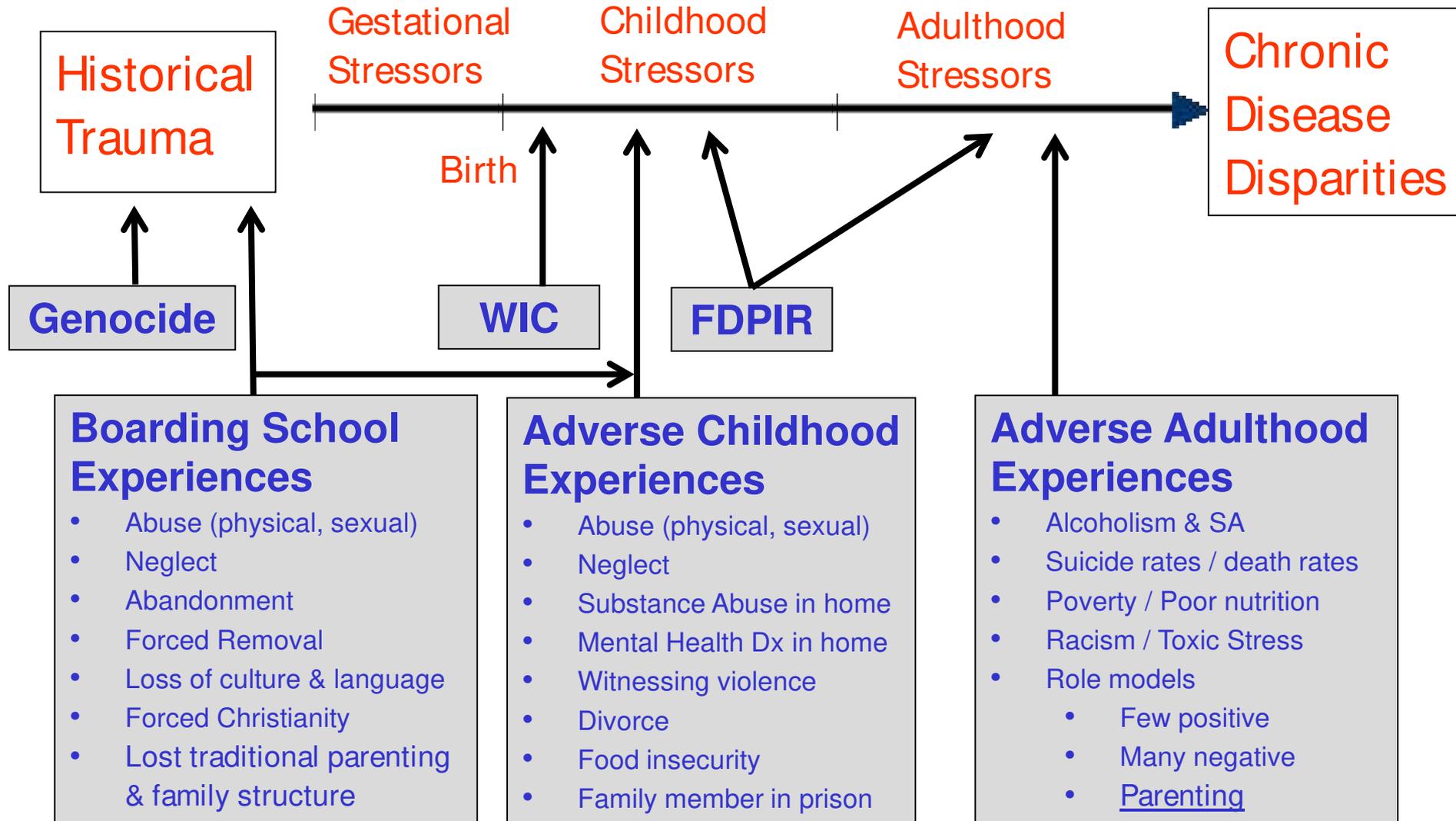


Life Potential (graduation rates, academic achievement, lost time from work)

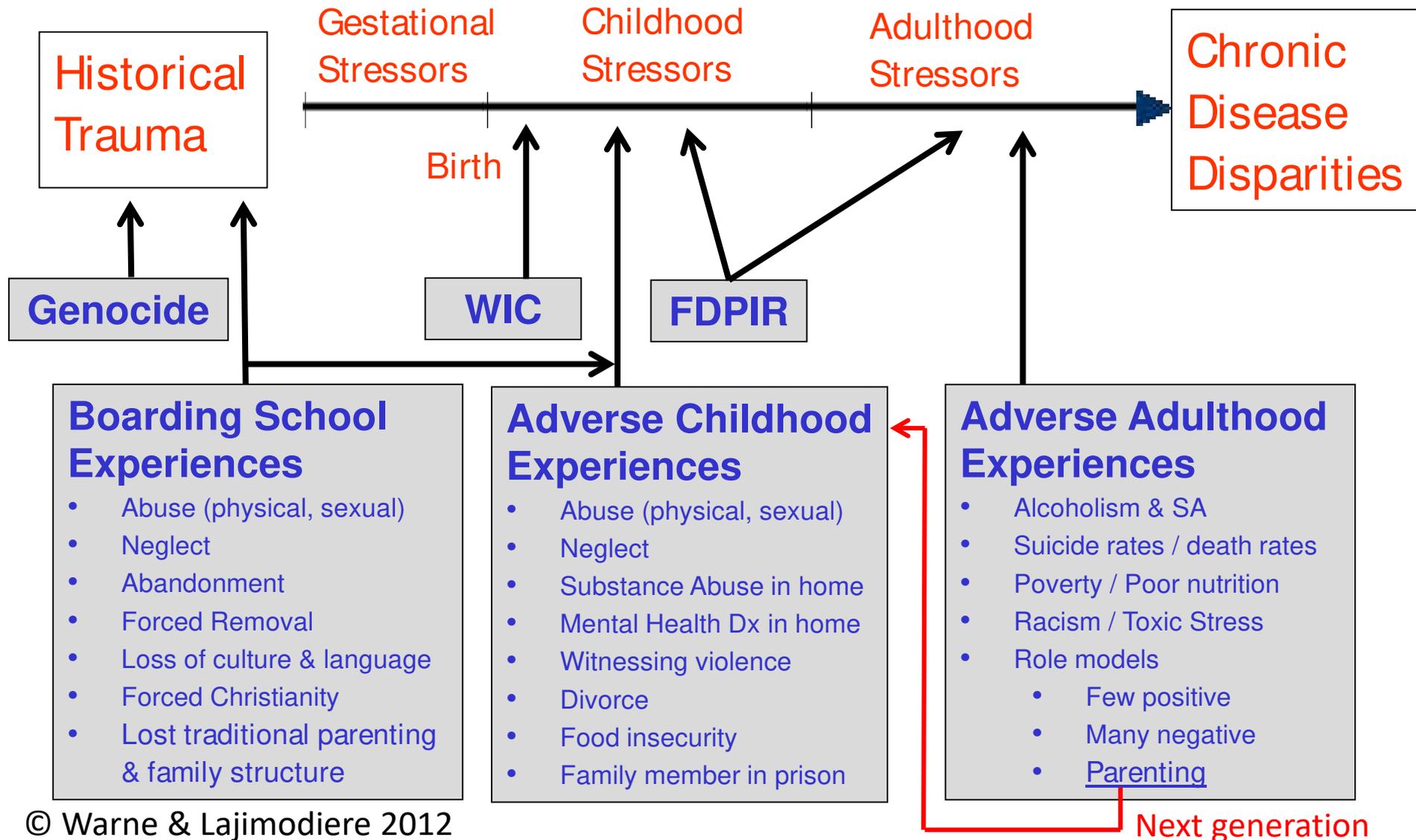


\*This pattern holds for the 40+ outcomes, but the exact risk values vary depending on the outcome.

# Inter-Generational Basis for Chronic Disease Disparities Among American Indians and Alaska Natives



# Inter-Generational Basis for Chronic Disease Disparities Among American Indians and Alaska Natives



# AI/AN Health Disparities

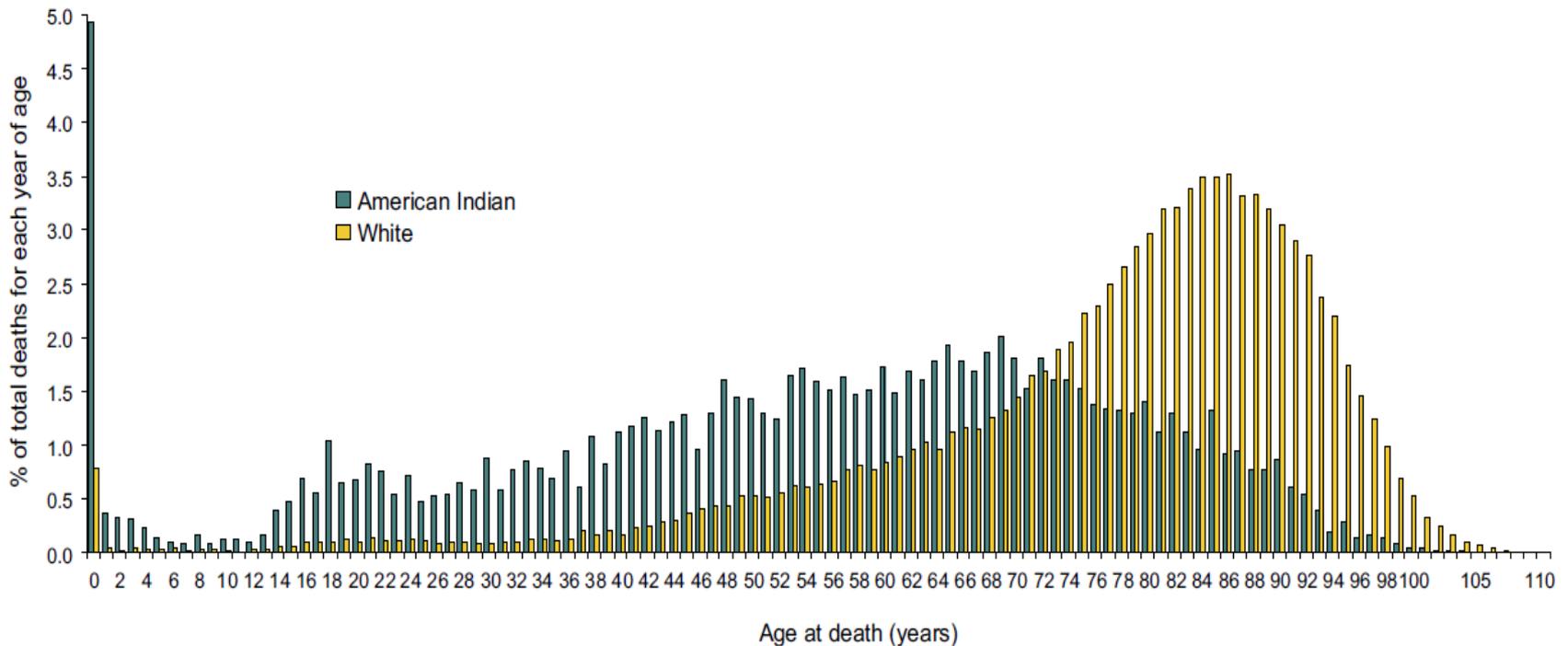
Average age at death in ND (2005 – 2010):

**75.7** Years in the White Population

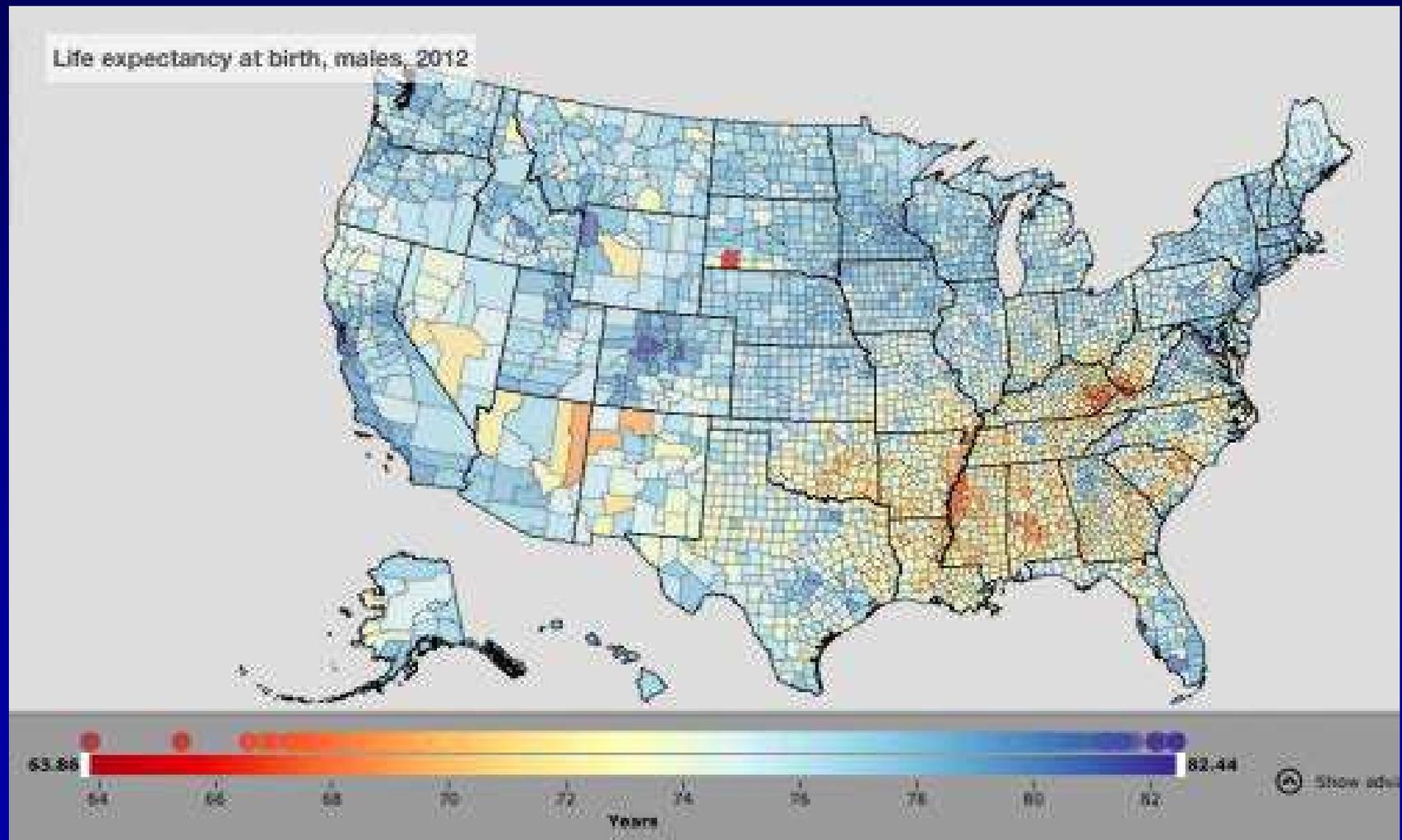
**54.7** Years in the AI Population

# AI/AN Health Disparities

*Average age at death in SD: **81 v 54***



# AI/AN Health Disparities



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## State Suicide Mortality rates by Race, 1990-2002

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<u>State</u>		<u>Rate</u>
<b>North Dakota</b>	White	11.3
	<b>American Indian</b>	<b>26.0</b>
<b>South Dakota</b>	White	12.8
	<b>American Indian</b>	<b>27.0</b>

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Underlying mortality data provided by NCHS ([www.cdc.gov/nchs](http://www.cdc.gov/nchs)).  
Rates are per 100,000 and age-adjusted to the 2000 US Std Population  
(19 age groups, Census P25-1130) standard

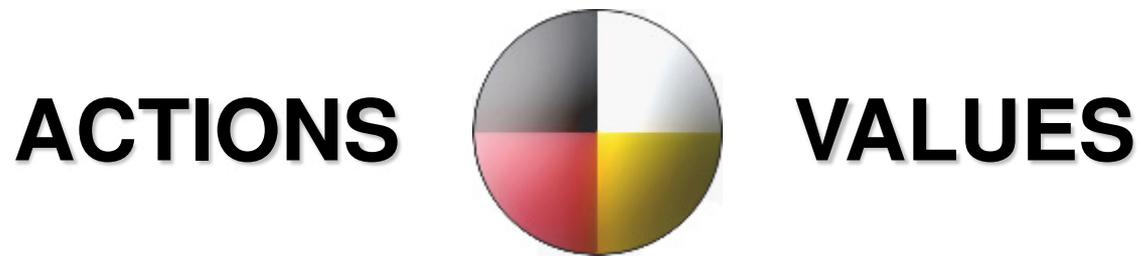
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# MEDICINE WHEEL



# MEDICINE WHEEL

**DECISIONS**



**REACTIONS**

# MEDICINE WHEEL & Traditional Values

WISDOM

COURAGE



FORTITUDE

GENEROSITY

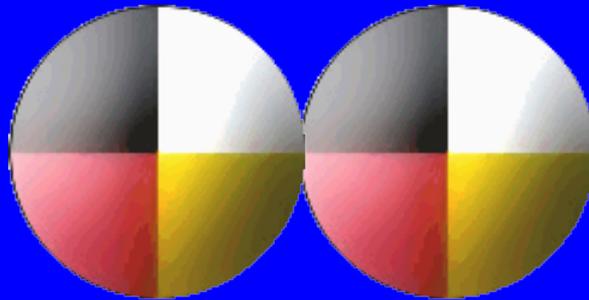
UP—HONOR

WITHIN—

DOWN—RESPECT

HUMILITY

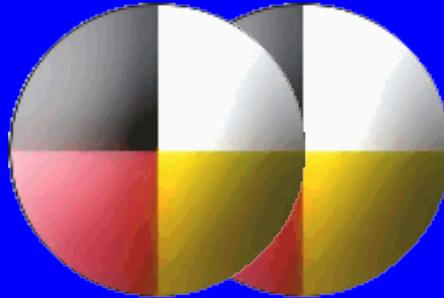
# Medicine Wheel Assessment Interpersonal Relationships



## Surface Interactions

- Professional Relationships,  
Acquaintances, etc.

# Medicine Wheel Assessment Interpersonal Relationships



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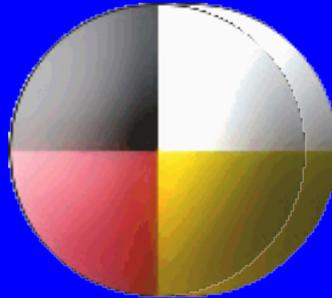


**Core Interactions—Encompass all Four  
Directions—Family, Close Friends**

# Medicine Wheel Assessment Family Relationships

MENTAL

PHYSICAL



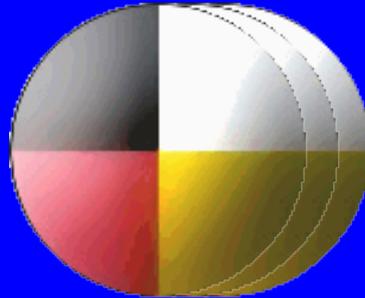
SPIRITUAL

EMOTIONAL

# Medicine Wheel Assessment Family Relationships

MENTAL

PHYSICAL



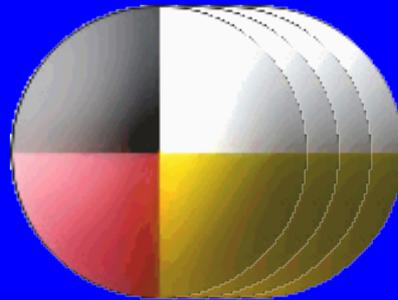
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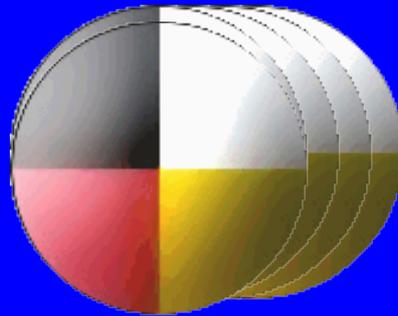
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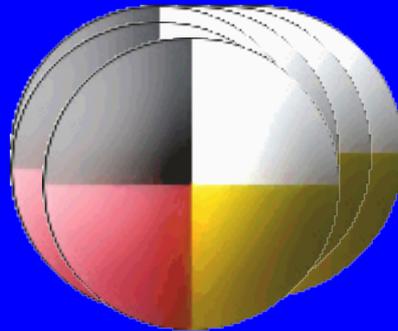
SPIRITUAL

EMOTIONAL

# Medicine Wheel Assessment Family Relationships

MENTAL

PHYSICAL



SPIRITUAL

EMOTIONAL

# Medicine Wheel Assessment Family Relationships



Connectedness to both ancestry and to  
future generations (7<sup>th</sup> Generation)

# Crime in Indian Country

- Domestic and sexual violence in Indian country at epidemic rates
- 1 in 3 Native women will be raped in her lifetime
- Native women experiencing the highest rates of violence when compared to ANY other racial/ethnic group in the U.S.
- One study reported that approximately 80% of perpetrators offending against Native women are non-Indian

# Child Abuse

*Any willful act or threatened act that results in any physical, mental, or sexual injury or harm that causes or is likely to cause the child's physical, mental, or emotional (or spiritual) health to be significantly impaired.*

# Long Term Health Effects of Child Abuse

## Significant Risk For:

- Smoking
- Severe Obesity
- Physical Inactivity
- Depression
- Suicide Attempt
- Alcoholism
- Illicit Drug Use
- Injected Drug Use
- 50+ Sexual Partners
- Sexually Transmitted Infections

# Long Term Health Effects of Child Abuse

- 103% more likely to smoke
- 43% more likely to become suicidal
- 103% more likely to develop alcohol addiction
- 192% more likely to develop a drug addiction

# South Dakota Health Survey

The survey included questions on:

- Basic information, including age, sex, race;
- Self-reported health status, including chronic diseases, depression, and other health issues;
- Mental Health Screening;
- Access to services, including cost, distance, and other access issues; and
- Adverse Childhood Experiences.

# South Dakota Health Survey

## DEMOGRAPHIC CHARACTERISTICS FOR AI AND NON-AI RESPONDENTS

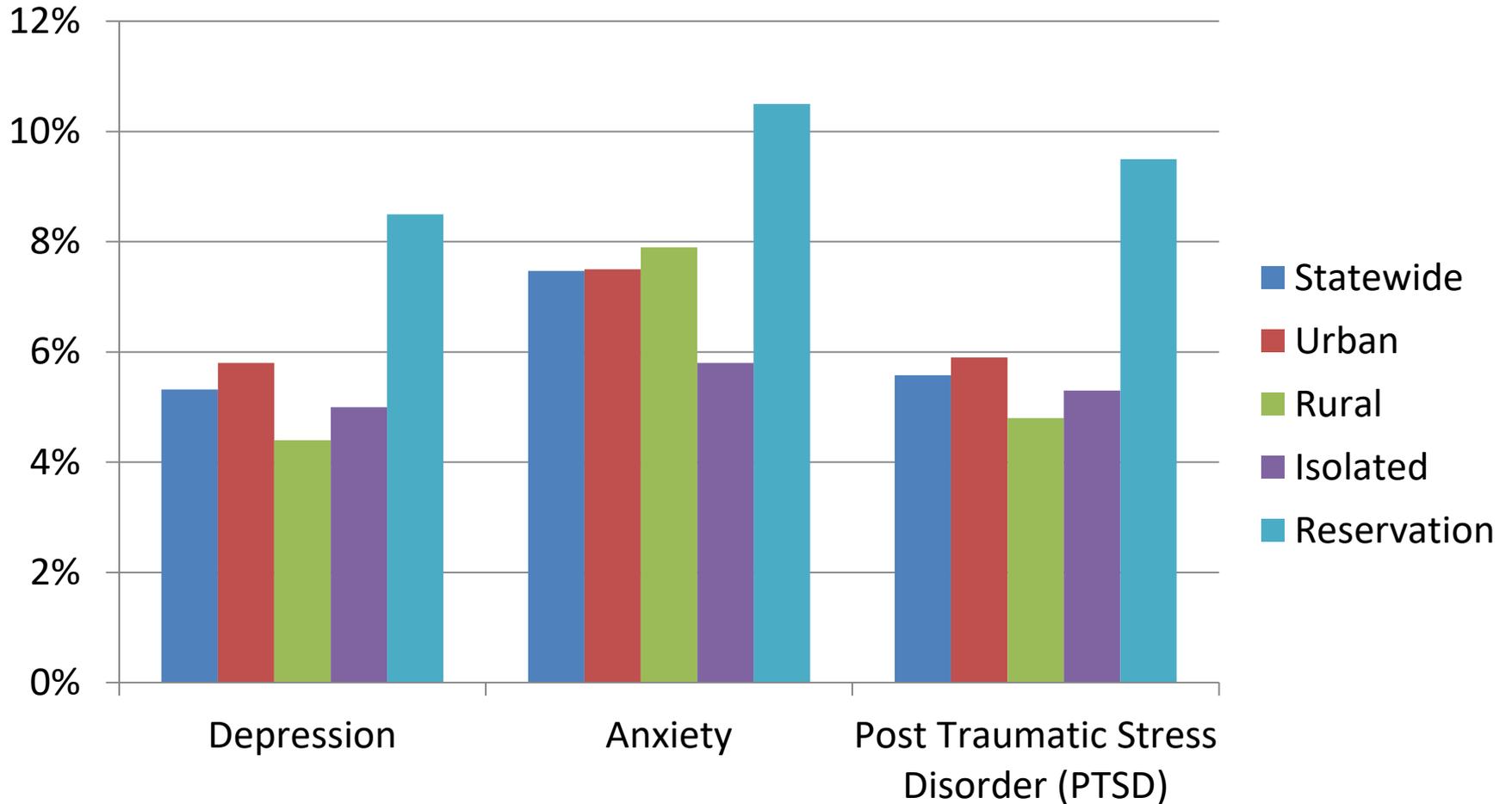
	American Indian (n = 516)	Non-American Indian (n = 7078)	Total (n = 7593)	p value
Age				.0002
18-34	36.63%	29.69%	30.34%	
35-64	57.62%	49.94%	50.65%	
65 and older	5.75%	20.37%	19.01%	
Gender				.21
Male	37.16%	43.08%	42.53%	
Female	62.84%	56.92%	57.47%	

	AI	Non-AI	Total	p-value
Employment status				<u>&lt;.0001</u>
Not employed	31.60%	7.58%	9.64%	
Employed part time	11.91%	19.63%	18.97%	
Employed full time	49.59%	54.47%	54.05%	
Retired	6.89%	18.31%	17.34%	
Income (%FPL)				<u>&lt;.0001</u>
<50% FPL	38.90%	12.73%	15.17%	
50–138% FPL	22.48%	10.18%	11.33%	
138–250% FPL	17.29%	22.46%	21.98%	
250–400% FPL	11.13%	28.75%	27.11%	
>400% FPL	10.20%	25.88%	24.42%	
Education				<u>&lt;.0001</u>
Less than high school	9.95%	3.23%	3.85%	
High school diploma or GED	39.29%	32.40%	33.05%	
Vocational or 2-yr. degree	24.86%	23.87%	23.96%	
4-year college degree	22.47%	25.69%	25.39%	
Advanced or graduate degree	3.44%	14.81%	13.75%	

<b>Adverse Childhood Experiences <i>Domains</i></b>	<b>American Indian (n = 516)</b>	<b>Non-American Indian (n = 7078)</b>	<b>Significance</b>
<b>Abuse</b>			
Emotional Abuse	30.10%	17.41%	.0008*
Physical Abuse	24.51%	12.31%	.0002*
Sexual Abuse	15.53%	9.60%	.0263*
<b>Neglect</b>			
Emotional Neglect	25.87%	14.00%	.0005*
Physical Neglect	15.89%	2.78%	<.0001*
<b>Household Dysfunction</b>			
Mother Treated Violently	23.76%	5.31%	<.0001*
Household Substance Abuse	50.04%	21.49%	<.0001*
Household Mental Illness	24.36%	13.89%	.0032*
Parental Separation or Divorce	39.34%	20.17%	<.0001*
Incarcerated Household Member	22.57%	3.73%	<.0001*

# Prevalence: Mental Health Screens

Participants who screened positive for a condition using standardized mental health screening tools

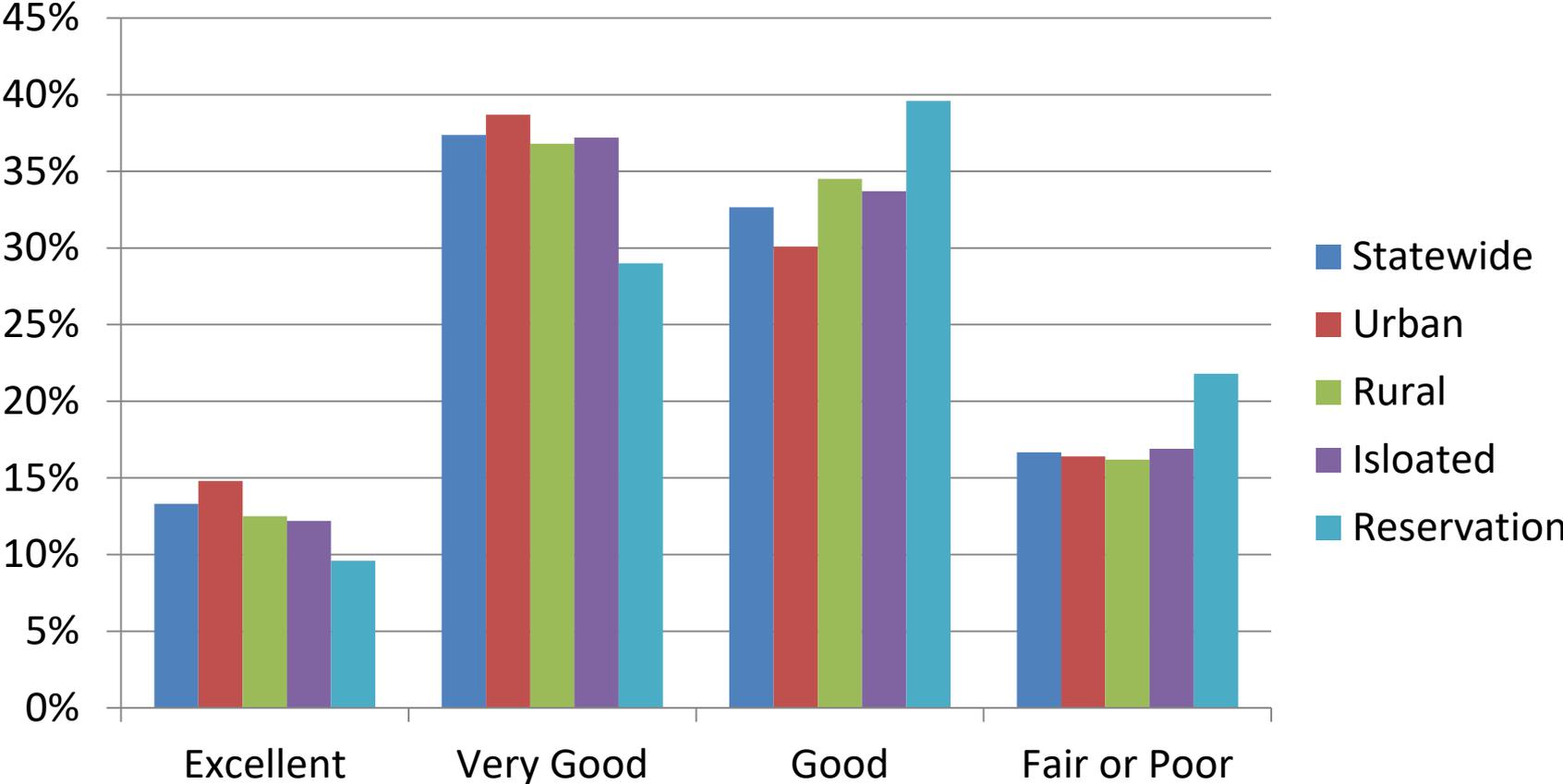


## STATEWIDE PREVALENCE OF MENTAL HEALTH CONDITIONS, ALCOHOL MISUSE, AND SMOKING STATUS BY AMERICAN INDIAN RACE/ETHNICITY COMPARED WITH NON-AMERICAN INDIAN RESPONDENTS

	American Indian (n = 516)	Non-American Indian (n = 7078)	Significance
Posttraumatic stress disorder (PC-PTSD)	13.2%	5.3%	<.01
Current Smoker	35.2%	15.1%	<.01
Depression (PHQ-2)	9.5%	5.1%	.07
Severe Alcohol Misuse (AUDIT-C 9+)	3.3%	2.4%	.46
Alcohol Misuse (AUDIT-C)	40.2%	42.6%	.63
Anxiety (GAD-2)	8.1%	7.4%	.80

# Self-Rated Health Status

Self- assessment of general health status



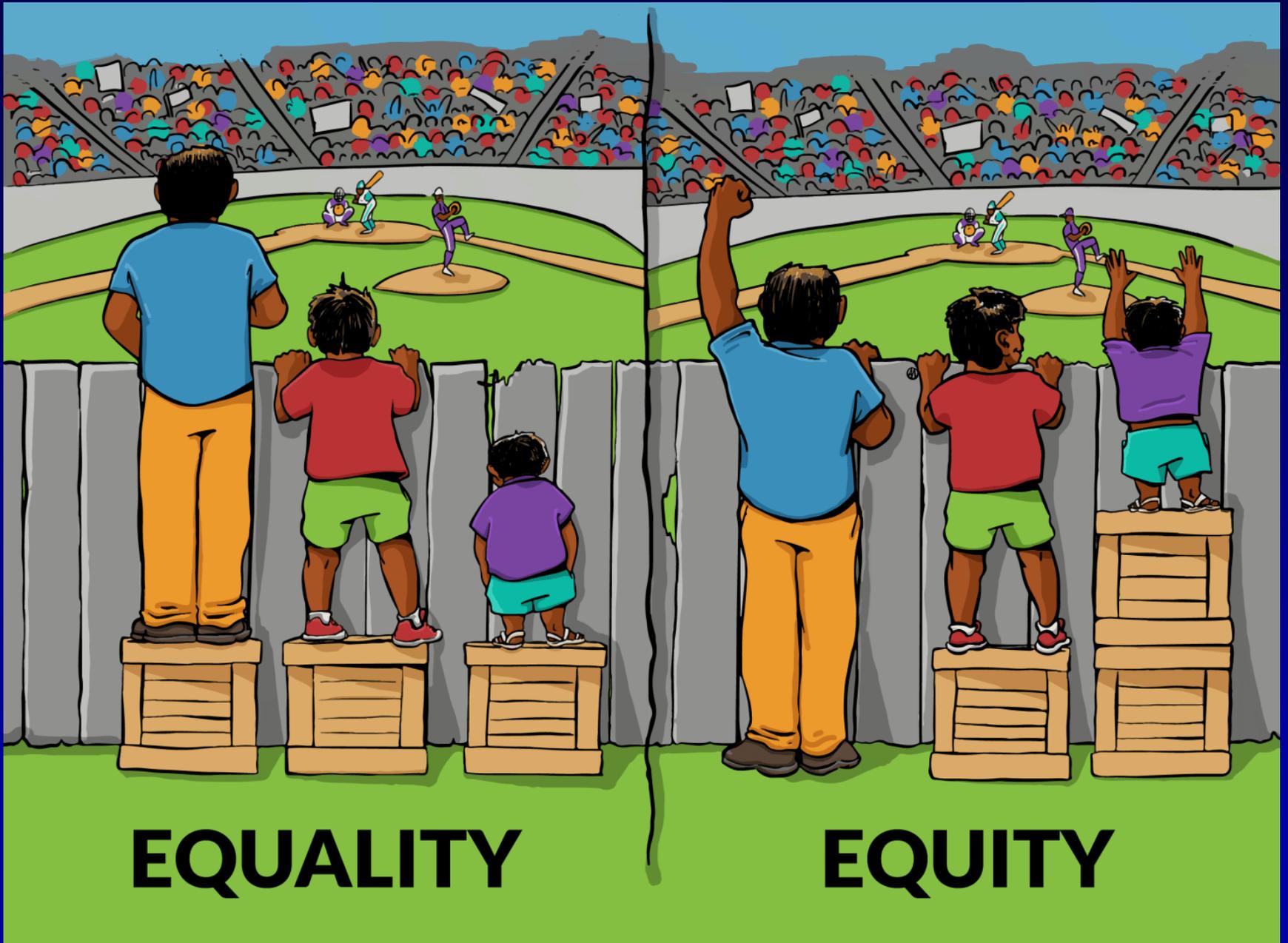
# AI ACE Disparities in South Dakota

	<u>AI</u>	<u>Non-AI</u>	<u>p-value</u>
Number of ACEs (Score)			<u>&lt;.0001*</u>
0	16.84%	50.02%	
1	21.59%	23.02%	
2	16.20%	9.60%	
3	12.99%	6.09%	
4-5	13.10%	7.38%	
≥6	19.28%	3.89%	

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Note

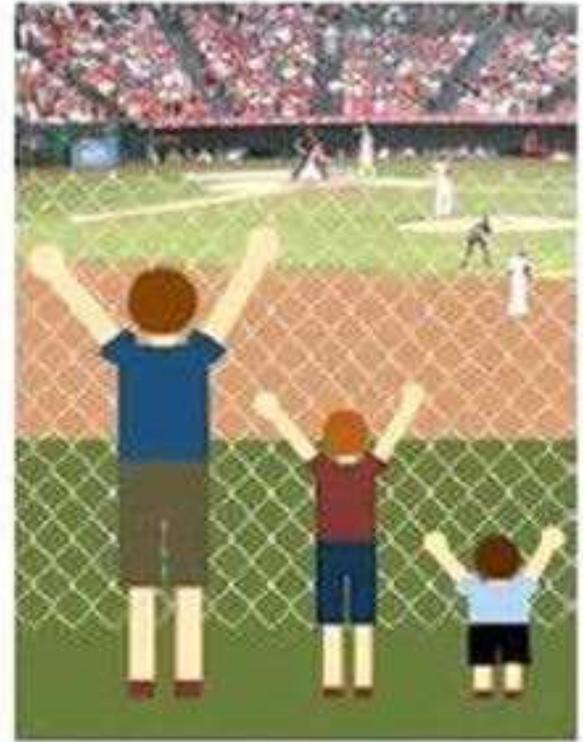
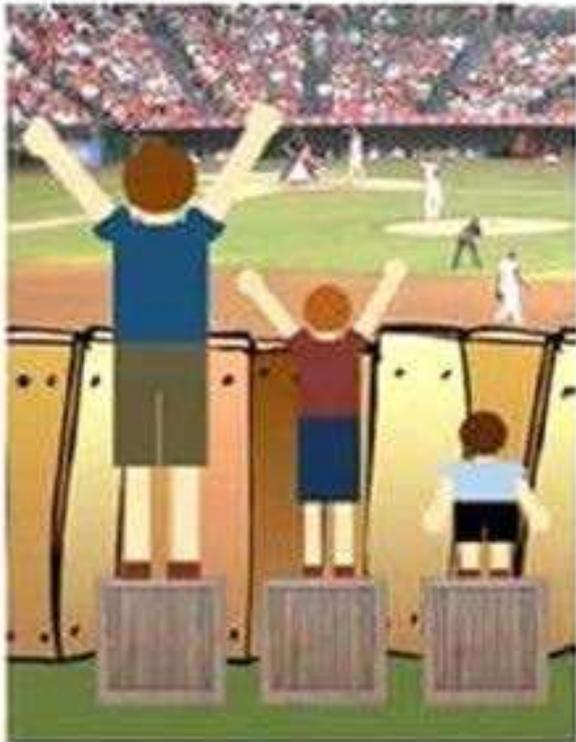
\*statistically significant



**EQUALITY**

**EQUITY**

# Equality, Equity, Systemic Barriers



# Significant Challenges

## Social Determinants

- Poverty
- Trauma
- Politics
- Inattention/Neglect
- Racism
- Inequity

## Outcomes

- Health Disparities
- Education Inequality
- Generational Poverty
- Ongoing Racism
- Worsening Inequity
- Suffering and Death

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Need to address **equity** in a comprehensive manner—medical, behavioral, public health...

# Research and Programming Needs

- Improve understanding of Historical Trauma

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# Research and Programming Needs

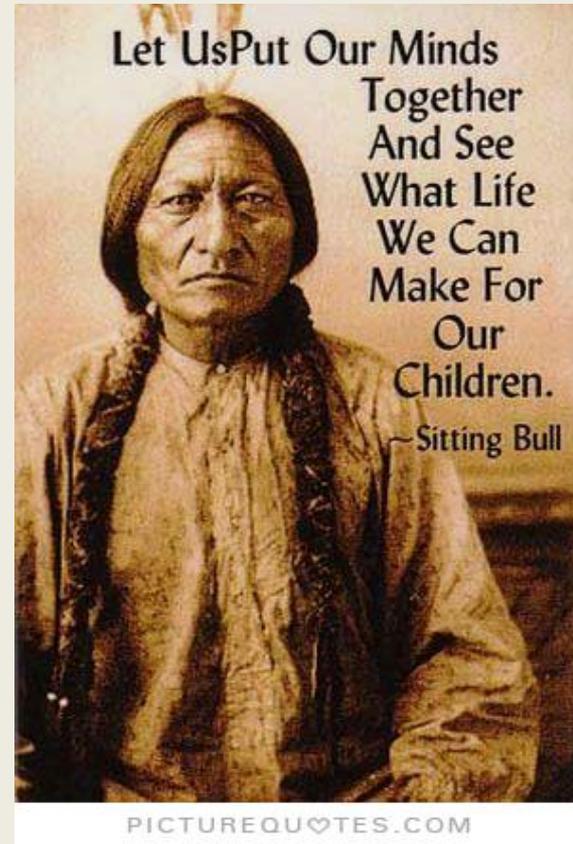
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- Improve understanding of Historical Trauma
- How do we prevent ACEs?
  - Home visiting, parenting skills, community engagement
- How do we mitigate the impact of HT and ACEs?
- Develop a Diverse Workforce
- UND INMED & MPH Program
- PhD in Indigenous Health

# Public Health Programming in a Cultural Context

*Assess the effectiveness of new approaches to health promotion and disease prevention*



# Next Steps

## Indigenous Health PhD

Build competencies in:

- **Research Methods**
- **Evaluation Frameworks**
- **Policy Development and Analysis**
- **Leadership**

# Indigenous Health PhD

- 60 Credits, post-Masters
- 3-Years, full-time
- 42 credits—coursework
- 6 credits—Indigenous Health Seminar Series
- 12 credits—Dissertation / Portfolio
  - Dissertation— ***“Academic Track”***
  - Portfolio— ***“Applied Track”***
    - Community Health Assessment, Grant Proposal, Published Manuscript, Strategic Plan, Policy Brief, etc.

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- Principles of Indigenous Health—1 & 2
- Applied Biostatistics
- Applied Epidemiology
- Quantitative Methods
- Qualitative Methods
- Mixed Methods
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- American Indian Health Policy—1 & 2
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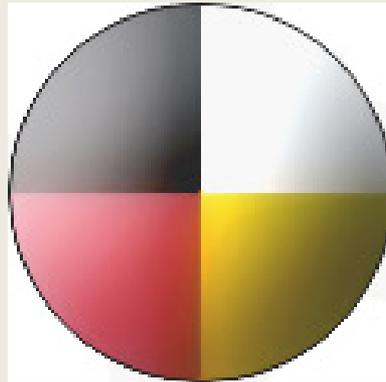
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- Qualitative Methods
- Mixed Methods
- CBPR & Tribally-Driven Research Frameworks
- Indigenous Research Methods
- American Indian Health Policy—1 & 2
- Public Health Program Evaluation
- Indigenous Evaluation Frameworks
- Indigenous Leadership

# MEDICINE WHEEL

**MENTAL**

**PHYSICAL**



**SPIRITUAL**

**EMOTIONAL**

# **MEDICINE WHEEL & Determinants of Public Health**

**EDUCATIONAL**

**ENVIRONMENTAL**



**CULTURAL &  
HISTORICAL**

**SOCIAL**

# **MEDICINE WHEEL & Evaluation of Public Health**

**PLAN**

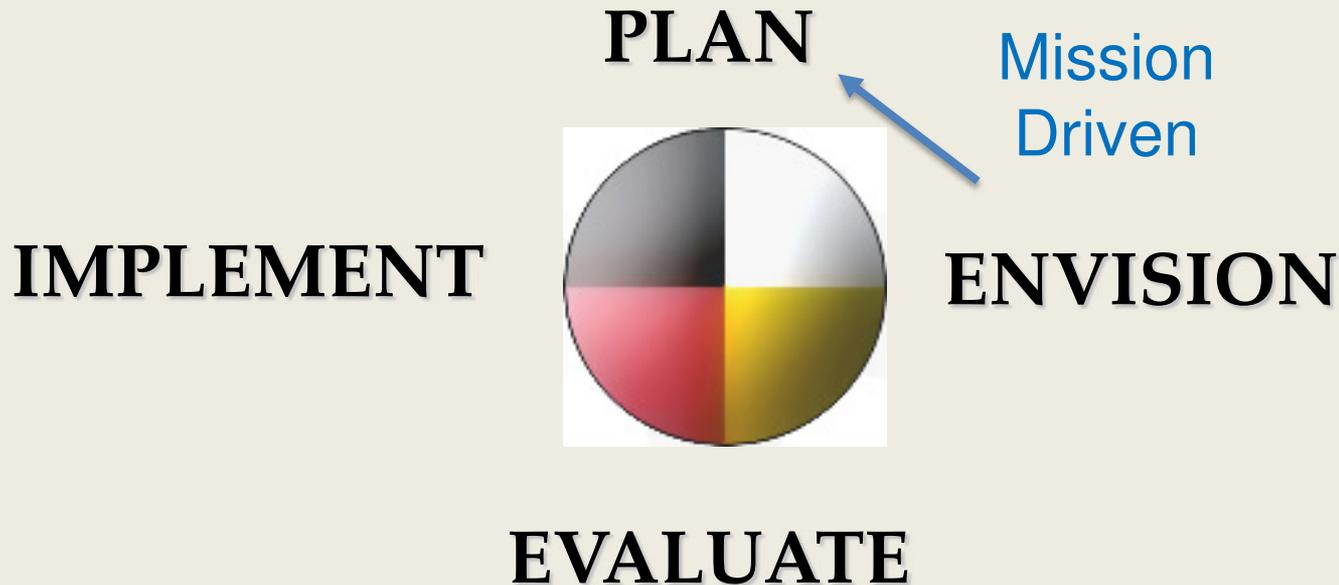
**IMPLEMENT**



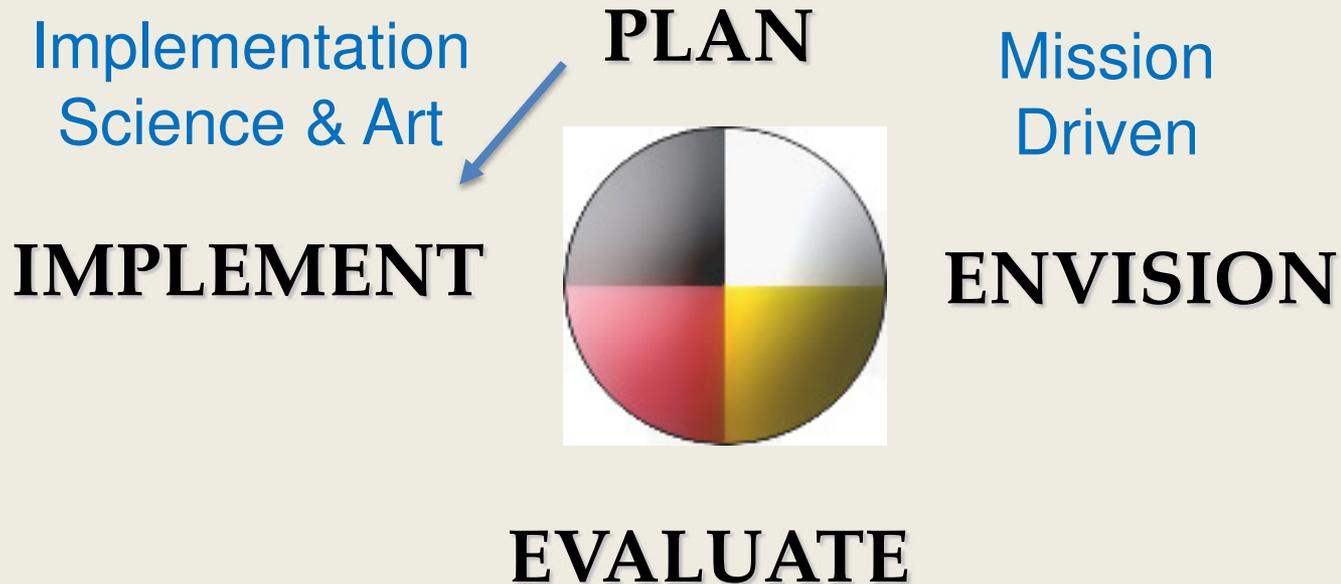
**ENVISION**

**EVALUATE**

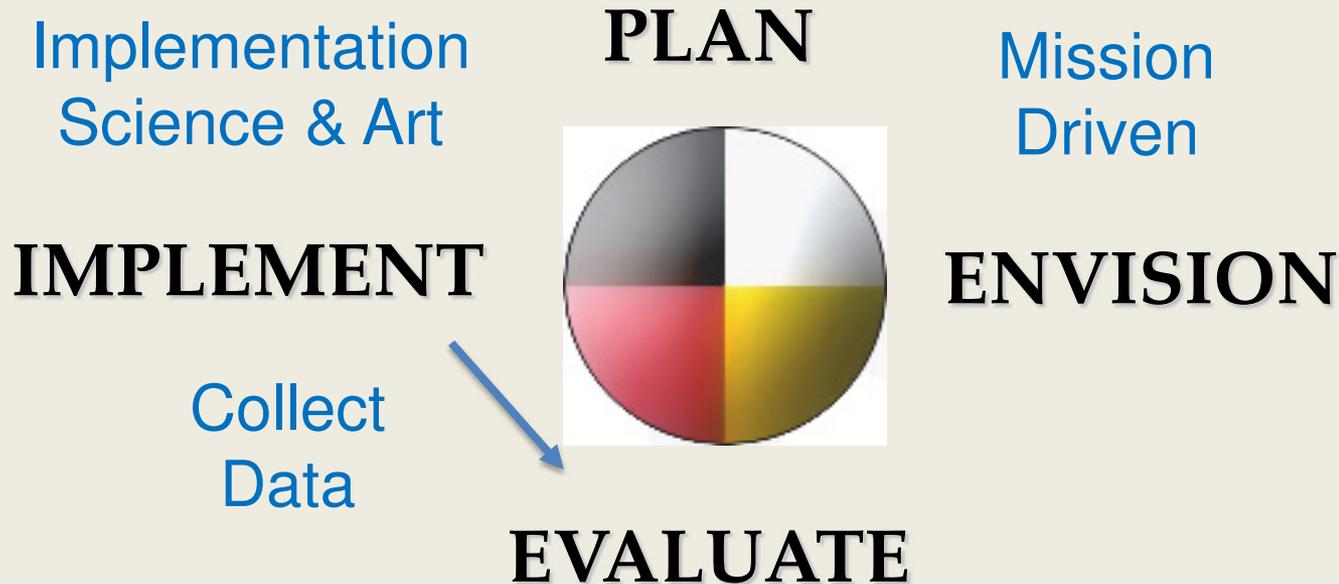
# MEDICINE WHEEL & Evaluation of Public Health



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# MEDICINE WHEEL & Evaluation of Public Health



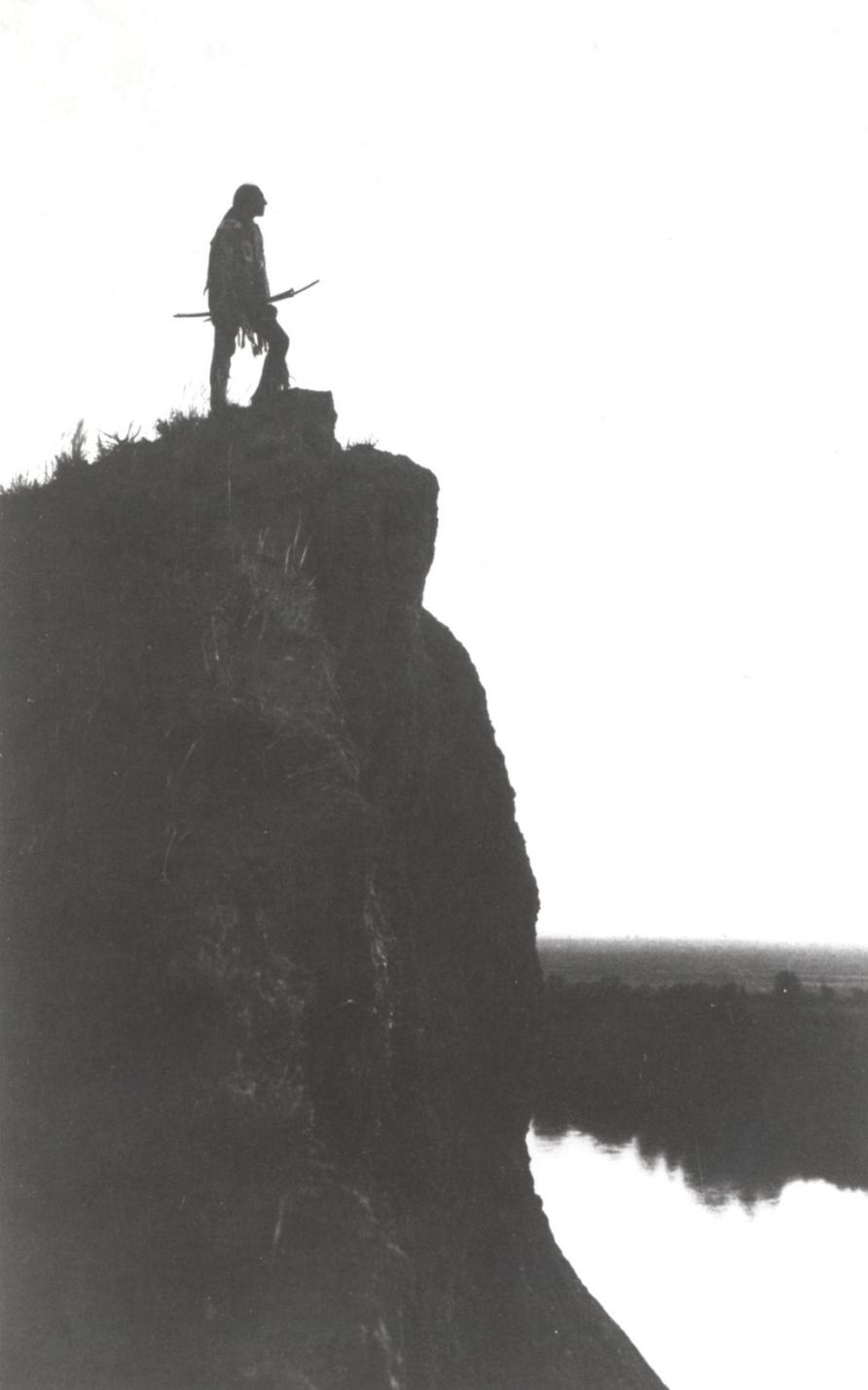


# Blackfeet Saying

A child is sacred. And when that child comes into the home, the family must welcome it. And if the child is happy and feels the want, he will come into this world very, very strong. And not to know this is to know nothing.







**Donald Warne**

**[donald.warne@med.und.edu](mailto:donald.warne@med.und.edu)**