

# Trauma, Incarceration & Maternal Mortality : Connecting the Dots



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# Victimization of Women & Children

- National survey findings(NISVS):
  - 1 in 4 women experience intimate partner violence
  - 1 in 5 experience rape
- 1/3 - 1/2 some form of abuse in lifetime
  - Multiple victimizations common
- 3 women murdered by intimate partner daily
- Adverse childhood experiences: 40% 2 or more
- Rates of abuse higher among AI/AN
- Rates in some AI/AN subgroups may be much higher
  - 87% pregnant women experienced IPV, CA &/or CSA (Bohn, 2003)
  - Routine abuse assessments approximately 2/3



# Incarceration of Women (ACLU)

- Women are the fastest growing segment
- 2/3 are women of color
- Majority are mothers
- Most are there for nonviolent crimes
  - Drugs, 'prostitution'
- Vast majority have been victimized (CA, IPV, SA)
- Many with mental and chemical health issues

# Incarcerated Women

- Frequently arrested for acts coerced or controlled by male partners or in response to violence(ACLU)
  - Trafficking
  - Drug use/sales/transportation
  - Fraud
  - Present during violent crimes committed by him
- Many incarcerated for responding to abuse
  - 90% who killed a man had been abused by him
- Women receive harsher sentences for killing their male partners than men who kill female partners
- Many experience abuse in prison



# Maternal Mortality & IPV Intersection

- Women of childbearing age most likely to experience IPV
- Abuse may begin or escalate during pregnancy and PP
- IPV associated with risk-factors for poor infant & maternal outcomes:
  - Late, inadequate care
  - Poor weight gain
  - Substance use
  - Injuries:
    - ROM, PTB, Abruptio
    - Bruises to strangulation and/or homicide

(Bohn, 1990, Journal of Nurse Midwifery, 35(4) 86-98; Campbell, 2021)



# Pregnancy-Associated MM

- Most common causes include homicide, suicide and drug overdoses
  - All of these causes are known to have intersections with intimate partner violence All are more common among AI/AN women (data are not always reported due to low overall numbers)

## **Homicide**

- 1/3 – 2/3 femicides overall associated with IPV
- Pregnant and recently pregnant women at increased risk compared to nonpregnant
- State level data has attributed 13% of all deaths
- Approximately 10% of maternal deaths in 2 states attributed to violence

(Campbell, et al, 2021)





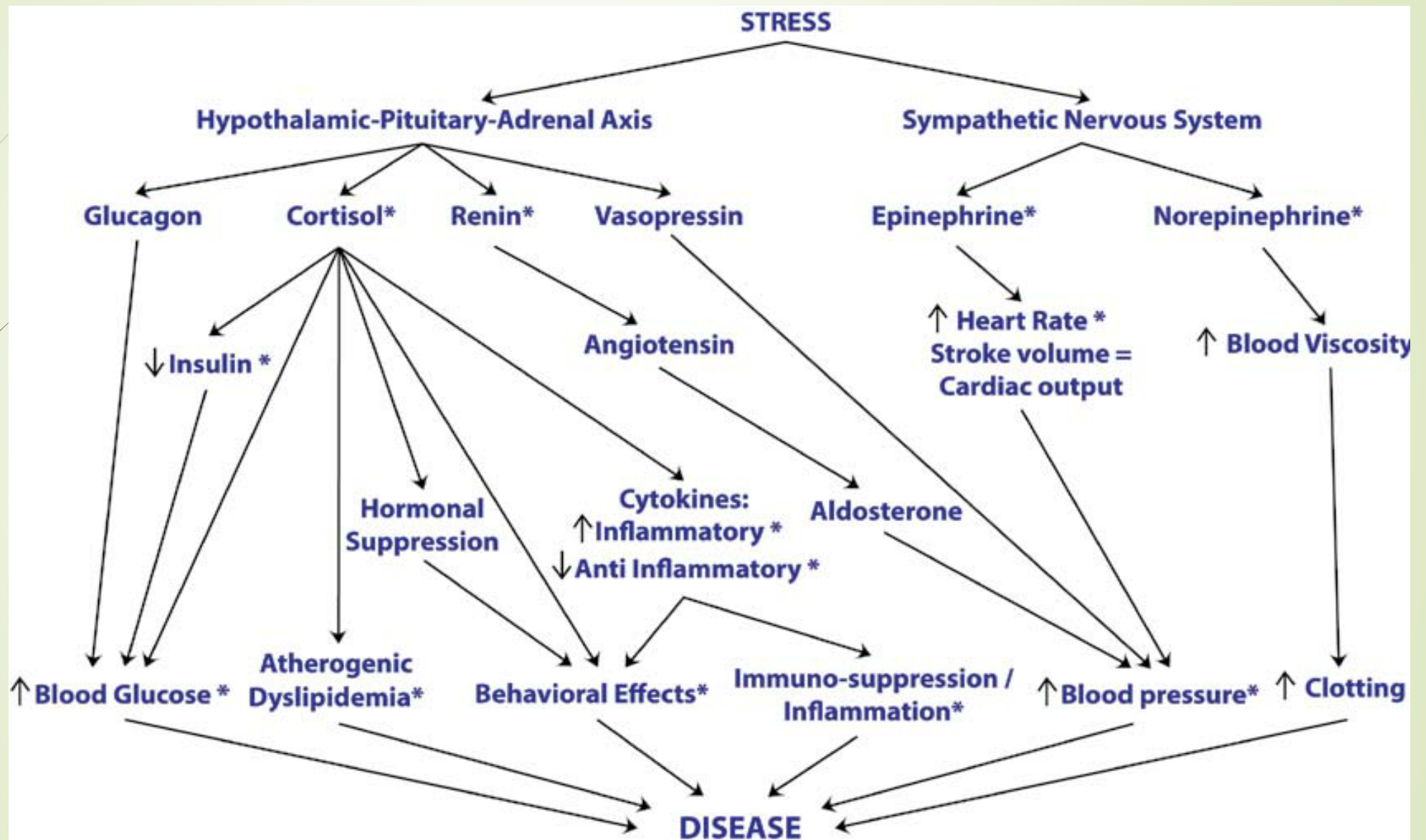
# Racism as a Cause of Inequities in Maternal Mortality

- Violence against AI/AN often committed by non-Indians
- Institutional racism and daily micro & macro aggressions = trauma
- Theories of racism as trauma explain health inequities:
  - **Historic Trauma:** Cumulative multigenerational exposure to traumatic effects of colonialism or slavery (genocide, forced relocation and removal of children, poverty, housing and food insecurity, violence & abuse, racism) negatively effects health and health behaviors
  - **Weathering Hypothesis:** Exposure to historic and current trauma results in premature biologic aging and increased pre-existing risk conditions. Used initially to explain increase in negative maternal and child outcomes among Black women.

(Mohatt et al, 2015, Social Science Medicine, 106, 207-221) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4001826/>

(Geronimus AT, 1991, Ethnicity & Disease, 2(3), 207-221)

# Physiologic Response to Chronic stress





# Health Effects of Racism

- **Epigenetics:** Trauma (Including ACEs, abuse, racism) and stress produce alterations in epigenome via methylation of DNA. This stress may be nutritional, psychological or from exposure to environmental toxins.
  - Does not change the genomic sequence itself
  - Affects the phenotypic outcomes by altering cell differentiation and gene expression
    - Can lock genes in to the 'off' position (e.g. tumor suppressing gene)
    - Diseases such as diabetes, CV disease and HTN may result
    - Alterations in genes that effect the stress response
  - Can effect embryonic development
  - Intergenerational transmission of alterations occurs
  - Alterations are potentially reversable

(Phillips, 2008; Thayer & Kuzawa, 2011; Conching & Thayer, 2019; Brockie et al, 2013)



# Effects on Maternal Mortality

- Enter pregnancy with pre-existing risk conditions
  - DM, HTN, CV disease
- Higher rates of risk behaviors, stress & abuse
- Decreased access to quality health care
- Less likely to have provider of same race
- Increased risk of poverty
  - Food & housing insecurity
  - Violence in neighborhood

## Ergo

Efforts to reduce maternal mortality must include attention to the presence and effects of lifetime abuse and racism

It is all connected!!!





# Thank You, Miigwech

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