CMQCC
California Maternal
Quality Care Collaborative

Maternal and Child Death Reviews and their Role in Strengthening Public Health, Clinical and Community Partnerships

Child Death Review-Maternal Mortality Review Programs Summit

Honolulu, HI, June 15, 2016

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California Maternal Quality Care Collaborative
Stanford University

Key points

- Fatality reviews as sentinel events
  - Moving from data to action to improvement
- Understanding and incorporating a social determinants of health framework
- Success = Partnerships
  - public health + health care + payers/purchasers + community

DEFINITIONS

Maternal Mortality Rate

Number of women who die from **pregnancy-related** causes within 42 days postpartum/the number of live births in that year) x 100,000 (identified as "O-codes" on death certificates

Pregnancy-Associated Deaths

Death of a woman within one year postpartum from any cause

Pregnancy-Related Deaths

Death of a woman within one year postpartum related to pregnancy or aggravated by the pregnancy or its management

Not-Pregnancy-Related Deaths

Death of a woman within one year postpartum unrelated to pregnancy or its management

"The most surprising thing…"

- It is very difficult to identify maternal deaths at the population level
  - Organizational definitions (vital statistics vs. surveillance)
  - Temporal and causal relationship to pregnancy
  - Multiple etiologies
- Under-funded public health agencies
  - State reviews have multiple (or no) funding sources
  - National Center for Health Statistics has not reported U.S. MMR since 2007

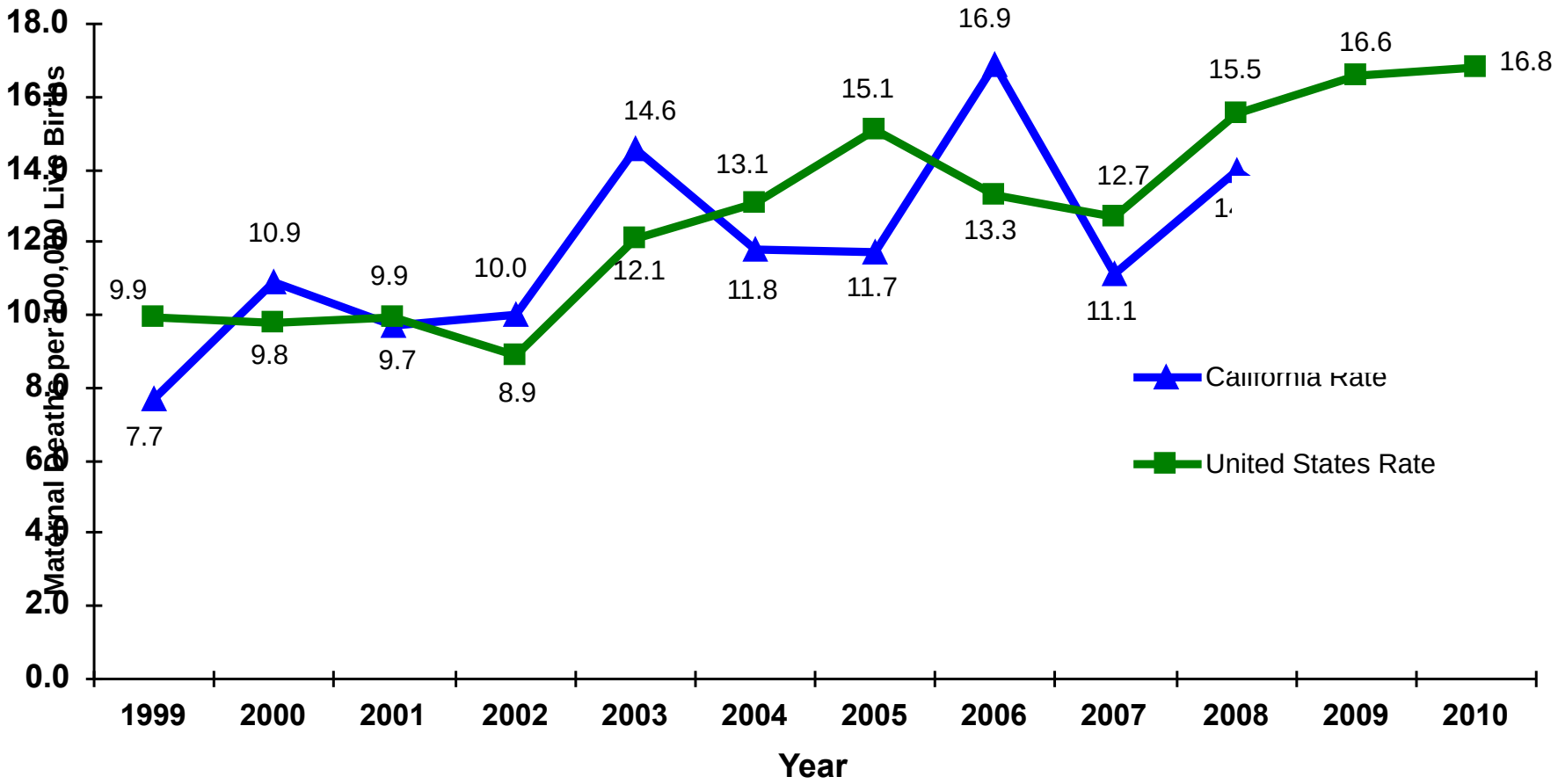
Maternal mortality

…sentinel health event

…indicator of social and economic values

…requires political commitment

Maternal Mortality Rate, California and United States; 1999-2010



SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2010. Maternal mortality for California (deaths ≤ 42 days postpartum) was calculated using ICD-10 cause of death classification (codes A34, O00-O95,O98-O99) for 1999-2010. United States data and HP2020 Objective were calculated using the same methods. U.S. maternal mortality rates are published by the National Center for Health Statistics (NCHS) through 2007 only. Rates for 2008-2010 were calculated using NCHS Final Birth Data (denominator) and CDC Wonder Online Database for maternal deaths (numerator). Accessed at http://wonder.cdc.gov/ucd-icd10.html on Apr 17, 2013 8:00:39 PM. Produced by California Department of Public Health, Center for Family Health, Maternal, Child and Adolescent Health Division, April, 2013.

Major Recognition of the Problem

The Joint Commission

Issue 44, January 26, 2010

Preventing Maternal Death

Spring 2010

Amnesty International

Current Commentary

Where Is the "M" in Maternal–Fetal Medicine?

Mary E. D'Alton, MD

December 2010

Obstetrics & Gynecology

Maternal Mortality Reviews

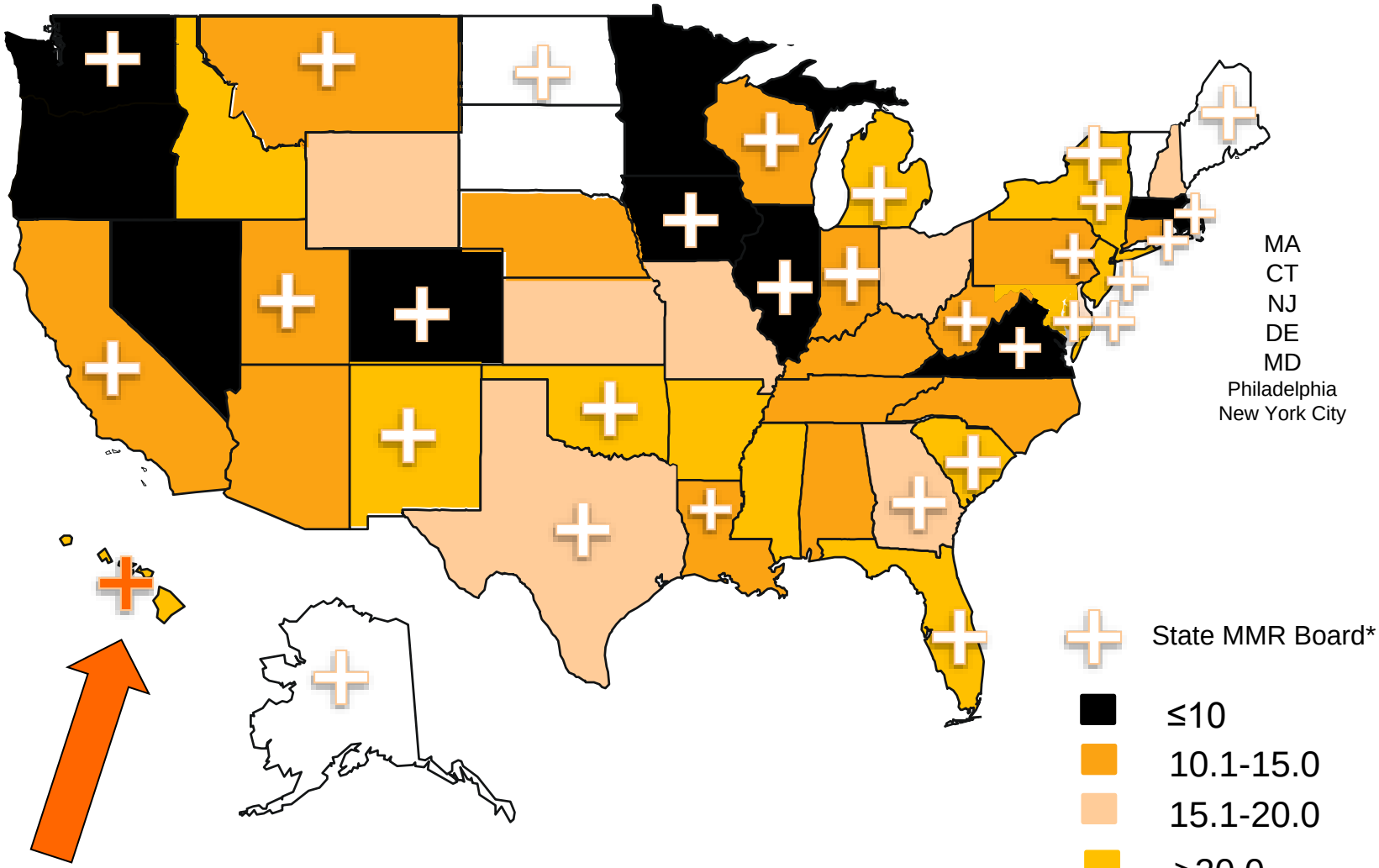
Essential surveillance and improvement tools to reduce preventable death and injury

Although deaths are rare (~700 per year)

—

Maternal **complications** occur at 50-100 times the rate of mortality

Maternal Mortality Ratios, United States 2005-2010 and State Maternal Mortality Reviews



CDC WONDER

Transforming Maternity Care

*Compiled from ACOG & Amnesty International

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Rising Maternal Mortality and Morbidity: **We All** Have Work to Do

CMQCC

California Maternal
Quality Care Collaborative

- Formed in 2006 in partnership with CA Dept of Public Health, to explore rise in maternal mortality and morbidity, and implement quality improvement initiatives using SOCIO-MEDICAL LENS
- CMQCC is located at Stanford University, School of Medicine, Department of Pediatrics, Division of Neonatal and Developmental Medicine

The Conceptual Framework of Complex Innovation Implementation

- Components of effective implementation
  1) Management Support
  2) Financial Resource Availability
  3) Implementation Policies and Practices
  4) Implementation Values Fit
  5) Champions

(Helfrich et al 2007)

Implementation Policies, Values Fit, & Champions

- Build a common purpose
  - Through shared basic assumptions
- Create QI collaborative structure
  - Embody values
  - Utilize collective intelligence
- One of the core shared assumptions was that clinicians want to do good work and provide safe care.

Underlying Assumptions 1

Clinicians deeply care about providing high quality maternity care, but…

- Their time and resources are limited
- Leadership is often missing
- There is little ability to compare practices & outcomes

Opportunities for improvement are present:

- Maternal outcomes have worsened
- Large practice variation among hospitals and physicians
- Evidence-based research is available as a model for improvement

Underlying Assumptions 2

Transformation (change) is not easy

Champions are essential

- Need to work at state and local levels
- Champions need support, data, training, role models
- We need to be in it for the long haul

Collaboration is critical for our success

- Maximizes resources of time, money and knowledge
- Increases peer support and peer learning
- Creates synergy and increased capacity
- “The whole is greater than the sum of its parts”

Racial-Ethnic Disparities in Maternal Mortality

- African-American women die from pregnancy-related causes more often than women in other racial-ethnic groups
  - >4-fold higher risk of maternal death overall
  - Independent of age, parity or education

Published in *Journal of Women's Health*. Ahead of Print
DOI: 10.1089/jwh.2015.5637

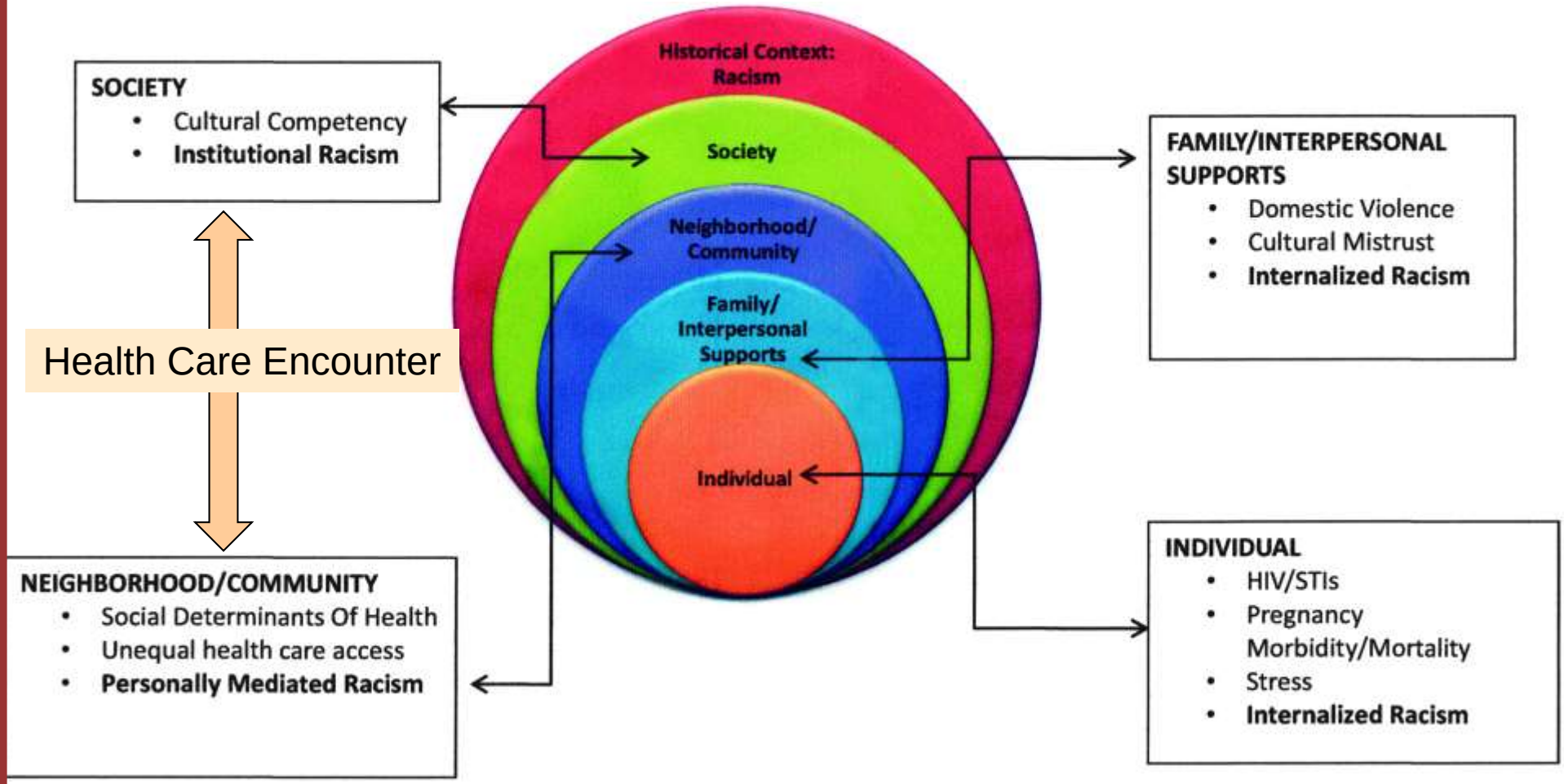


FIG. 1. Socioecological model of African American women and sexual and reproductive health influences and outcomes.

CA-PAMR Expert Committee and Project Team

CA-PAMR Pregnancy-Related Deaths, Chance to Alter Outcome by Grouped Cause of Death; 2002-2005 (N=207)

Clinical Cause of Death	Chance to Alter Outcome (N)			
	Strong/Good	Some	None	Total
Obstetric hemorrhage	14 (70%)	5	1	20
Preeclampsia/eclampsia*	21 (60%)	14	0	35
Deep vein thrombosis/ pulmonary embolism	10 (50%)	9	1	20
Sepsis/infection	7 (50%)	6	1	14
Cardiomyopathy and other cardiovascular causes*	14 (29%)	30	4	48
Cerebral vascular accident	3 (19%)	4	9	16
Amniotic fluid embolism	0	15	3	18
All other causes of death	*15*	*15*	*4*	*34*
Total (%)	**84 (41%)**	**98**	**23**	**205***

- Two deaths lacked sufficient records to make determination (one from each cause of death).

Dominance of Provider QI Opportunities: Hemorrhage and Preeclampsia

- California Pregnancy Associated Mortality Reviews
  - Missed triggers/risk factors: abnormal vital signs, pain, altered mental status/lack of planning for at risk patients
  - Underut tments
  - Difficulties getting physician to the bedside
  - "Location of care" issues involving Postpartum, ED and PACU

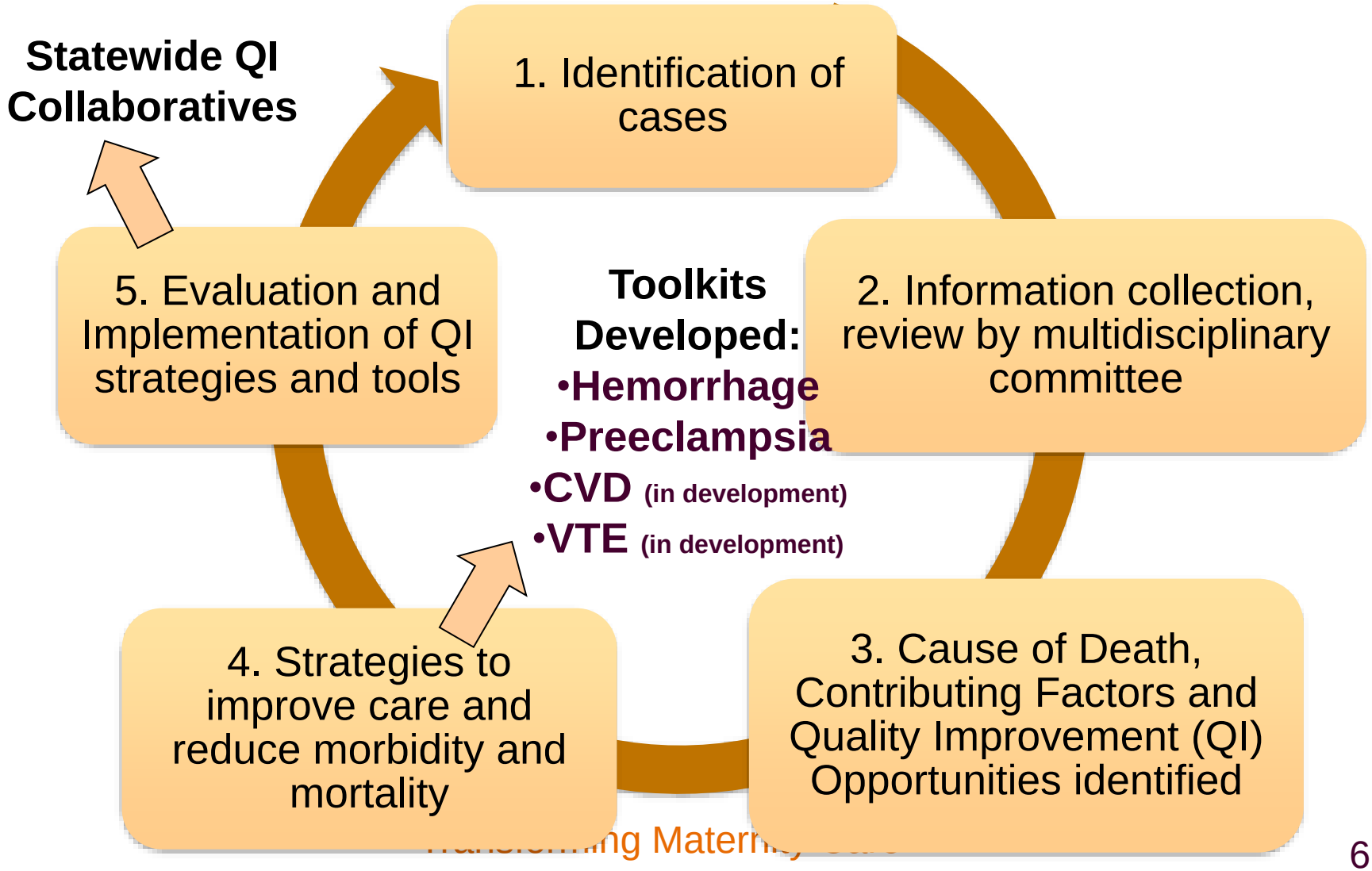
Present in >95% of cases

- University of Illinois Regional Perinatal Network
  - s
  - Incomplete or inappropriate management

Present in >90% of cases

CDPH/CMQCC/PHI. The California Pregnancy-Associated Mortality Review (CA-PAMR): Report from 2002 and 2003 Maternal Death Reviews. 2011 (available at: CMQCC.org)
Geller SE et al. The continuum of maternal morbidity and mortality: Factors associated with severity. Am J Obstet Gynecol 2004; 191: 939-44.

California Pregnancy-Associated Mortality Review (CA-PAMR) Quality Improvement Review Cycle



A California Toolkit to Transform Maternity Care

Improving Health Care Response to Obstetric Hemorrhage v2.0

THIS COLLABORATIVE PROJECT WAS DEVELOPED BY:

THE OBSTETRIC HEMORRHAGE TASK FORCE
THE MATERNAL QUALITY IMPROVEMENT PANEL
CALIFORNIA MATERNAL QUALITY CARE COLLABORATIVE
MATERNAL, CHILD AND ADOLESCENT HEALTH DIVISION; CENTER FOR FAMILY HEALTH
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

CMQCC
CALIFORNIA MATERNAL QUALITY CARE COLLABORATIVE

California Department of PublicHealth

MATERNAL, CHILD ADOLESCENT HEALTH PROGRAM
Center for Family Health
California Department of Public Health

A California Toolkit to Transform Maternity Care

Improving Health Care Response to Preeclampsia

THIS COLLABORATIVE PROJECT WAS DEVELOPED BY:

THE PREECLAMPSIA TASK FORCE
CALIFORNIA MATERNAL QUALITY CARE COLLABORATIVE
MATERNAL, CHILD AND ADOLESCENT HEALTH DIVISION; CENTER FOR FAMILY HEALTH
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

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CALIFORNIA MATERNAL QUALITY CARE COLLABORATIVE

California Department of PublicHealth

MATERNAL, CHILD ADOLESCENT HEALTH PROGRAM

Another common value

All pregnant women deserve the best care we can provide

How can we learn from their deaths?

How can we honor their lives?

Rosa Maria Larios Gomez

September 5, 1977 – August 20, 2008

Rosa Maria (Tootsie) Larios Gomez passed away giving birth to her son, Phoenix Alexander Larios Gomez, in San Francisco, on August 20, 2008 at the age of 30.

She was the beloved wife of Mauricio and the loving and amazing mother of Brandon. She now rests in peace with her father, Rene. She is survived by her moms, Vilma and Lety; brothers and sisters; Sandra, John, Ramiro, Indira, Michi, Jonathan, William and Rene.

Rosa earned her high school diploma in El Salvador, Associates Degree at Skyline College and was one year from earning two-Bachelor's degrees from San Francisco State University.

We will miss her enthusiasm for life, laughter and her loving nature. God now has one more angel. We love you Rosa.

Friends may visit Friday, August 29, from 4 p.m. to 7 p.m. and attend a Vigil Service at 7 p.m. at Duggan's Serra Mortuary, 500 Westlake Ave. Daly City, CA. A Funeral Mass will be celebrated Saturday, August 30th, at 10 a.m. at Holy Angels Church, 107 San Pedro Rd., Colma. Committal will be at Cypress Lawn Cemetery, Colma CA. immediately following the Funeral Mass.

Donations may be made towards the education of Phoenix Alexander and Brandon Mauricio Larios Gomez. 32 Montebello Dr. Daly City, CA. 94015

DUGGAN'S SERRA MORTUARY
650/756-4500
415/587-4500
dugganssserra.com

Trans

CMQCC Key Partner/Stakeholders

State Agencies

- MCAH, Dept Public Health | OSHPD Healthcare Information Division | Office of Vital Records (OVR) | Regional Perinatal Programs of California (RPPC) | DHCS, Medi-Cal

Public and Consumer Groups

- California HealthCare Foundation | March of Dimes (MOD) | Kaiser Family Foundation | Patient Advocacy Groups

Professional Groups

- ACOG | AWHONN | ACNM | SOAP | AAFP | AAP | AND MORE

Key Medical and Nursing Leaders

- University and Hospital Systems

Hospital Associations

- California Hospital Association / Hospital Qu

Payers

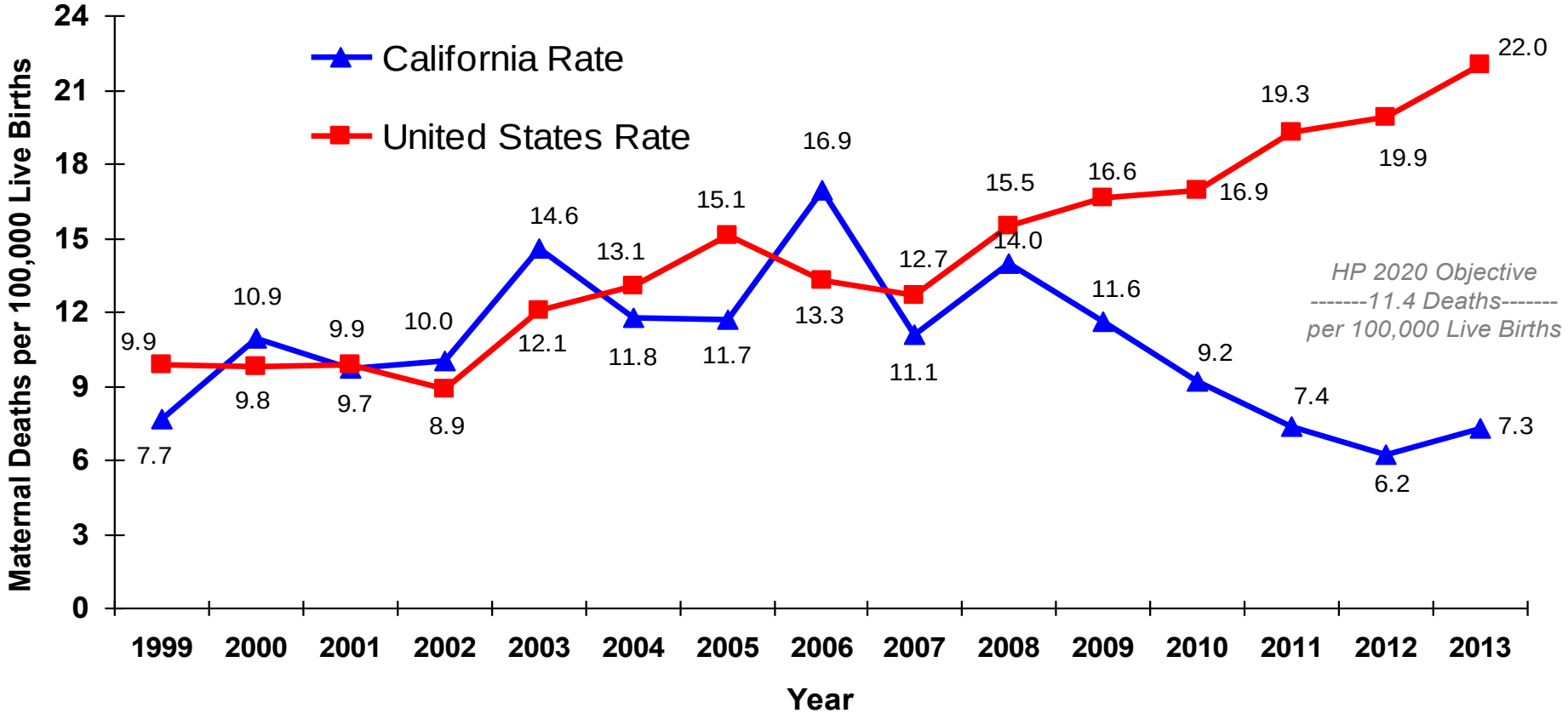
- Aetna | Anthem Blue Cross | Blue Shield | C

Purchasers

- CALPERS | Medi-Cal HMOs | Pacific Business Group on Health/ Silicon Valley Employers Forum | Covered California (our ACA entity)

PARTNER
with everyone you can think of!

Maternal Mortality Rate, California and U.S. 1999-2013



SOURCE: State of California, Department of Public Health, California Birth and Death Statistical Master Files, 1999-2013. Produced by California Department of Public Health, Center for Family Health, Maternal, Child and Adolescent Health Division, May, 2015.

Lessons from CMQCC history

- Common Purpose: Women's lives matter; Providing good quality care matters
- Collaborate!
- Strategic Choices
  - Partnerships / Collaborations
  - Quality Improvement Topics
- Persistence
- Stay true to your vision = Data ←→ Action
- Sustain the gains

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Thank you

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