Eradicating Maternal Mortality in Texas

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Dean

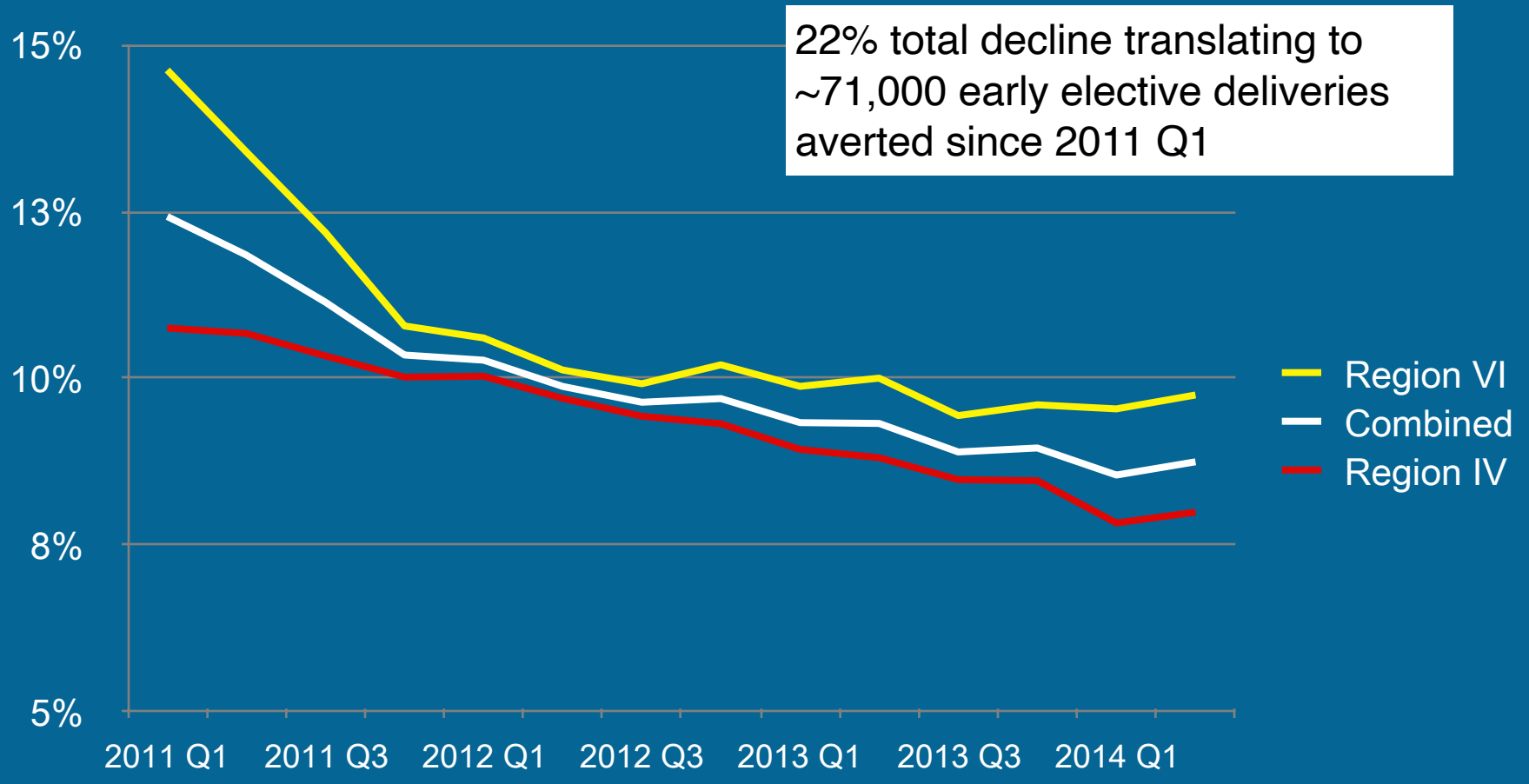
U.C. Berkeley School of Public Health

2020 Texas Collaborative for Healthy Mothers & Babies Summit

Austin, TX

February 27, 2020

Non-Medically Indicated Early Term Deliveries Among Singleton, Term Deliveries*



* Based provisional birth certificate data; denominator excludes women with medical indications present prior to and during pregnancy

U.S. Department of Health and Human Services
HRSA
Health Resources and Services Administration

The Collaborative Improvement and Innovation Network (CoIIN) to Reduce Infant Mortality: An Outcome Evaluation From the US South, 2011 to 2014

Ashley H. Hirai, PhD, William M. Sappenfield, MD, MPH, Reem M. Ghandour, DrPH, MPA, Sara Donahue, MPH, DrPH, Vanessa Lee, MPH, and Michael C. Lu, MD, MPH

Objectives. To evaluate the impact of the Southern Public Health Regions' (Regions IV and IV) Collaborative Improvement and Innovation Network (CoIIN) to Reduce Infant Mortality, supported by the US Health Resources and Services Administration.

Methods. We examined pre–post change (2011–2014) for CoIIN strategies with available outcome data from vital records (early elective delivery, smoking) and the Pregnancy Risk Assessment Monitoring System (safe sleep) as well as preterm birth and infant mortality for Regions IV and VI relative to all other regions.

Results. For most outcomes, CoIIN improvements were greater in Regions IV and VI than in other regions. For example, early elective delivery decreased by 22% versus 14% in other regions, smoking cessation during pregnancy increased by 7% versus 2%, and back sleep position increased by 5% versus 2%. Preterm birth decreased by 4%, twice that observed in other regions, but infant mortality reductions did not differ significantly.

Conclusions. The CoIIN approach to public health improvement shows promise in accelerating progress in intermediate outcomes and preterm birth. Impact on infant mortality may require additional strategies and sustained efforts. (*Am J Public Health.* 2018; 108:815–821. doi:10.2105/AJPH.2018.304371)

1. reducing early elective deliveries,
2. expanding access to interconception care through Medicaid for women with previous poor pregnancy outcomes,
3. promoting safe infant sleep practices,
4. reducing smoking in pregnancy, and
5. improving regionalized systems of risk-appropriate perinatal care.[5]

Historically, CoIIN was the first multistate public health quality improvement initiative to address infant mortality. The model differs from previous federal–state partnership efforts to improve pregnancy outcomes[2] in its application of the science of data-driven quality improvement and collaborative innovation at the population level. State feedback and provisional improvement results supported the utility of the CoIIN model and led to


THANK YOU
YOU ROCK!

Time Travel

2030

Which headline are you more likely to read in 2030?

Austin American-Statesman

Thursday, February 28, 2030

Maternal Mortality Rising

Texas Maternal Deaths Doubled in a Decade

Unsafe Maternity Care to Blame

CDC: Most deaths Were Preventable

Austin American-Statesman

Thursday, February 28, 2030

Texas Turned the Tide on Maternal Deaths

Texas Cut Maternal Mortality in Half in Past Decade

TCHMB Honored

Championed Quality & Safety in Maternity Care throughout Texas

2050

Which headline are you more likely to read in 2050?

Austin American-Statesman

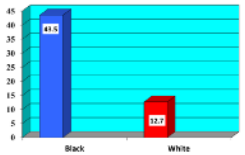
Sunday, February 27, 2050

Maternal Mortality Crisis

Texas Maternal Mortality Highest in the Nation

Childbirth Is Killing Black Women

Three Times More Likely to Die Than White Women



Austin American-Statesman

Sunday, February 27, 2050

Maternal Mortality Eradicated

Texas: Zero Maternal Deaths 5th Straight year

CDC: Texas Moms & Babies Healthiest in the Nation

It all depends on what actions you take, or fail to take, in the coming decade.

1. What will it take to reduce maternal mortality in Texas by half by 2030?

2. What will it take to eradicate maternal mortality in Texas by 2050?

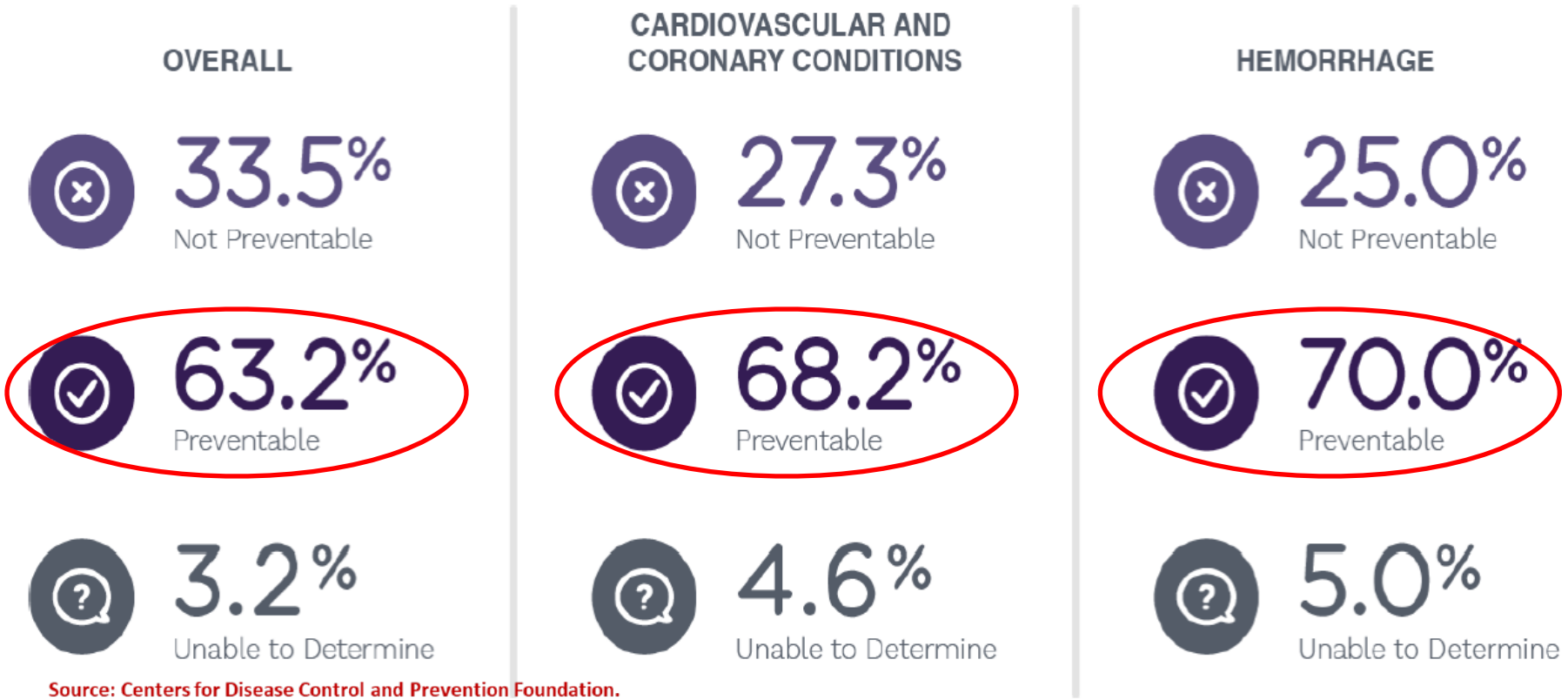
1. **What will it take to reduce maternal mortality in Texas by half by 2030?**

Improve the quality and safety of maternity care for all women of Texas

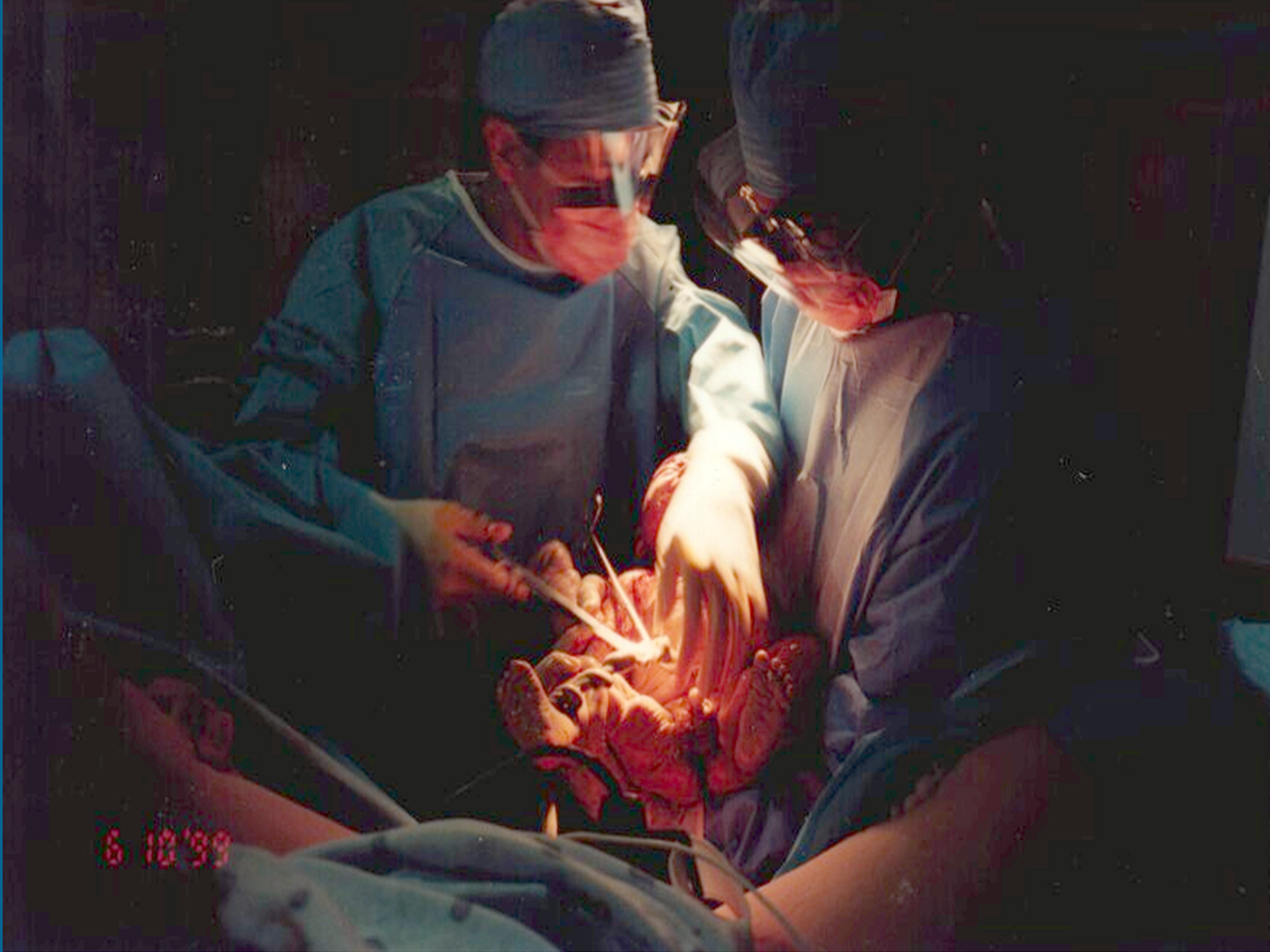
More than half of all U.S. maternal deaths are preventable.

The Nine Committees estimated that 63.2% of pregnancy-related deaths were preventable (Figure 8). Preventability varied by cause of death, with 68.2% of cardiovascular and coronary deaths and 70.0% of hemorrhage deaths estimated to be preventable.

Figure 8. Distribution of Preventability Among Pregnancy-Related Deaths



Source: Centers for Disease Control and Prevention Foundation.
Report from Nine Maternal Mortality Review Committees.
https://www.cdcfoundation.org/sites/default/files/files/ReportFromNineMMRCs.pdf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Maternal Safety Bundles

- **Readiness**
- **Recognition**
- **Response**
- **Report/Review/Systems Learning**

http://safehealthcareforeverywoman.org/aim-program/

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Maternal Safety Bundles

- Severe hypertension in pregnancy
- Maternal venous thromboembolism
- Obstetric hemorrhage
- Safe reduction of primary cesarean birth
- Maternal mental health
- Postpartum care basics
- Obstetric care of women with opioid use disorder
- Reduction of peripartum racial-ethnic disparities

http://safehealthcareforeverywoman.org/aim-program/

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

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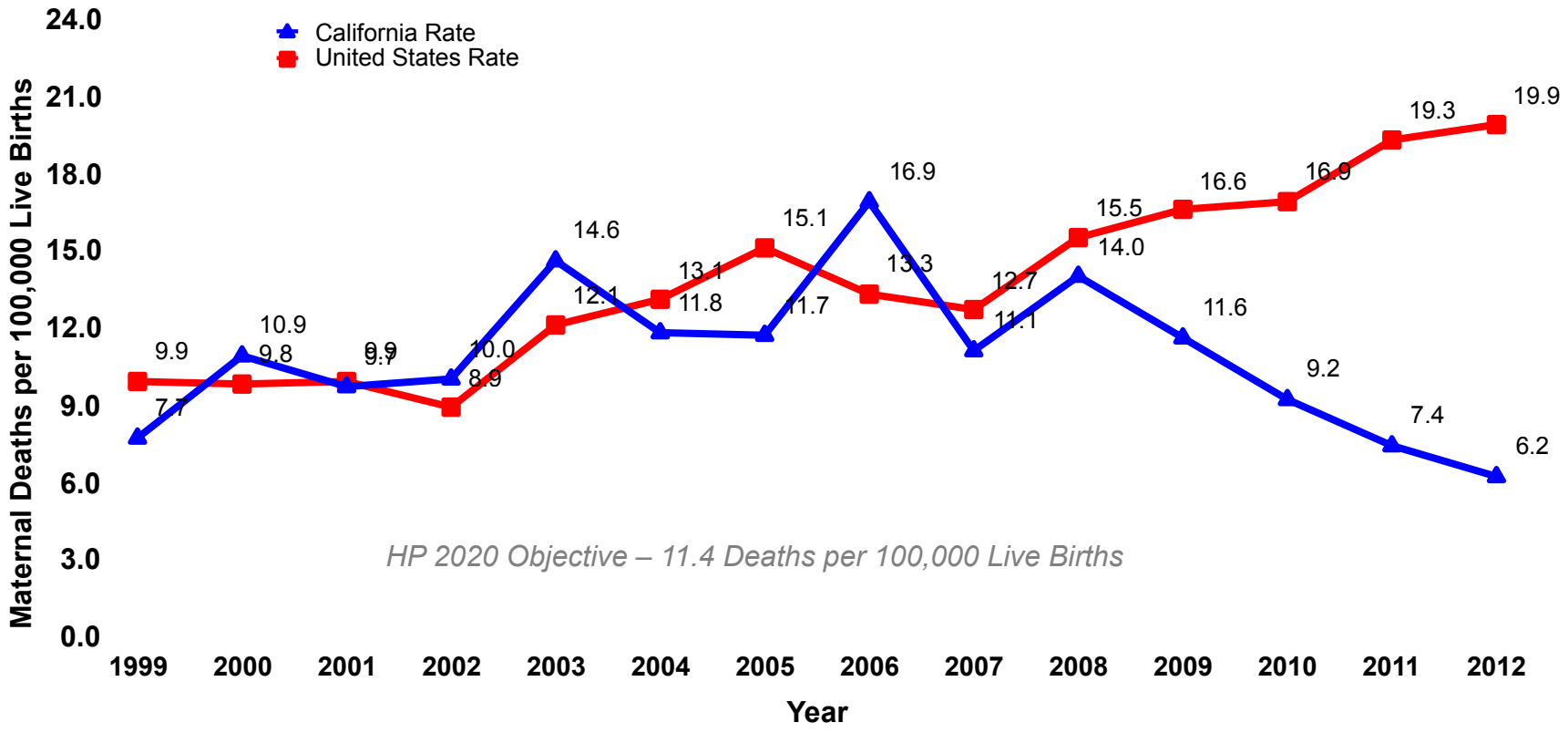
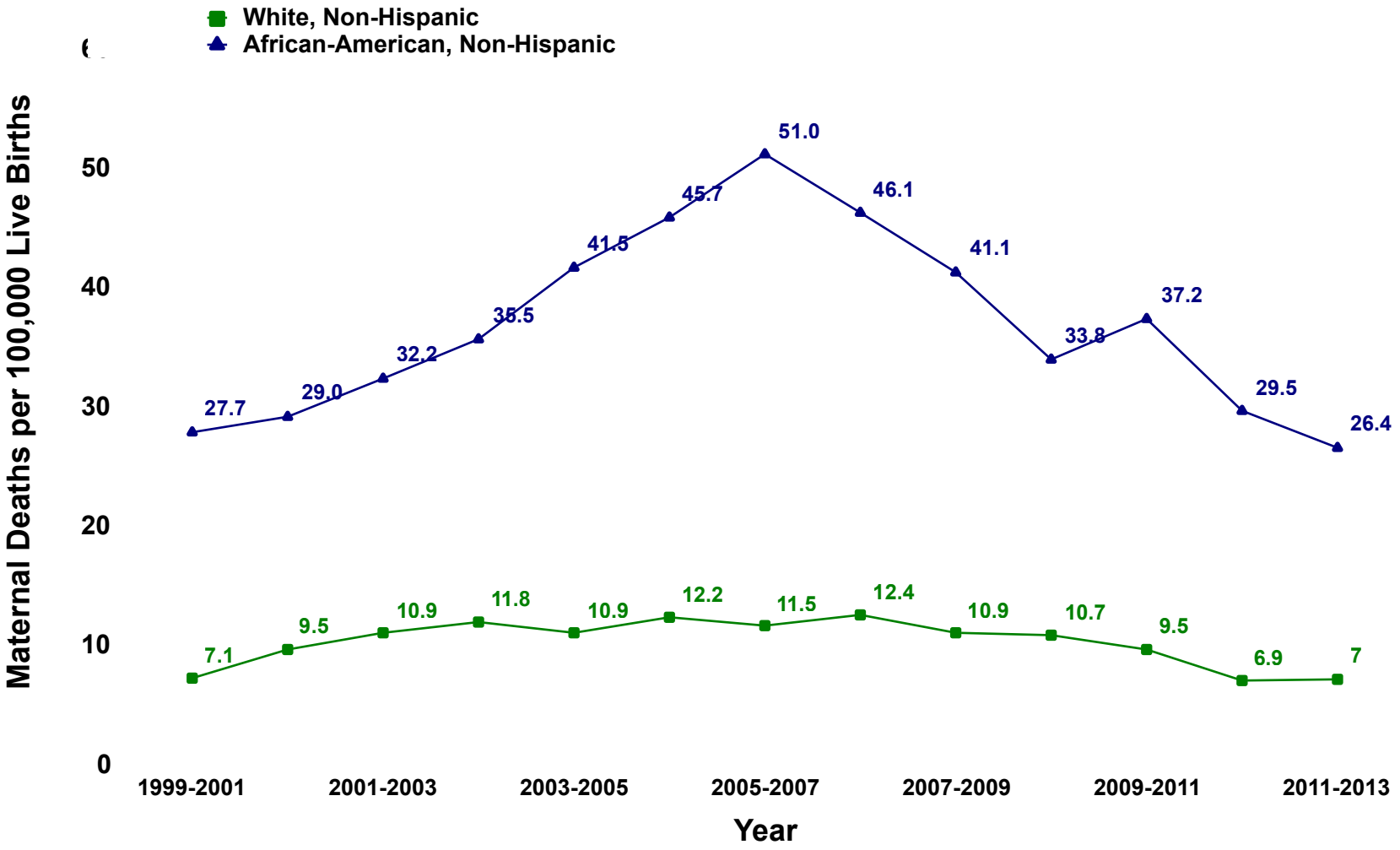
Maternal Mortality Ratio, California and United States; 1999-2013



SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2013. Maternal mortality for California (deaths ≤ 42 days postpartum) was calculated using ICD-10 cause of death classification (codes A34, O00-O95,O98-O99). United States data and HP2020 Objective use the same codes. U.S. maternal mortality data is published by the National Center for Health Statistics (NCHS) through 2007 only. U.S. maternal mortality rates from 2008 through 2013 were calculated using CDC Wonder Online Database, accessed at http://wonder.cdc.govon March 11, 2015. Produced by California Department of Public Health, Center for Family Health, Maternal, Child and Adolescent Health Division, March, 2015.

Disparities in Maternal Mortality by Race/Ethnicity, California Residents; 1999-2013



SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2013. Maternal mortality rates for California (deaths ≤ 42 days postpartum) were calculated using ICD-10 cause of death classification (codes A34, O00-O95,O98-O99). Produced by California Department of Public Health, Center for Family Health, Maternal, Child and Adolescent Health Division, March, 2015.

Matern Child Health J
DOI 10.1007/s10995-015-1665-6

COMMENTARY

Putting the "M" Back in the Maternal and Child Health Bureau: Reducing Maternal Mortality and Morbidity

Michael C. Lu · Keisher Highsmith · David de la Cruz · Hani K. Atrash

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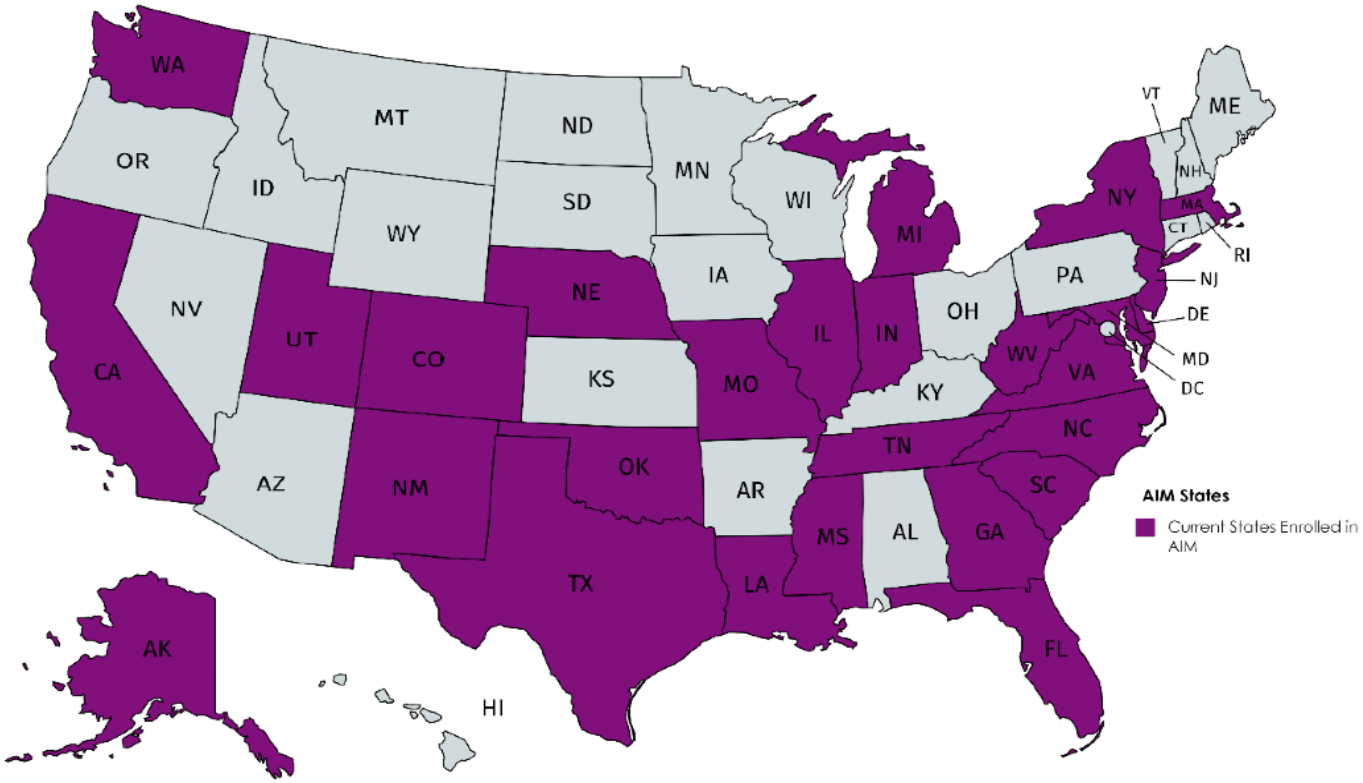
ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM



THE ALLIANCE

- Am. College of Obstetricians and Gynecologists
- Am. College of Nurse Midwives
- Am. Academy of Family Practitioners
- Am. Hospital Association
- Am. Society of Healthcare Risk Management
- Am. Society for Addiction Medicine
- Assoc. of Maternal and Child Health Programs
- Assoc. of State and Territorial Health Officers
- Assoc. of Women's Health, Obstetric and Neonatal Nurses
- Black Mamas Matter
- Every Mother Counts
- Genetic Alliance
- Healthy Start
- March of Dimes
- National Institute for Children's Health Quality
- National Perinatal Information Center
- National WIC Assoc.
- Nurse Practitioners for Women's Health
- Preeclampsia Foundation
- Premier, Inc.
- Society for Maternal Fetal Medicine
- Society for Obstetric Anesthesia and Perinatology

http://safehealthcareforeverywoman.org/aim-program/

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

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Can Texas reduce its maternal mortality by half by 2030?

Yes You Can!

TCHMB

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Improve Quality & Safety of Maternity Care in Texas

The Secret Sauce of Successful Perinatal Quality Collaboratives

1. **Leadership and co-ownership**
2. **Coalition-building & collaborative learning**
3. **Accountability**
4. **Early wins**
5. **Culture of quality and safety**

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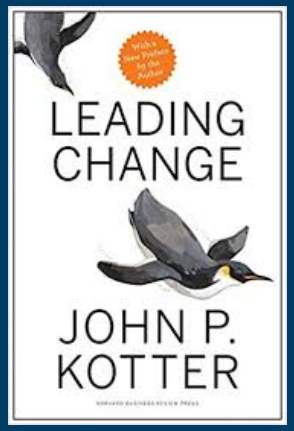
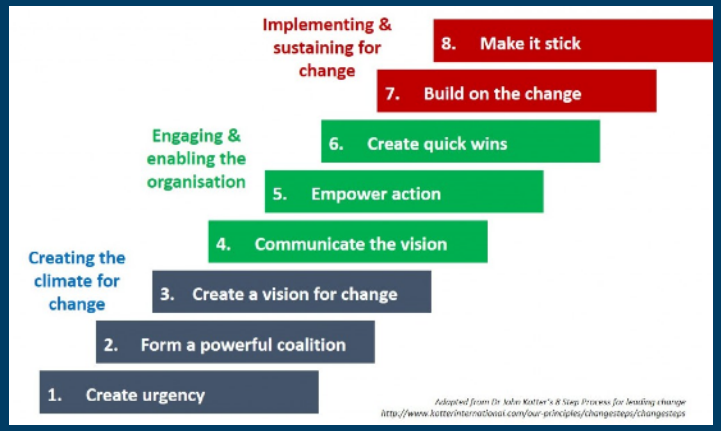
1. Leadership & Co-ownership

- **Leadership matters**





- **Co-ownership matters even more**
  - For any QI work to succeed, it must be owned locally "where the rubber hits the road"
  - "Making Quality Improvement Local"
  - Challenge in Texas will be spreading and scaling QI to low-volume rural hospitals

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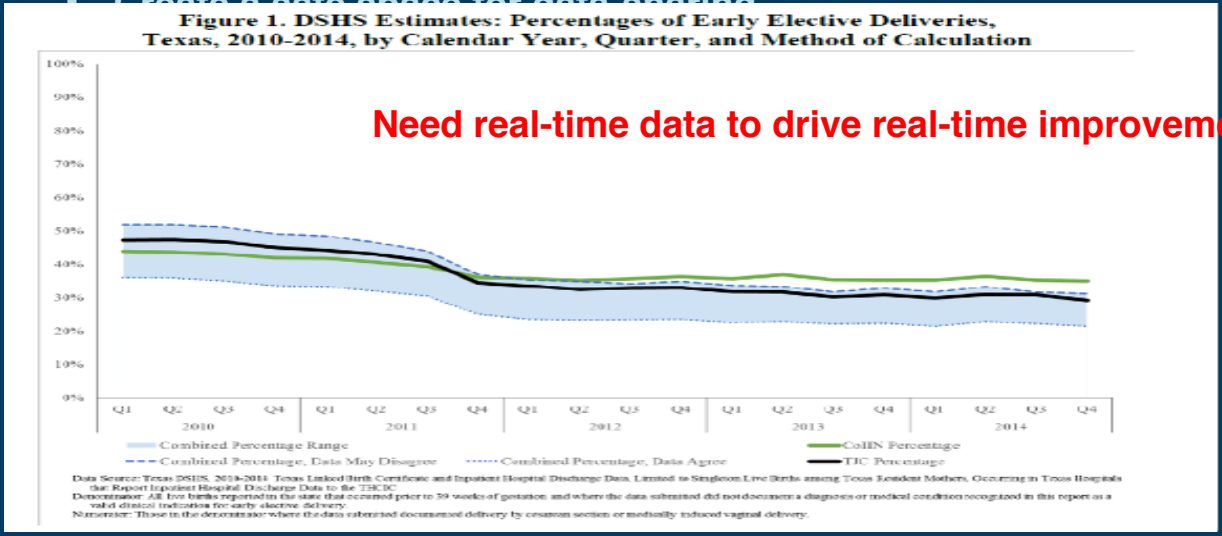
2. Coalition Building & Collaborative Learning

- **Expand Coalition Building**
  - Successful collaborative requires broad-based coalition
  - Do you have all the right people at the table?
    - Local
      - Anesthesiology? Informatics? Administration? Board? Families? Community?
    - State:
      - Payers? Accreditors? Title V? Policymakers? Families?

- **Maximize Collaborative learning**
  - What are you doing to maximize collaborative learning?
    - Locally
    - State
  - How do you keep partners actively engaged in a large collaborative?
    - Lesson Learned from CoIIN expansion
    - Design learning system to maximize collaborative learning

3. Accountability

- **Accountability: measuring & delivering results**
  - **What are we trying to accomplish?**
    - **Clear goals & SMART objectives (specific, measurable, achievable, realistic, time-framed)**
  - **How are we going to accomplish it?**
    - **Clear strategies informed by best science & evidence**
  - **What will success look like?**
    - **Clear metrics & real-time data**
    - **Metrics must be meaningful & feasible; data must be transparent & real-time**
    - **Create a safe space for data sharing**



Need real-time data to drive real-time improvements

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4. Early Wins

- **Secure early wins**
  - Establish credibility
  - build momentum
  - recruit supporters
  - convert skeptics
  - disempower cynics
- **Pick your early wins strategically**
  - Quick
  - Visible
  - Unambiguous
  - Meaningful (e.g. NICU admissions averted; return on investment)

5. Create A Culture of Quality and Safety

- **Creating a culture of quality and safety**
  - Quality and safety are everyone's responsibility
  - Toyota Production System: Stop the Line!
    - Every employee on the assembly line has a responsibility to push a big red button that stops everything whenever they notice a defect on the assembly line

Improve Quality & Safety of Maternity Care in Texas

The Secret Sauce of Successful Perinatal Quality Collaboratives

1. **Leadership and co-ownership matter**
2. **Expand coalition-building & maximize collaborative learning**
3. **Promote accountability**
4. **Secure early wins**
5. **Create culture of quality and safety**

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2. **What will it take to eradicate maternal mortality in Texas by 2050?**

Improve the health of girls and women across their life course.

Improve Women's Health Across the Life Course

6. Assure healthcare access
7. Transform healthcare
8. Reduce chronic stress
9. Address social determinants
10. Promote health in all policies

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6. Assure Access to Comprehensive Women's Health Services Across the Life Course

- **Changing demographics of childbearing**
  - More women are entering pregnancy with chronic conditions
- **Limits of prenatal care**
  - Can't cram all the fixes into less than 9 months of prenatal care
- **Importance of preconception care**
  - One Key Question: Would you like to become pregnant next year?
  - Gateway to reproductive life planning or preconception care
- **Comprehensive women's health services across the life course**
  - Developmental origins of health and disease (including future reproductive outcomes)

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7. Transform Healthcare

- **Guaranteeing universal access to a broken healthcare system will not get us very far**
  - Spend most on perinatal care; rank near worst on perinatal outcomes

- **Perinatal care in the U.S. is limited, episodic, inequitable, and fragmented**
  - Need to radically transform preconception, prenatal, postpartum, and pediatric care

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http://nationalacademies.org/hmd/Reports/2019/vibrant-and-healthy-kids.aspx

Redesigning Prenatal Care

Redesigning Prenatal Care

Redesigning Prenatal Care

8. Reduce Chronic Stress

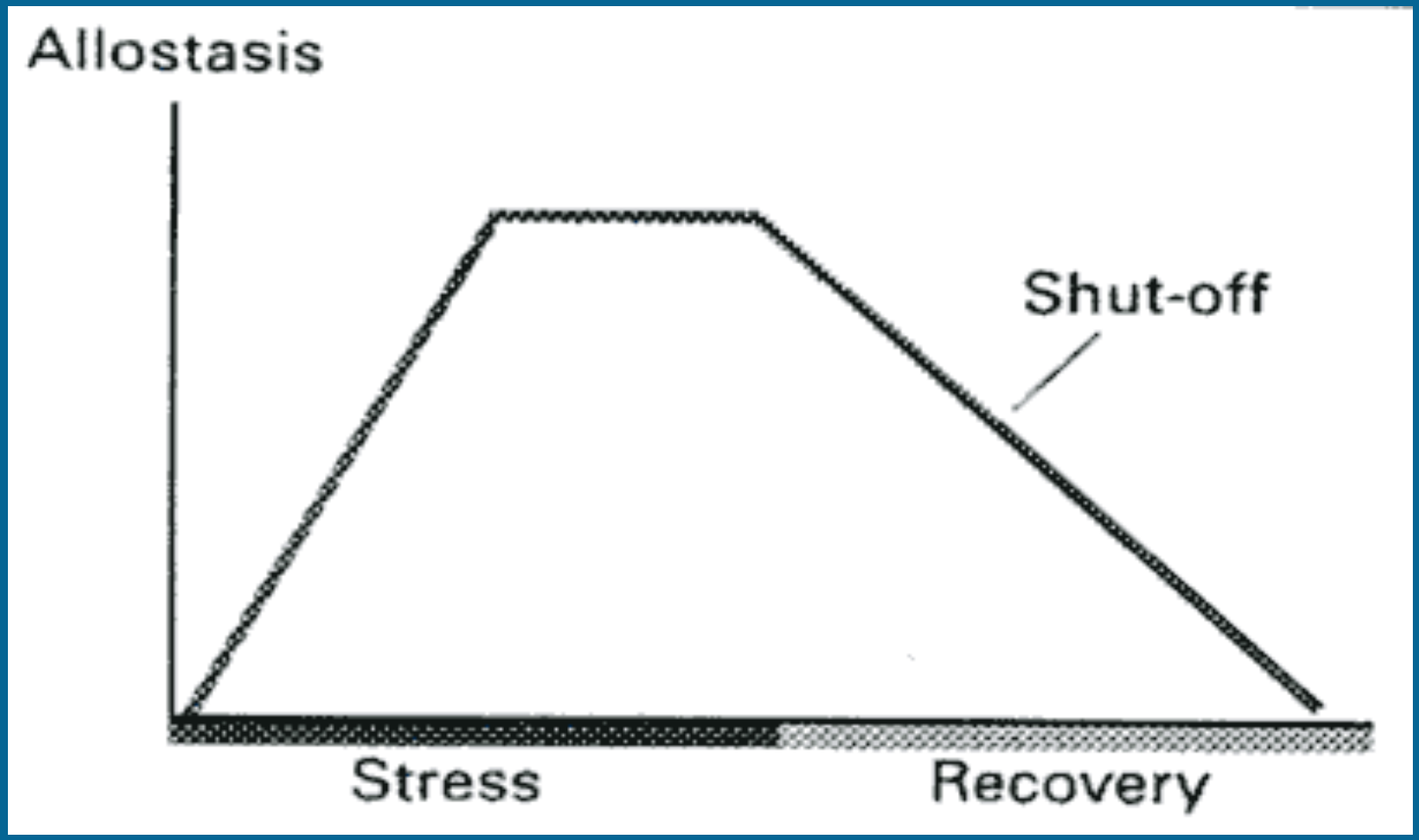
- **Impact of chronic stress on women's health**
  - Our society is putting so much stress on women (especially poor women & women of color) that it is making them sick

- **Biology of chronic stress**
  - Chronic stress creates wear and tear (allostatic load) on organs and systems

Photo: http://www.lam.mus.ca.us/cats/encyclo/smilodon/

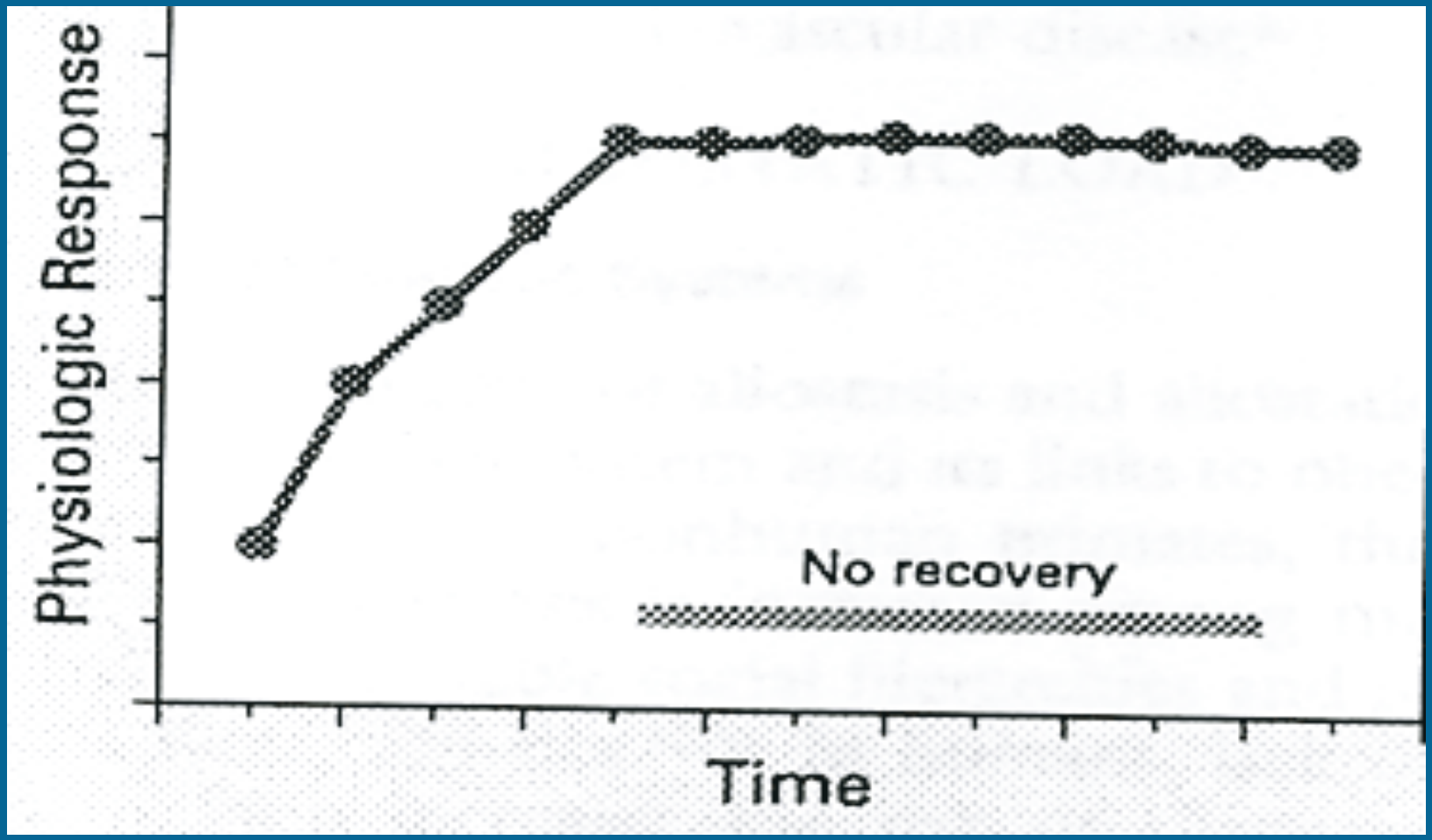
Allostasis:

Maintain Stability through Change



McEwen BS. Protective and damaging effects of stress mediators. N Eng J Med. 1998;338:171-9.

Allostastic Load:
Wear and Tear from Chronic Stress



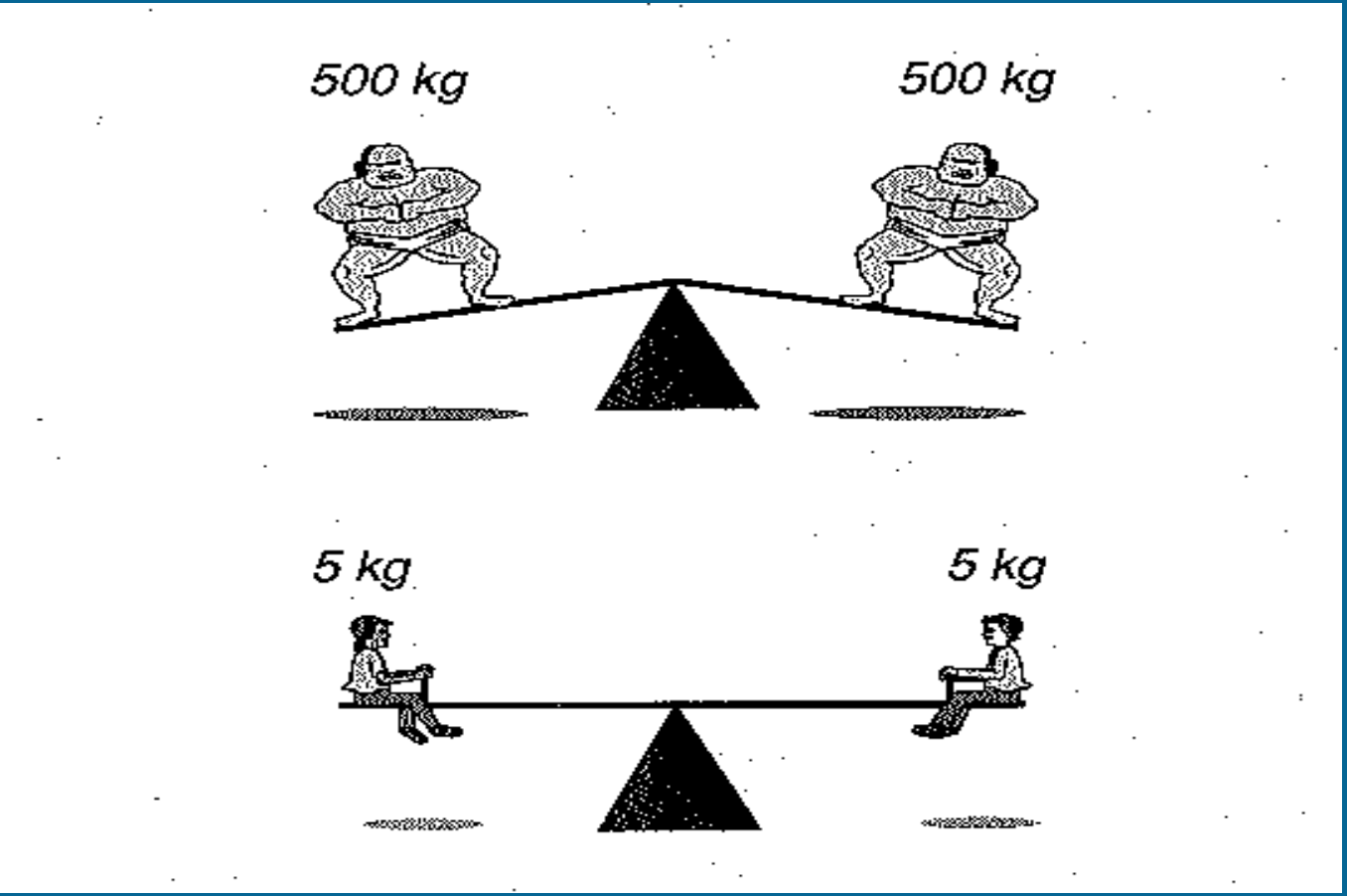
McEwen BS. Protective and damaging effects of stress mediators. N Eng J Med. 1998;338:171-9.

Stressed vs. Stressed Out

- **Stressed**
  - Increased cardiac output
  - Increased available glucose
  - Enhanced immune functions
  - Growth of neurons in hippocampus & prefrontal cortex
- **Stressed Out**
  - Hypertension & cardiovascular diseases
  - Glucose intolerance & insulin resistance
  - Infection & inflammation
  - Atrophy & death of neurons in hippocampus & prefrontal cortex

McEwen BS. Stressed or stressed out: What is the difference? J Psychiatry Neurosci 2005; 30:315-8

Allostasis & Allostatic Load



McEwen BS, Lasley EN. The end of stress: As we know it. Washington DC: John Henry Press. 2002

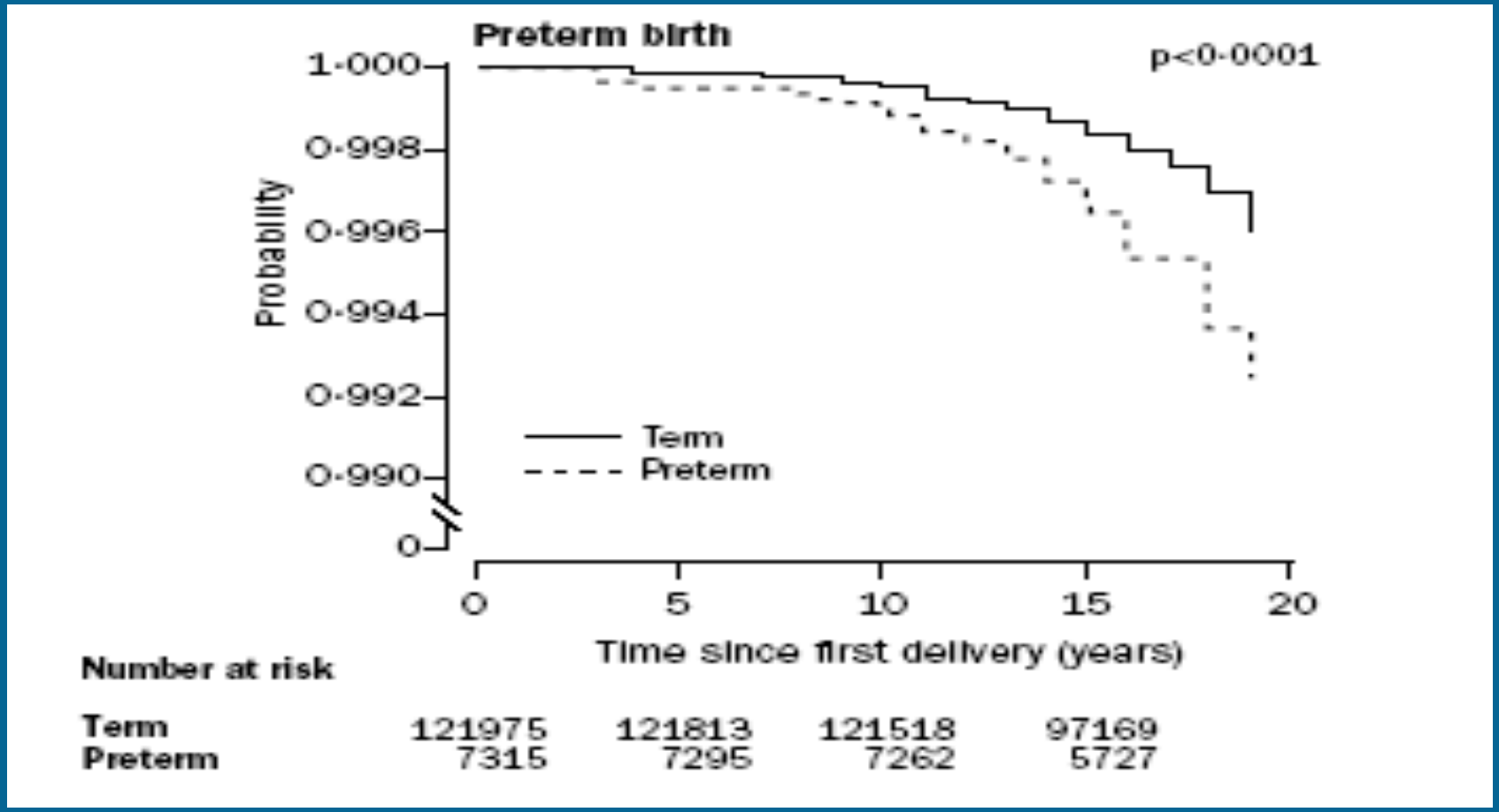
Rethinking Preterm Birth

Rethinking Preterm Birth

Vulnerability to preterm delivery may be traced to not only exposure to stress & infection during pregnancy, but host response to stress & infection (e.g. stress reactivity & inflammatory dysregulation) patterned over the life course

Preterm Birth & Maternal Ischemic Heart Disease

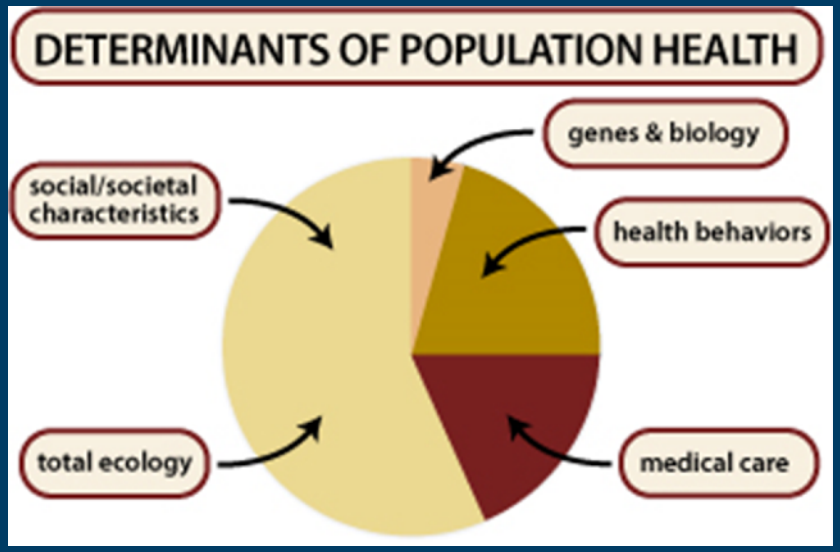
Smith et al *Lancet* 2001;357:2002-06



Kaplan-Meier plots of cumulative probability of survival without admission or death from ischemic heart disease after first pregnancy in relation to preterm birth

9. Address Social Determinants

- **Conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.**
- **Social determinants of health account for 75% of population health**



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Tarlov, A.R., Public Policy Frameworks for Improving Population Health. Annals of the New York Academy of Sciences, 1999. 896:281-293
https://www.cdc.gov/nchhstp/socialdeterminants/faq.html

Closing the Black-White Gap in Birth Outcomes:
A 12-Point Plan

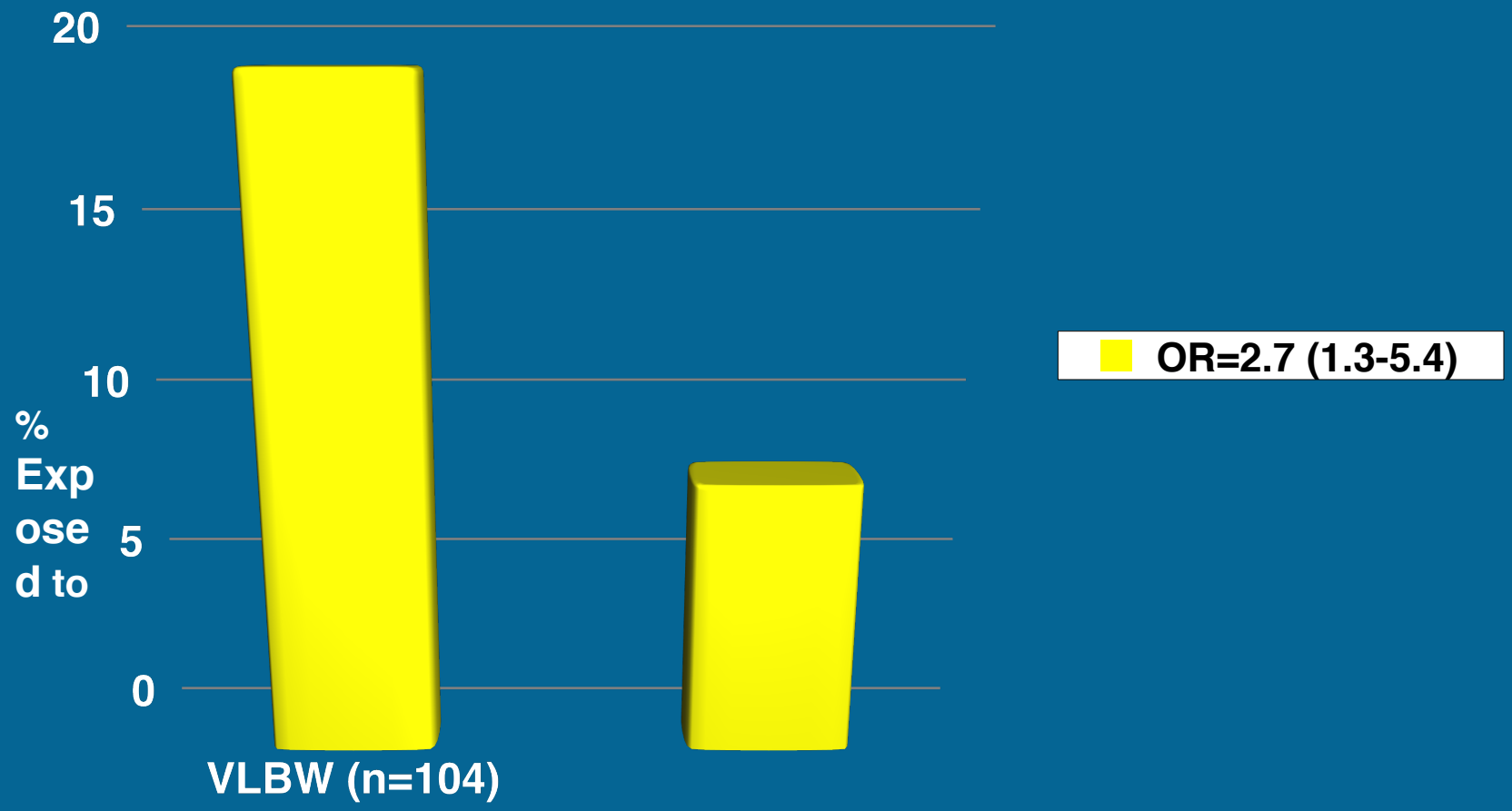
1. Provide interconception care to women with prior adverse pregnancy outcomes
2. Increase access to preconception care for African American women
3. Improve the quality of prenatal care
4. Expand healthcare access over the life course
5. Strengthen father involvement in African American families
6. Enhance service coordination and systems integration
7. Create reproductive social capital in African American communities
8. Invest in community building and urban renewal
9. Close the education gap
10. Reduce poverty among Black families
11. Support working mothers and families
12. Undo racism

Lu MC, Kotelchuck M, Hogan V, Jones L, Jones C, Halfon N. Closing the Black-White gap in birth outcomes:
A life-course approach. Ethnicity and Disease 2010;20:S2-62-76

Racism

Maternal Lifetime Exposure to Interpersonal Racism In 3 or More Domains and Infant Birth Weight

(Collins et al, AJPH, 2004)



Levels of Racism: A Theoretic Framework and a Gardener's Tale

Camara Phyllis Jones, MD, MPH, PhD

ABSTRACT

The author presents a theoretic framework for understanding racism on 3 levels: institutionalized, personally mediated, and internalized. This framework is useful for raising new hypotheses about the basis of race-associated differences in health outcomes, as well as for designing effective interventions to eliminate those differences.

She then presents an allegory about a gardener with 2 flower boxes, rich and poor soil, and red and pink flowers. This allegory illustrates the relationship between the 3 levels of racism and may guide our thinking about how to intervene to mitigate the impacts of racism on health. It may also serve as a tool for starting a national conversation on racism. (*Am J Public Health.* 2000;90: 1212–1215)

Race-associated differences in health outcomes are routinely documented in this country, yet for the most part they remain poorly explained. Indeed, rather than vigorously exploring the basis of the differences, many scientists either adjust for race or restrict their studies to one racial group.[1] Ignoring the etiologic clues embedded in group differences impedes the advance of scientific knowledge, limits efforts at primary prevention, and perpetuates ideas of biologically determined differences between the races.

The variable race is only a rough proxy for socioeconomic status, culture, and genes, but it precisely captures the social classification of people in a race-conscious society such as the United States. The race noted on a health form is the same race noted by a sales clerk, a police officer, or a judge, and this racial classification has a profound impact on daily life experience in this country. That is, the variable "race" is not a biological construct that reflects innate differences,[2-4] but a social construct that precisely captures the impacts of racism.

For this reason, some investigators now hypothesize that race-associated differences in health outcomes are in fact due to the effects of racism.[5,6] In light of the Department of Health and Human Services' Initiative to Eliminate Racial and Ethnic Disparities in Health by the Year 2010,[7,8] it is important to be able to examine the potential effects of racism in causing race-associated differences in health outcomes.

Levels of Racism

I have developed a framework for understanding racism on 3 levels: institutionalized, personally mediated, and internalized. This framework is useful for raising new hypotheses about the basis of race-associated differences in health outcomes, as well as for designing effective interventions to eliminate those differences. In this framework, *institutionalized racism* is defined as differential access to the goods, services, and opportunities of society by race. Institutionalized racism is normative, sometimes legalized, and often manifests as inherited disadvantage. It is structural, having been codified in our institutions of custom, practice, and law, so there need not be an identifiable perpetrator. Indeed, institutionalized racism is often evident as inaction in the face of need.

Institutionalized racism manifests itself both in material conditions and in access to power. With regard to material conditions, examples include differential access to quality education, sound housing, gainful employment, appropriate medical facilities, and a clean environment. With regard to access to power, examples include differential access to information (including one's own history), resources (including wealth and organizational infrastructure), and voice (including voting rights, representation in government, and control of the media). It is important to note that the association between socioeconomic status and race in the United States has its origins in discrete historical events but persists because of contemporary structural factors that perpetuate those historical injustices. In other words, it is because of institutionalized racism that there is an association between socioeconomic status and race in this country.

Personally mediated racism is defined as prejudice and discrimination, where prejudice means differential assumptions about the abilities, motives, and intentions of others accord-

The author is currently with the Department of Health and Social Behavior, Department of Epidemiology, and the Division of Public Health Practice, Harvard School of Public Health, Boston, Mass. She will soon begin working with the Centers for Disease Control and Prevention, Atlanta, Ga.

Requests for reprints should be sent to Camara Phyllis Jones, MD, MPH, PhD, Centers for Disease Control and Prevention, 4770 Buford Hwy, MS K45, Atlanta, GA 30341.

This article was accepted April 12, 2000.

Jones CP. Levels of racism: A theoretical framework and a gardener's tale. AJPH 2000;90:1212-5

10. Go Upstream

As much as we like to think we can fix all MCH problems with MCH programs and services, tackling the root causes of some of our biggest problems will require political and policy change.

Martha May Eliot

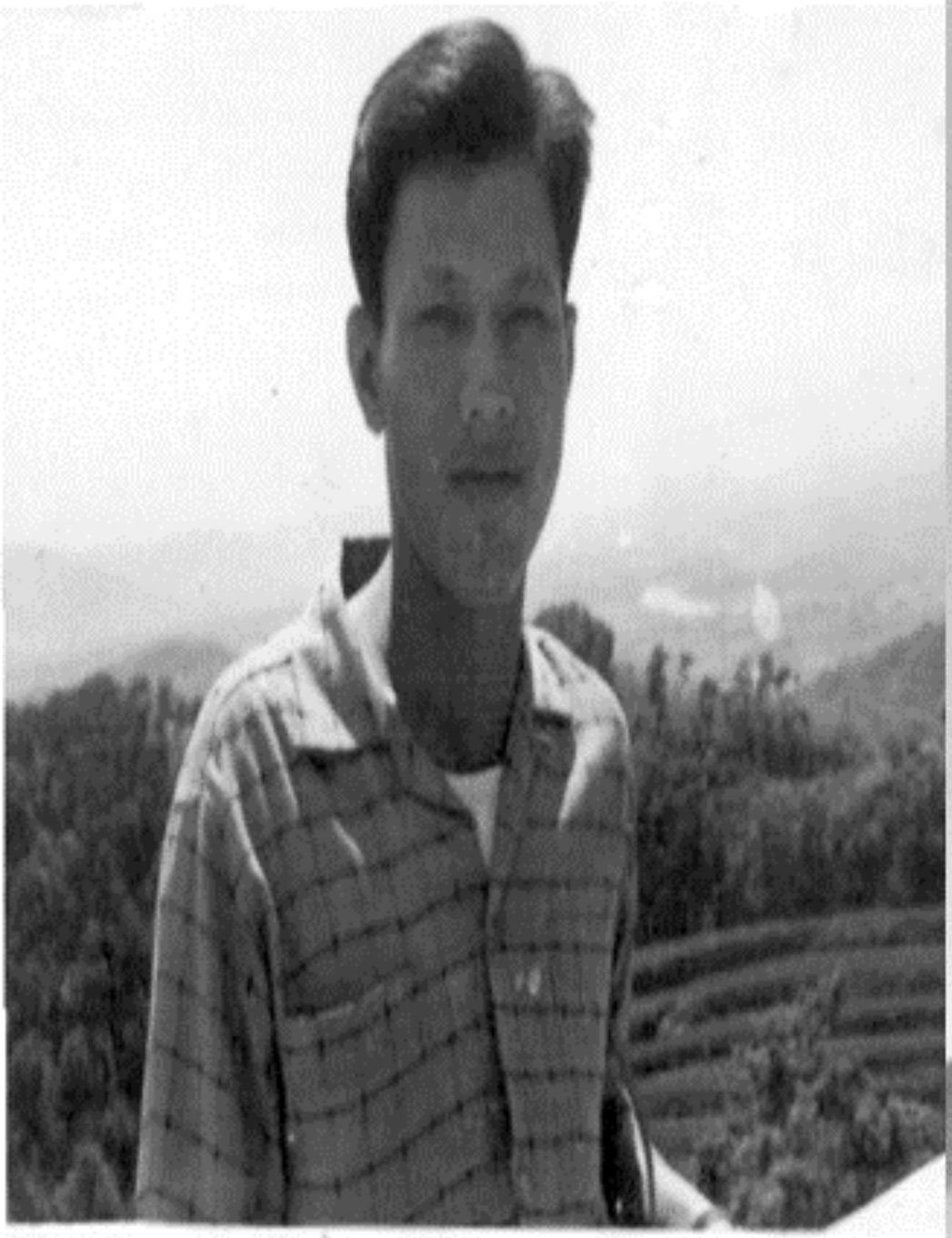
10. Health in All Policies

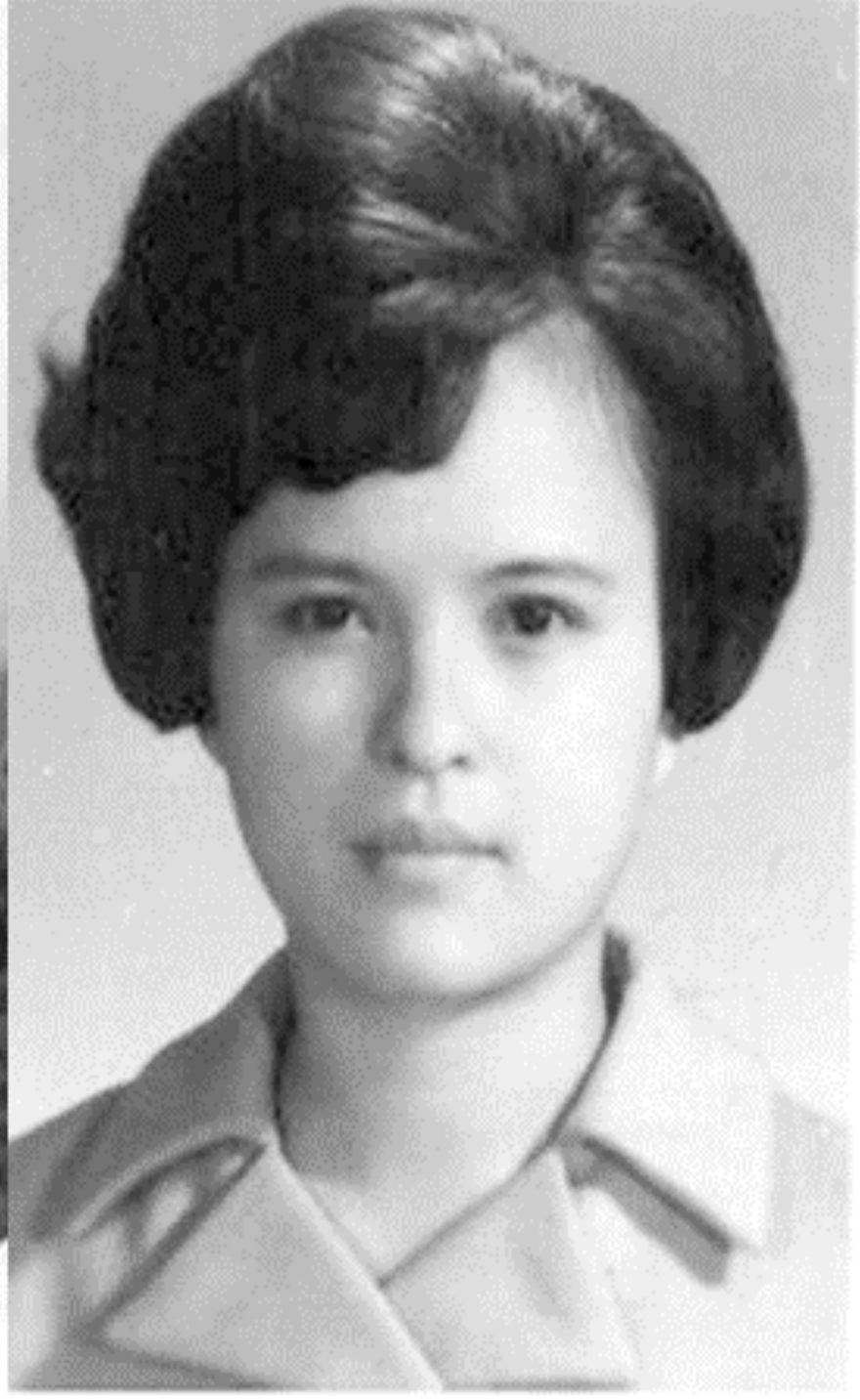
The biggest gains in MCH in the last 150 years have come from regulation of food and environmental safety, passage of child labor laws and women's suffrage, and overall improvements in educational attainment, economic opportunities and social status of girls and women in our society and around the world.

10. Health in All Policies

The biggest gains in MCH in the coming decades will come from reversing global warming, cleaning up toxic waste sites, rebuilding our nation's infrastructure, protecting reproductive rights, reducing social inequality and assuring the social conditions in which all children and families can be healthy and thriving.

Martha May Eliot






DON'T BE