

The Contemporary Challenge of Maternal Mortality in the U.S. & its Meaning for Maternity Care

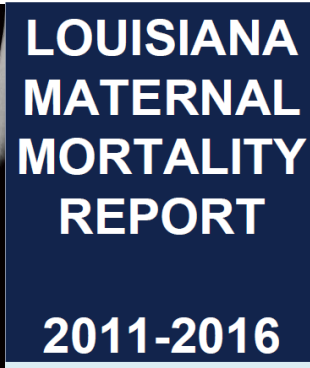
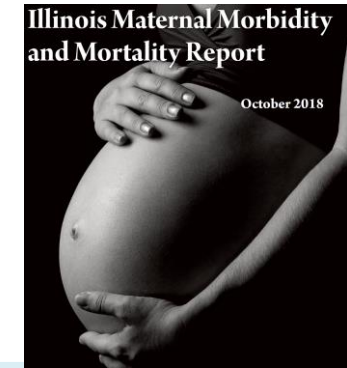
Florida's Pregnancy-Associated Mortality Review
2007 Update



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Optimal Outcomes 2019
Minneapolis Marriott West Hotel
Minneapolis, MN
November 15, 2019

**UNDERSTANDING
MATERNAL DEATHS
IN COLORADO:**



Tennessee Maternal Mortality

Review of 2017 Maternal Deaths



Ohio Department of Health: Bureau of Maternal and Child Health (BMCH)

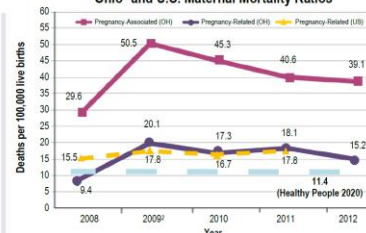
Ohio Pregnancy-Associated Mortality Review (PAMR) | 2015

Overview of Ohio PAMR

The Ohio Department of Health established the Ohio Pregnancy-Associated Mortality Review (PAMR) in 2010 to ensure that maternal deaths are identified and initiatives are developed to prevent future maternal deaths. PAMR is a multidisciplinary committee of experts that reviews all pregnancy-associated deaths and determines if each death was pregnancy-related. Ohio's PAMR committee is made up of volunteer professionals from across the state. According to Centers for Disease Control and Prevention,

Pregnancy-associated: Death during pregnancy or within one year of the end of pregnancy, regardless of cause.
Pregnancy-related: Death during or within one year of pregnancy that is related to the pregnancy.

Ohio's and U.S. Maternal Mortality Ratios





CRITICAL EVALUATION OF THE MINNESOTA MATERNAL MORTALITY STUDY

J. L. McKELVEY, M.D., C.M., AND D. W. FREEMAN, M.D., MINNEAPOLIS, MINN.

Am J OBGYN. 1954; 68:29-37

Detailed studies of all maternal deaths in the state of Minnesota have been carried out in 1941-1942 and continuously since 1950. All women who died of whatever cause while pregnant or in the following three months are included in these studies. Cases are found through death certificates, reports from hospitals and physicians, from a variety of other occasional sources, and by cross-matching all death certificates of women aged 15 to 45 years with birth certificates. One of a group of three well-trained obstetricians who hold clinical appointments at the U of Minn Med School goes as soon as possible to the site of the death and collects all pertinent data from the physician, hospital, and pathologist concerned and, when necessary, from the patient's relatives and from other physicians or hospitals. These data are formally put together, summarized, and critically evaluated for the determination of, among other things, accuracy, completeness, reality of cause of death, responsibility for death, and preventability. All of this is then presented to a common meeting of the members of a Maternal Mortality Committee of the Maternal Welfare Committee of the Minnesota State Medical Society. This Maternal Mortality Committee makes final decisions on policy and on such matters as cause of death, responsibility for death, and preventability. A detailed report is published once a year. The three investigators are paid a sufficient amount approximately to defray their expenses. All other personnel serve without remuneration.

CRITICAL EVALUATION OF THE MINNESOTA MATERNAL MORTALITY STUDY

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EDITORIAL

Moms are dying as Minnesota health panel dawdles

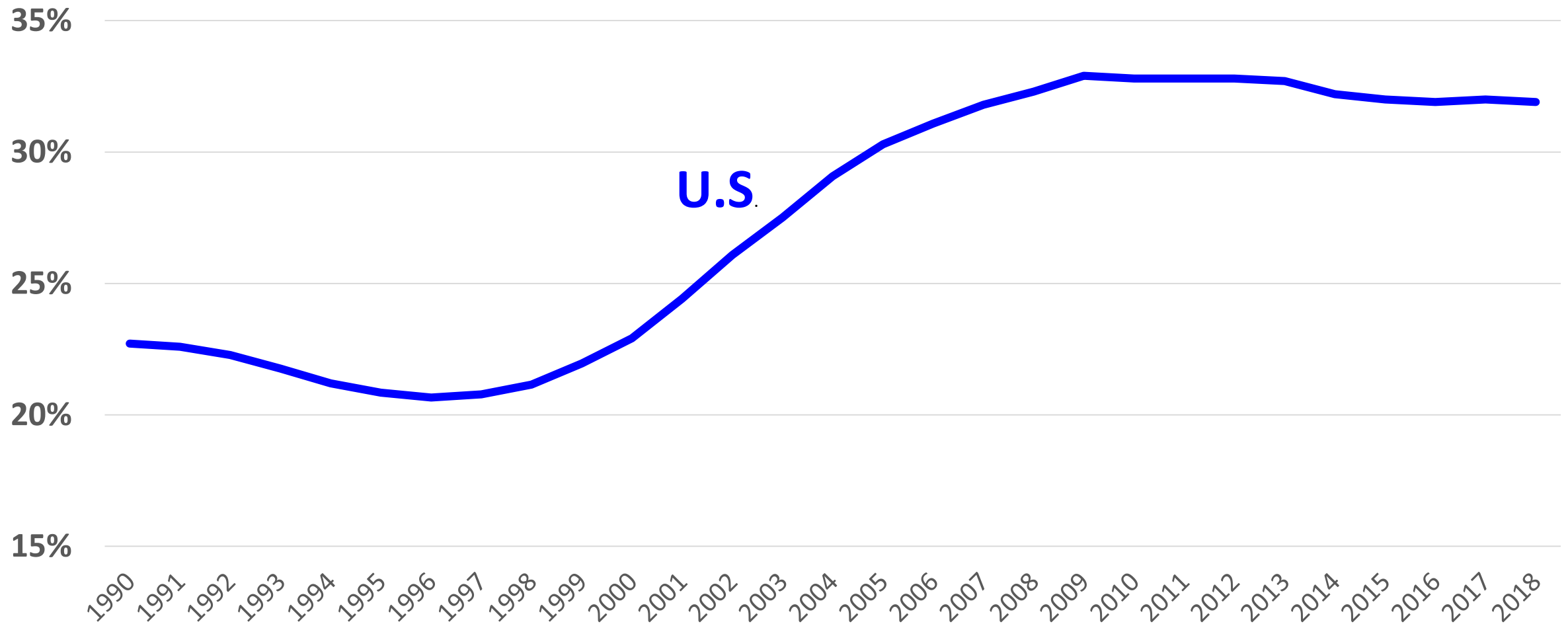
Unacceptable hiring delay derailed vital work on increase in maternal mortality.

**Mortality Patterns Between Five States With Highest Death
Rates and Five States With Lowest Death Rates:
United States, 2017**

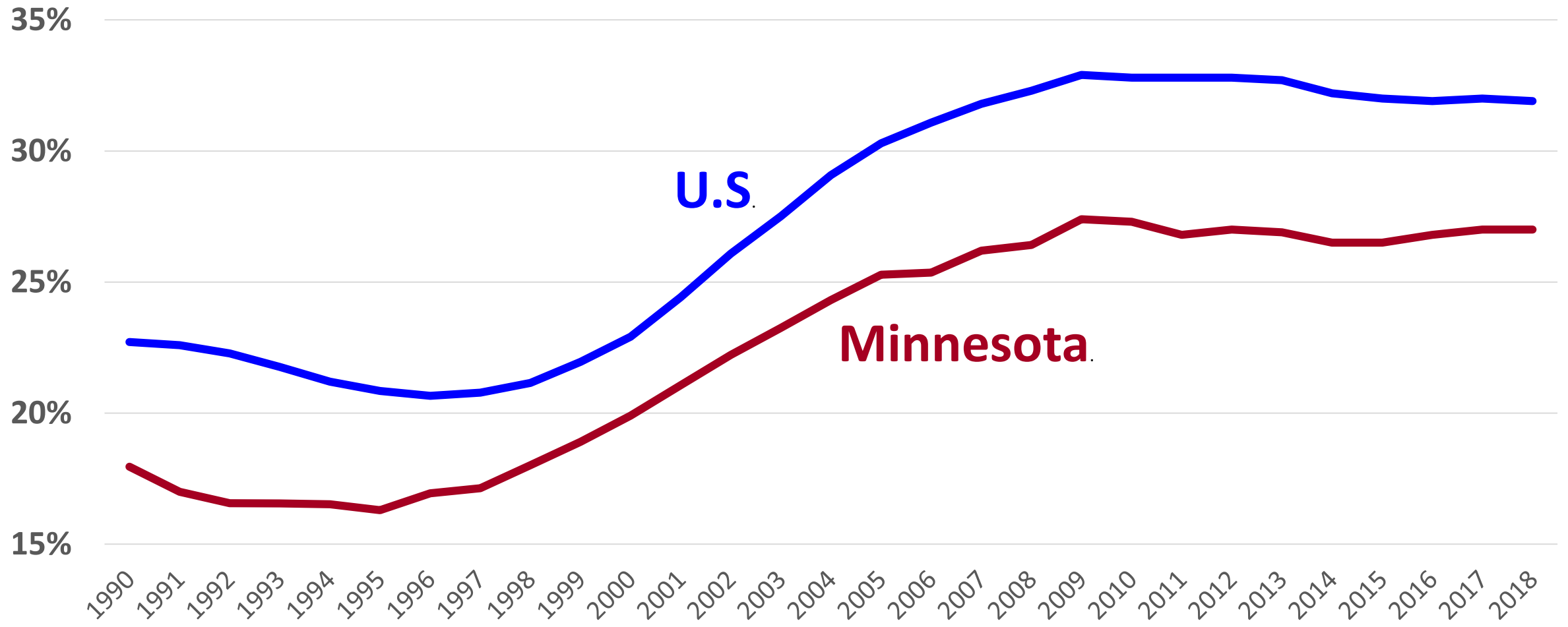
Minnesota Context

- 4th lowest age-adjusted death rate overall
- 12th lowest overall IMR (2015-2017)
 - 7th for white IMR;
 - 4th for NHB IMR;
 - 9th for Hispanic IMR
- 23rd in Home Births
- 32nd in births attended by “other” midwives
- 13th in CNM Births
- 11th lowest cesarean rates

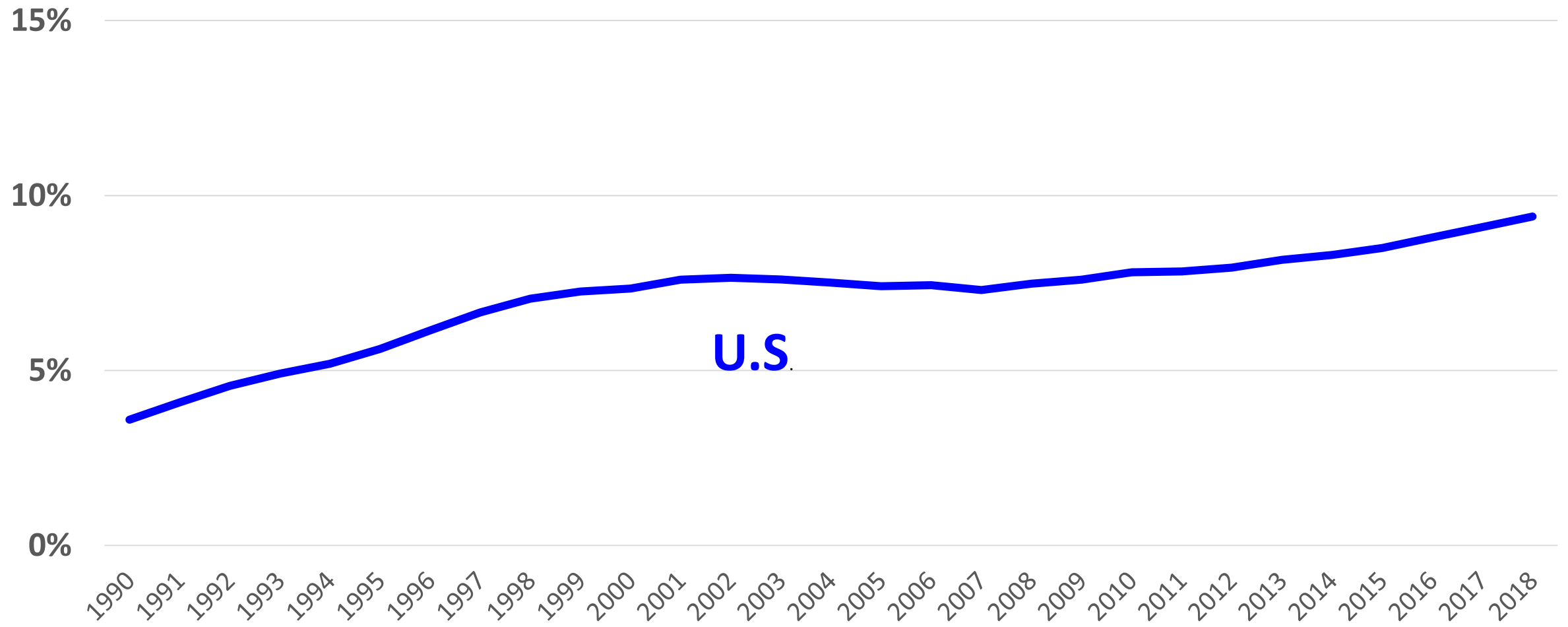
Cesarean Rates 1990-2018



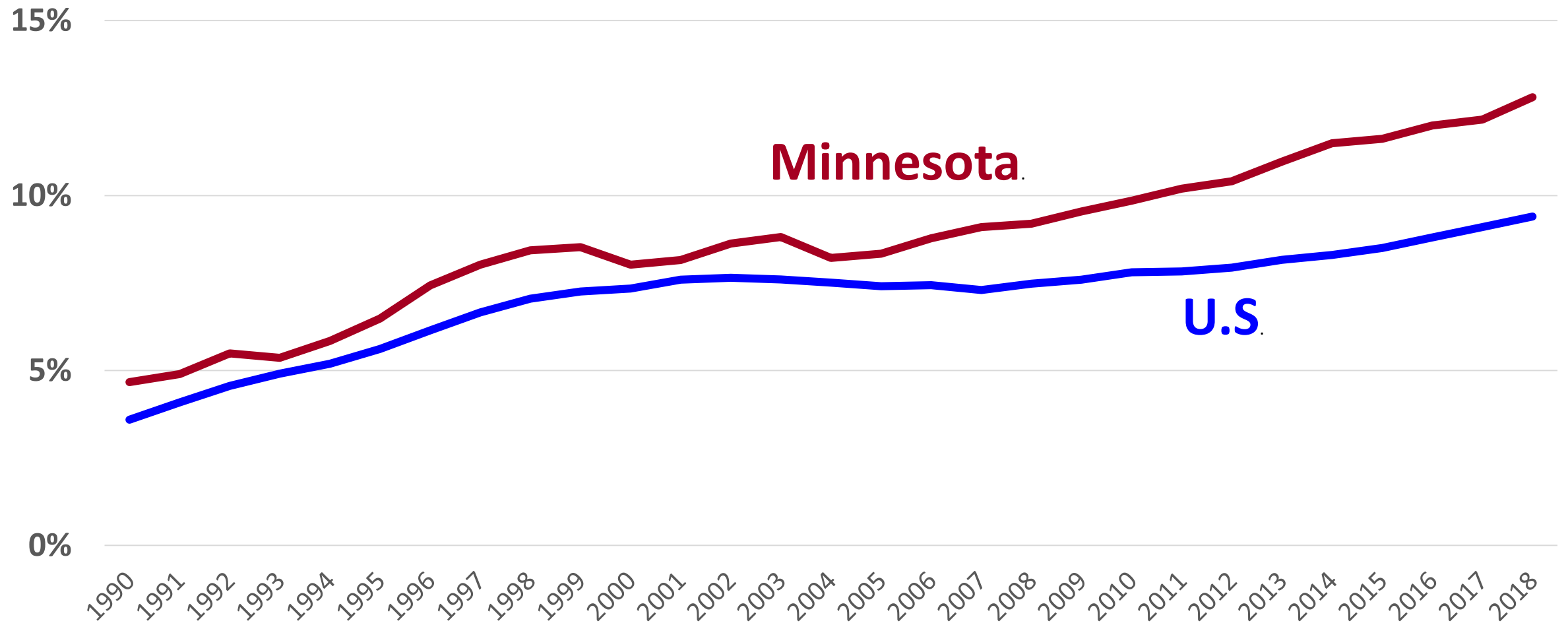
Cesarean Rates 1990-2018



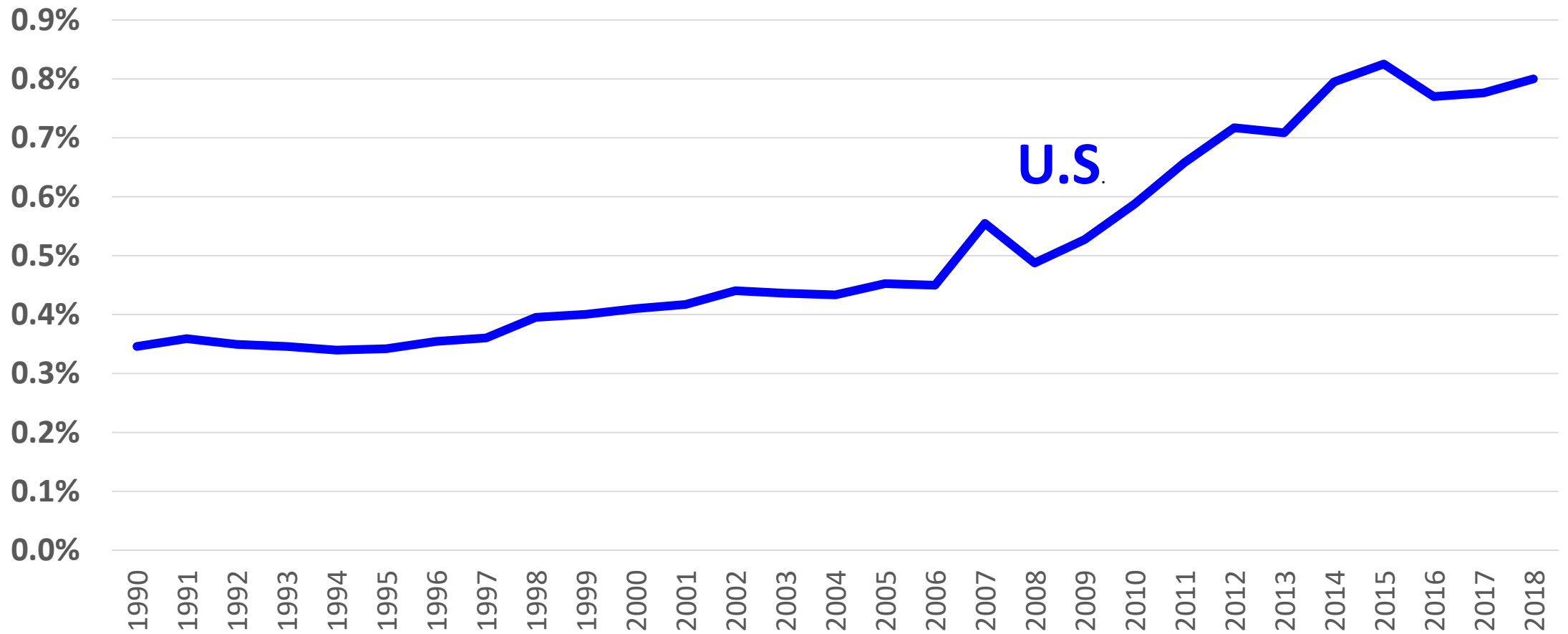
CNM Attendance at Birth, 1990-2018



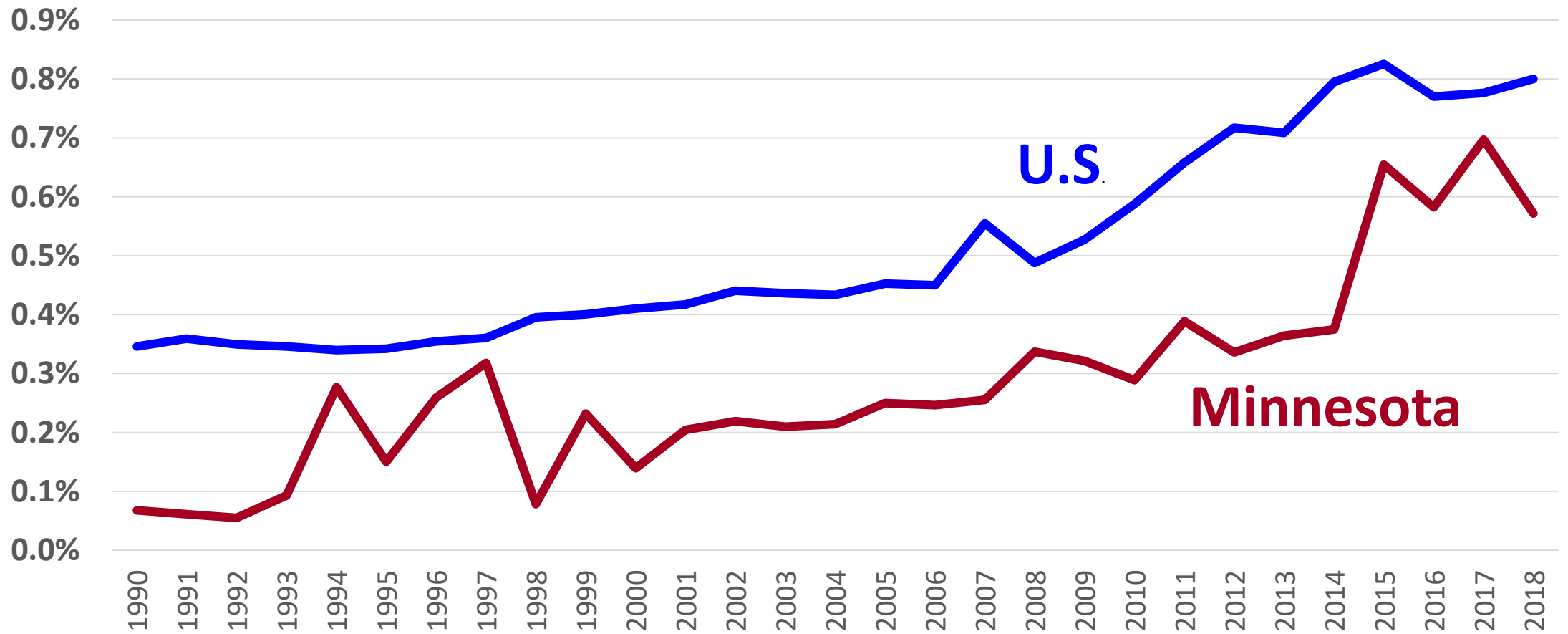
CNM Attendance at Birth, 1990-2018



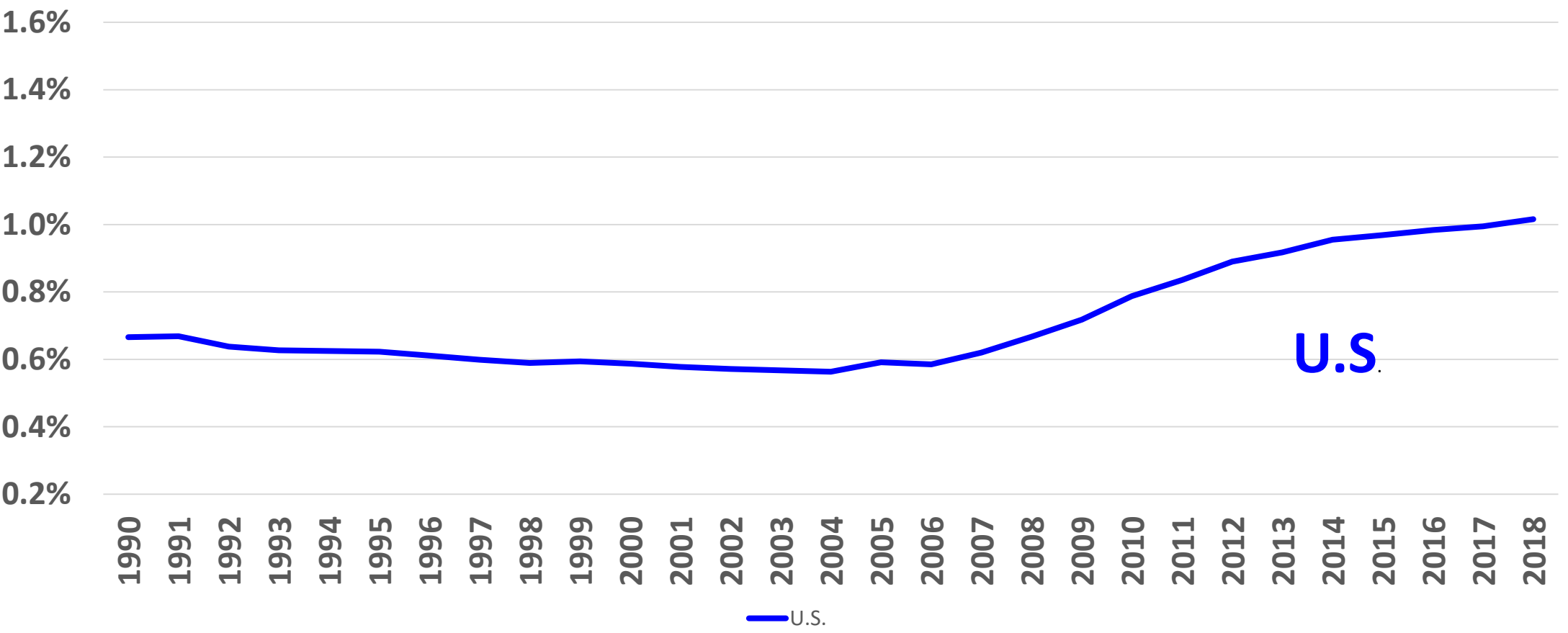
“Other” Midwives Attendance at Birth, 1990-2018



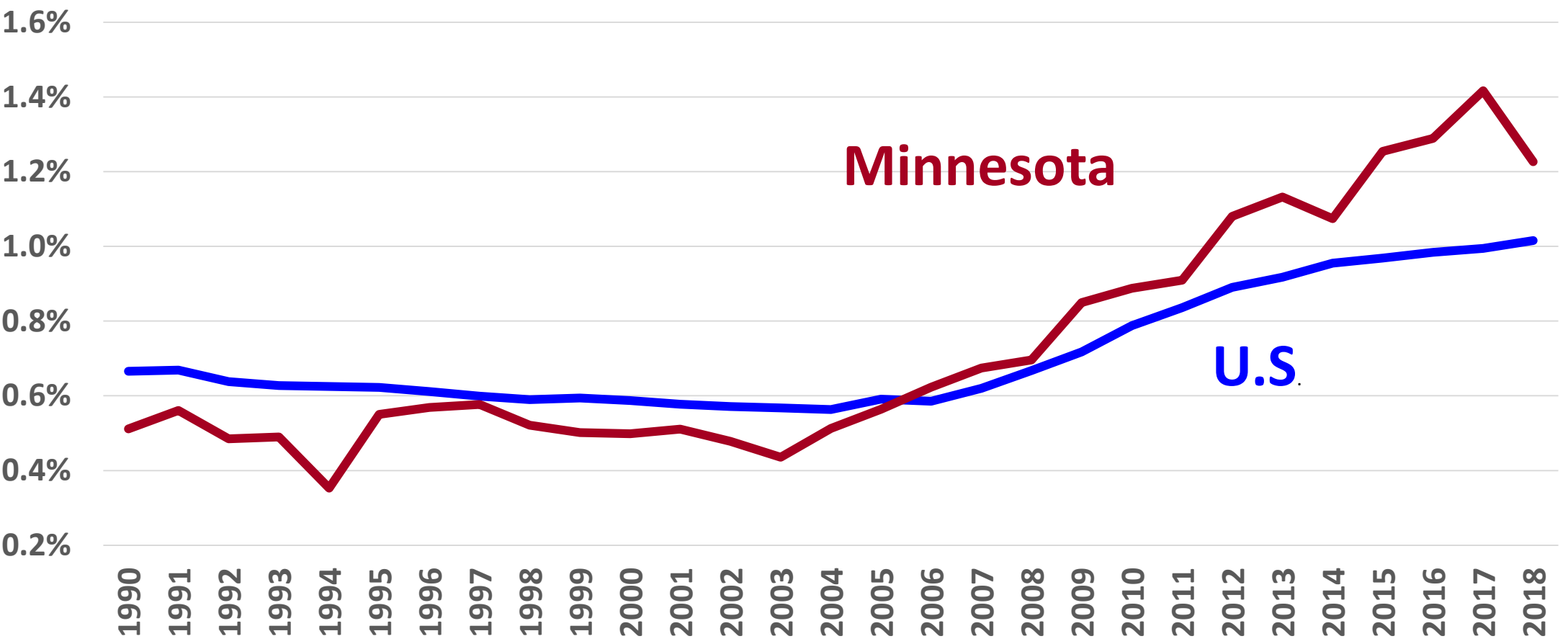
“Other” Midwives Attendance at Birth, 1990-2018



Home Births in the U.S. and Minnesota, 1990-2018



Home Births in the U.S. and Minnesota, 1990-2018



What we'll be discussing

1. Some background – how did we get here?
2. The crisis in measuring maternal mortality
3. Five key points concerning maternal mortality
 - *The persistence of racial disparities*
 - *The U.S. in a comparative context*
 - *Maternal mortality is a public health problem more than a clinical one*
 - *The problem is much bigger than maternal deaths*
 - *Potential policy solutions*


**First, some
background**

Three Definitions (in the U.S.)

- **Pregnancy Associated Death** – The death of a women while pregnant or *within one year* of termination of pregnancy, *irrespective of cause*. (*WHO calls these “pregnancy related”*). *Starting point for analyses*.
- **Maternal Mortality Ratio** – the death of a woman *while pregnant or within 42 days of termination of pregnancy*, irrespective of the duration and site of the pregnancy, from any cause *related to or aggravated by the pregnancy* or its management but not from accidental or incidental causes. Typically reported as a ratio per 100,000 births. *Used in international comparisons*.
- **Pregnancy Related Death** – the death of a woman during pregnancy or *within one year* of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy. *Used by CDC for U.S. trends*.

Clarifying Definitions:

Pregnancy Associated Mortality

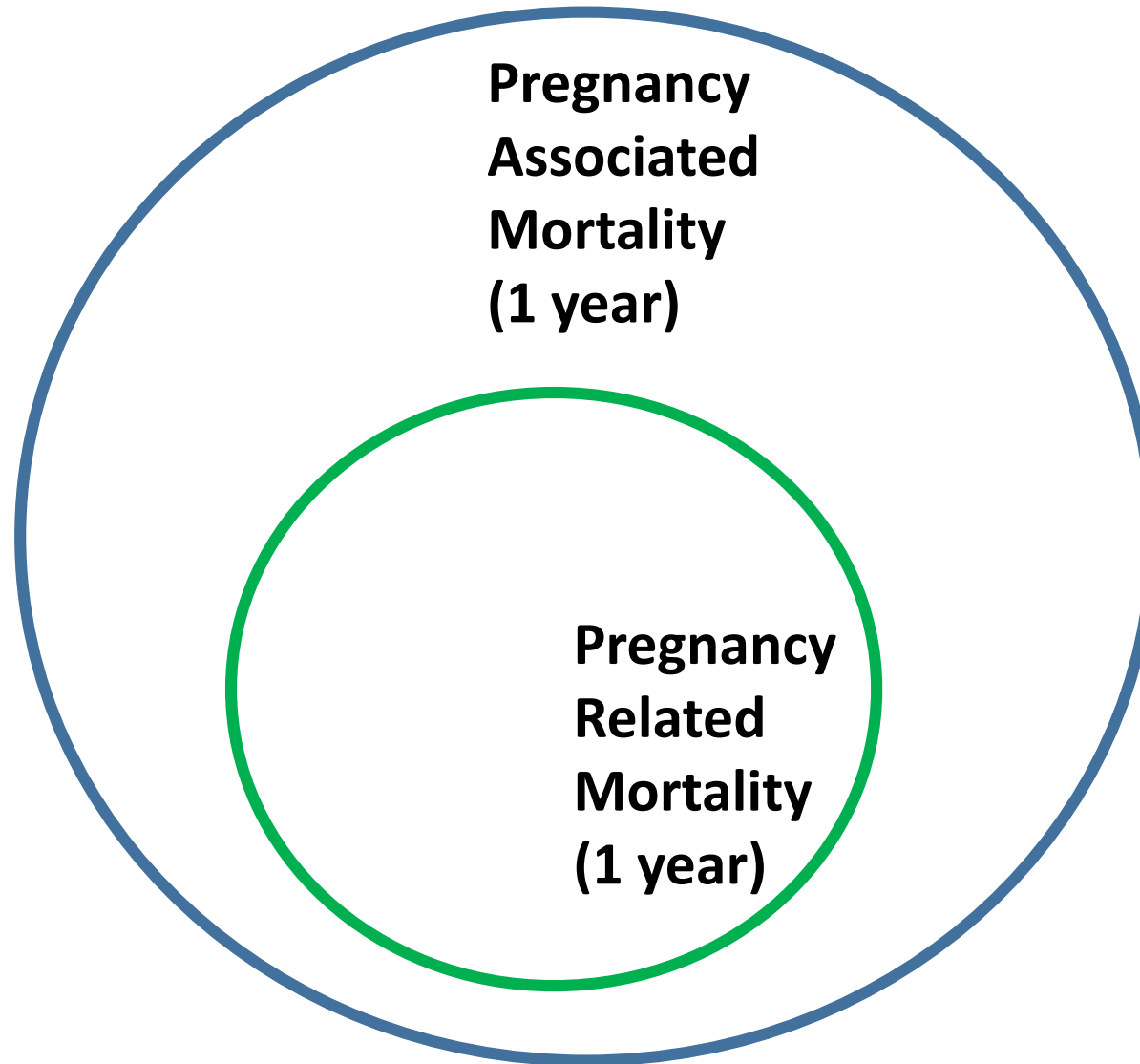


**Pregnancy
Associated
Mortality
(1 year)**

**All Deaths
women of
reproductive
age
pregnancy to
1 year ppm**

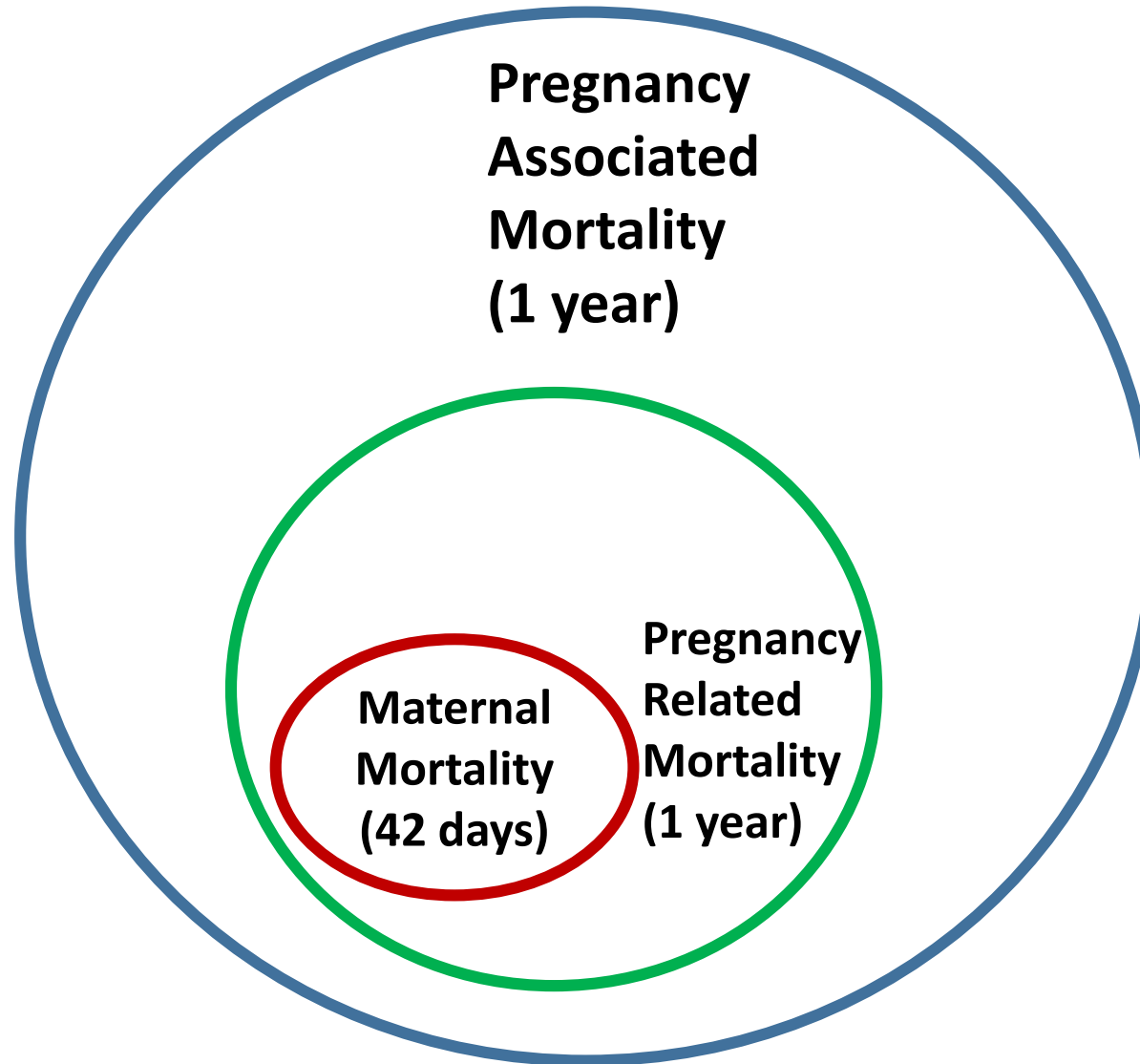
Clarifying Definitions:

Pregnancy Related Mortality



All Deaths
women during
pregnancy,
birth and up to
**1 year ppm &
Related to the
pregnancy**

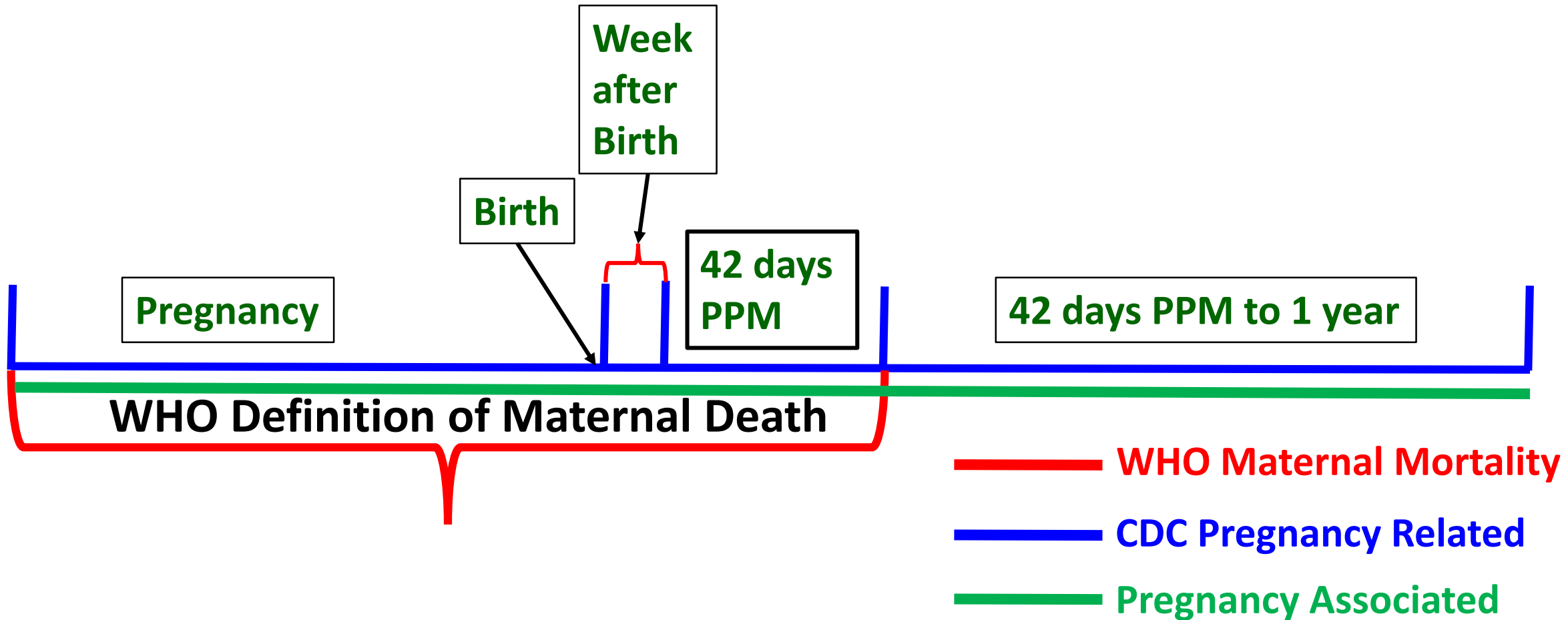
Clarifying Definitions: Maternal Mortality



All Deaths
women during
pregnancy,
birth and up to
42 days ppm
Related to the
pregnancy

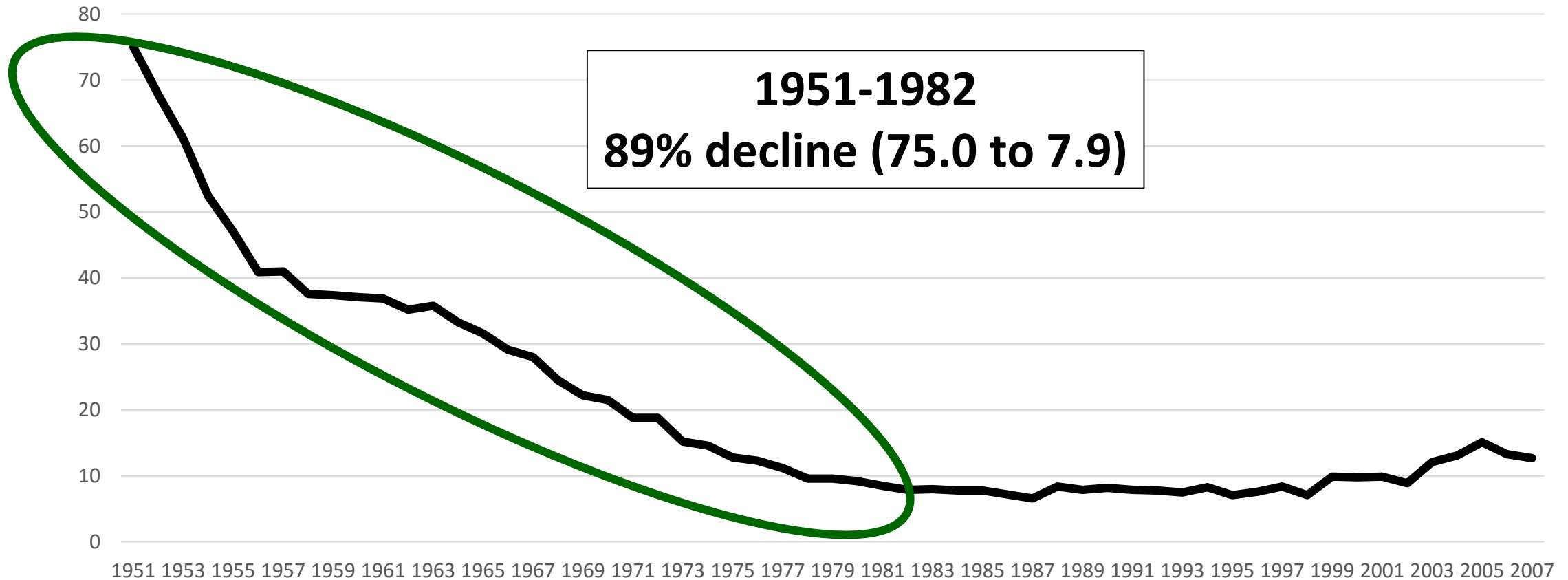
NOTE: WHO defines pregnancy
related term

Timeline of Maternal Mortality Definitions



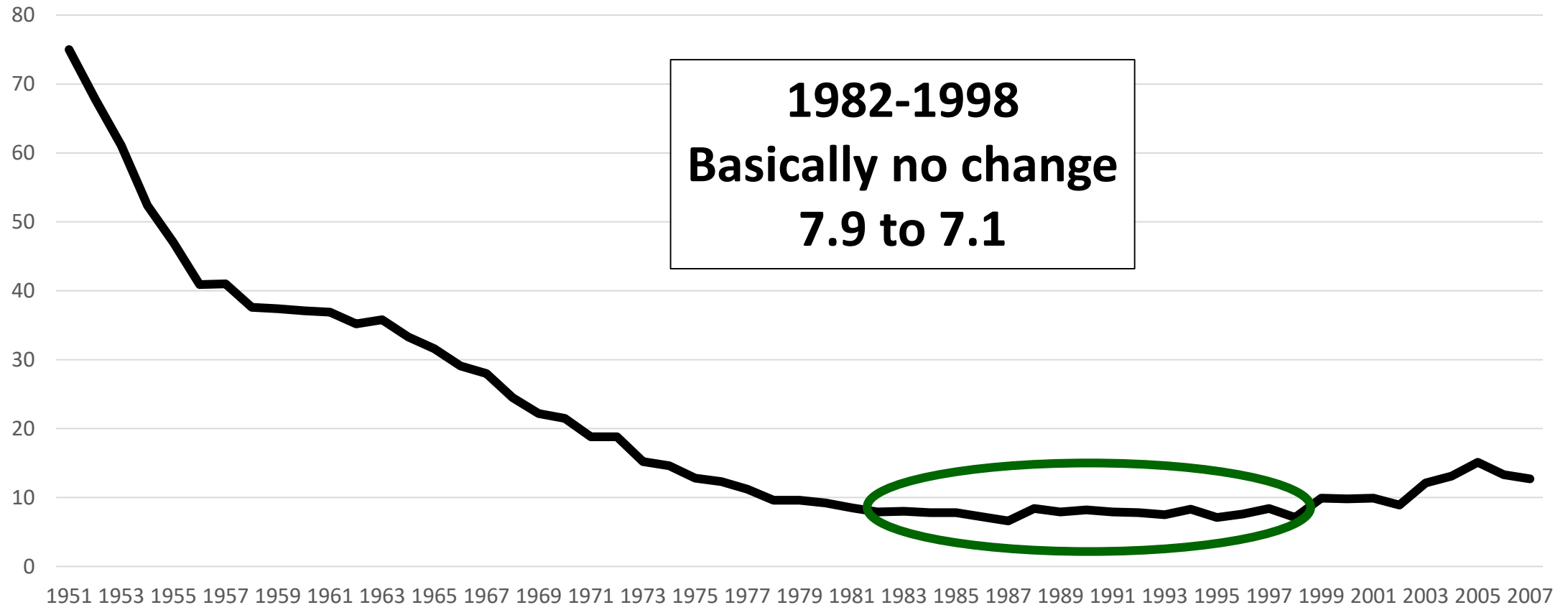
PPM – postpartum –period after the birth

U.S. Maternal Mortality (per 100,000 live births), 1951-2007



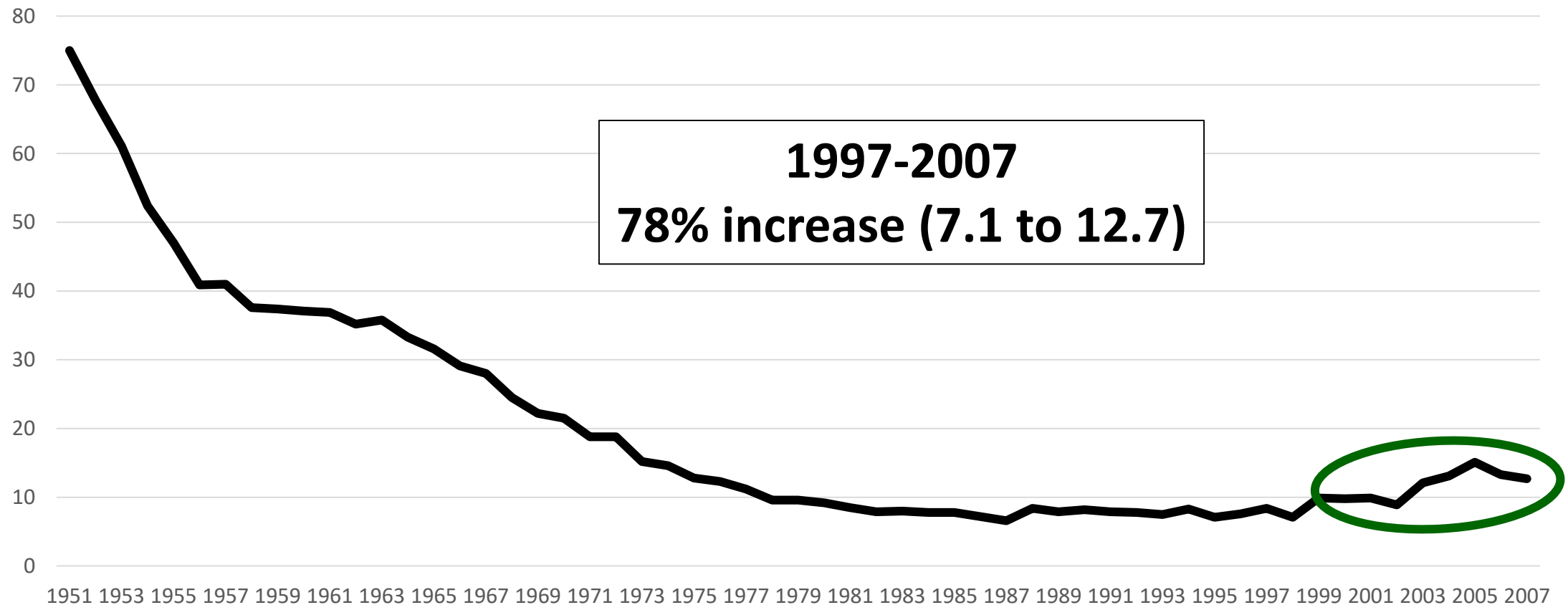
Source: NCHS. Deaths: Final Data. Annual Reports.

U.S. Maternal Mortality (per 100,000 live births), 1951-2007



Source: NCHS. Deaths: Final Data. Annual Reports.

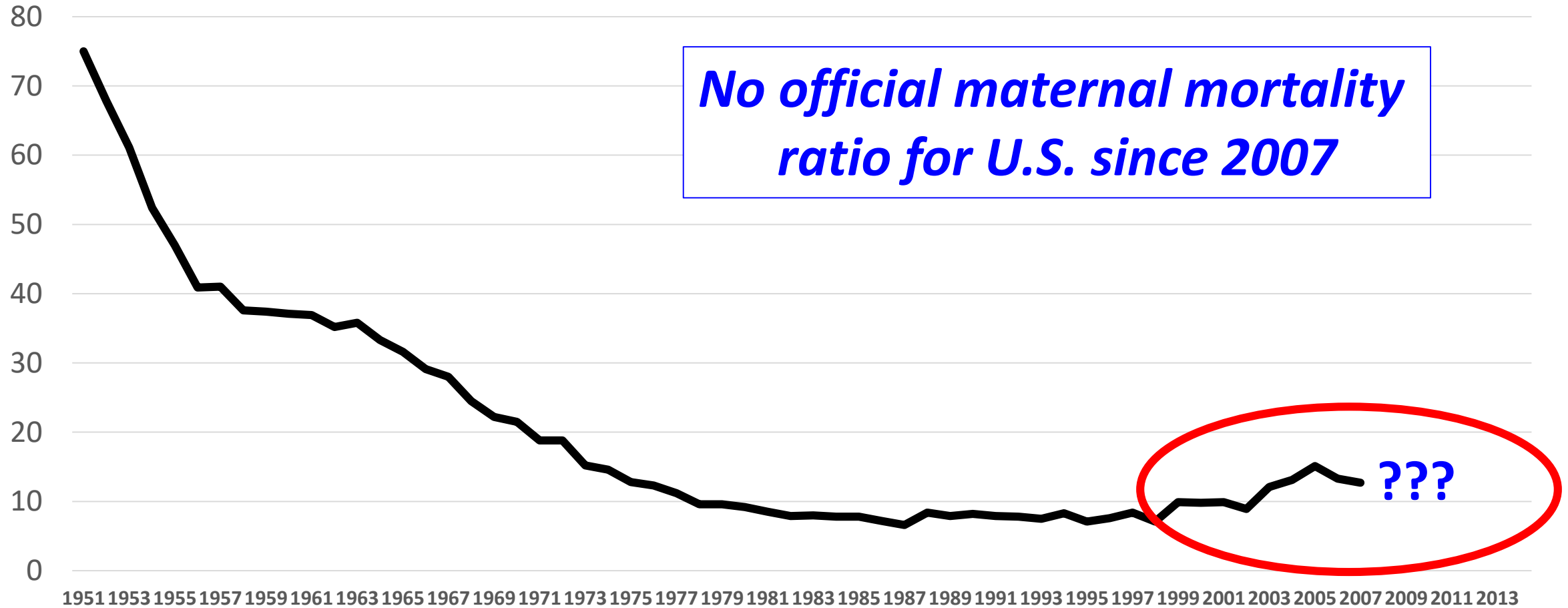
U.S. Maternal Mortality (per 100,000 live births), 1951-2007



Source: NCHS. Deaths: Final Data. Annual Reports.

U.S. Maternal Mortality Ratio , 1951-2007

The dual problem: substance & measurement



***How did the U.S. get to the point
where they stopped publishing a
maternal mortality rate?***

***Efforts to avoid poor case
ascertainment led to over-
ascertainment***

Last reporting (2007) of a maternal mortality rate by NCHS

Table 34. Number of maternal deaths and maternal mortality rates for selected causes, by Hispanic origin and race for non-Hispanic population: United States, 2007

[Maternal causes are those assigned to categories A34, O00–O95, and O98–O99 of the *International Classification of Diseases, Tenth Revision (ICD–10)*, Second Edition. An increasing number of states use a separate item regarding pregnancy status on the death certificate to help identify these deaths; see “Technical Notes.” Rates are per 100,000 live births in specified group; see “Technical Notes.” Race and Hispanic origin are reported separately on the death certificate. Persons of Hispanic origin may be of any race. Data for Hispanic persons are not tabulated separately by race; data for non-Hispanic persons are tabulated by race. Data for Hispanic origin should be interpreted with caution because of inconsistencies between reporting Hispanic origin on death certificates and on censuses and surveys; see “Technical Notes”]

Cause of death (based on ICD–10, 2004)	Number					Rate				
	All origins ¹	Hispanic	Non-Hispanic ²	Non-Hispanic white ³	Non-Hispanic black ³	All origins ¹	Hispanic	Non-Hispanic ²	Non-Hispanic white ³	Non-Hispanic black ³
Maternal causes (A34,O00–O95,O98–O99)	548	95	453	242	178	12.7	8.9	14.1	10.5	28.4
Pregnancy with abortive outcome (O00–O07)	31	5	26	8	17	0.7	*	0.8	*	*
Ectopic pregnancy (O00)	14	1	13	2	11	*	*	*	*	*
Spontaneous abortion (O03)	9	2	7	3	3	*	*	*	*	*
Medical abortion (O04)	–	–	–	–	–	*	*	*	*	*
Other abortion (O05)	1	–	1	–	1	*	*	*	*	*
Other and unspecified pregnancy with abortive outcome (O01–O02,O06–O07)	7	2	5	3	2	*	*	*	*	*
Other direct obstetric causes (A34,O10–O92)	362	67	295	153	117	8.4	6.3	9.2	6.6	18.7
Eclampsia and pre-eclampsia (O11,O13–O16)	64	13	51	29	19	1.5	*	1.6	1.3	*
Hemorrhage of pregnancy and childbirth and placenta previa (O20,O44–O46,O67,O72)	41	12	29	18	9	0.9	*	0.9	*	*
Complications predominately related to the puerperium (A34,O85–O92)	93	15	78	35	31	2.2	*	2.4	1.5	4.9
Obstetrical tetanus (A34)	–	–	–	–	–	*	*	*	*	*
Obstetric embolism (O88)	33	6	27	12	8	0.8	*	0.8	*	*
Other complications predominately related to the puerperium (O85–O87,O89–O92)	60	9	51	23	23	1.4	*	1.6	1.0	3.7
All other direct obstetric causes (O10,O12,O21–O43,O47–O66,O68–O71,O73–O75)	164	27	137	71	58	3.8	2.5	4.3	3.1	9.2
Obstetric death of unspecified cause (O95)	20	4	16	7	7	0.5	*	*	*	*
Indirect obstetric causes (O98–O99)	135	19	116	74	37	3.1	*	3.6	3.2	5.9
Maternal causes more than 42 days after delivery or termination of pregnancy (O96–O97)	221	39	181	92	70	5.1	3.7	5.6	4.0	11.2
Death from any obstetric cause occurring more than 42 days but less than 1 year after delivery (O96)	215	38	176	92	66	5.0	3.6	5.5	4.0	10.5
Death from sequelae of direct obstetric causes (O97)	6	1	5	–	4	*	*	*	*	*

Revised (2003) U.S. Standard Certificate of Death

LOCAL FILE NO.		U.S. STANDARD CERTIFICATE OF DEATH		STATE FILE NO.	
1. DECEDENT'S LEGAL NAME (Include AKA's if any) (First, Middle, Last)		2. SEX		3. SOCIAL SECURITY NUMBER	
4a. AGE-Last Birthday (Years)		4b. UNDER 1 YEAR Months Days		4c. UNDER 1 DAY Hours Minutes	
5. DATE OF BIRTH (Mo/Day/Yr)		6. BIRTH-PLACE (City and State or Foreign Country)			
7a. RESIDENCE-STATE		7b. COUNTY		7c. CITY OR TOWN	
7d. STREET AND NUMBER		7e. APT. NO.		7f. ZIP CODE	
7g. INSIDE CITY LIMITS? <input type="checkbox"/> Yes <input type="checkbox"/> No					
8. EVER IN US ARMED FORCES? <input type="checkbox"/> Yes <input type="checkbox"/> No		9. MARITAL STATUS AT TIME OF DEATH <input type="checkbox"/> Married <input type="checkbox"/> Married, but separated <input type="checkbox"/> Widowed <input type="checkbox"/> Divorced <input type="checkbox"/> Never Married <input type="checkbox"/> Unknown		10. SURVIVING SPOUSE'S NAME (If wife, give name prior to first marriage)	
11. FATHER'S NAME (First, Middle, Last)		12. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last)			
13a. INFORMANT'S NAME		13b. RELATIONSHIP TO DECEDENT		13c. MAILING ADDRESS (Street and Number, City, State, Zip Code)	
14. PLACE OF DEATH (Check only one: see instructions)					
IF DEATH OCCURRED IN A HOSPITAL: <input type="checkbox"/> Inpatient <input type="checkbox"/> Emergency Room/Outpatient <input type="checkbox"/> Dead on Arrival					
IF DEATH OCCURRED SOMEWHERE OTHER THAN A HOSPITAL: <input type="checkbox"/> Hospice facility <input type="checkbox"/> Nursing home/Long term care facility <input type="checkbox"/> Decedent's home <input type="checkbox"/> Other (Specify):					
15. FACILITY NAME (If not institution, give street & number)		16. CITY OR TOWN, STATE, AND ZIP CODE		17. COUNTY OF DEATH	
18. METHOD OF DISPOSITION: <input type="checkbox"/> Burial <input type="checkbox"/> Cremation <input type="checkbox"/> Donation <input type="checkbox"/> Entombment <input type="checkbox"/> Removal from State <input type="checkbox"/> Other (Specify):		19. PLACE OF DISPOSITION (Name of cemetery, crematory, other place)			
20. LOCATION-CITY, TOWN, AND STATE		21. NAME AND COMPLETE ADDRESS OF FUNERAL FACILITY			
22. SIGNATURE OF FUNERAL SERVICE LICENSEE OR OTHER AGENT				23. LICENSE NUMBER (Of Licensee)	
ITEMS 24-28 MUST BE COMPLETED BY PERSON WHO PRONOUNCES OR CERTIFIES DEATH				24. DATE PRONOUNCED DEAD (Mo/Day/Yr)	
25. TIME PRONOUNCED DEAD				26. SIGNATURE OF PERSON PRONOUNCING DEATH (Only when applicable)	
27. LICENSE NUMBER				28. DATE SIGNED (Mo/Day/Yr)	
29. ACTUAL OR PRESUMED DATE OF DEATH (Mo/Day/Yr) (Spell Month)		30. ACTUAL OR PRESUMED TIME OF DEATH		31. WAS MEDICAL EXAMINER OR CORONER CONTACTED? <input type="checkbox"/> Yes <input type="checkbox"/> No	
CAUSE OF DEATH (See instructions and examples)					
32. PART I. Enter the chain of events—diseases, injuries, or complications—that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. DO NOT ABBREVIATE. Enter only one cause on a line. Add additional lines if necessary.					
IMMEDIATE CAUSE (Final disease or condition resulting in death) → a. _____ Due to (or as a consequence of): _____					
Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST b. _____ Due to (or as a consequence of): _____					
c. _____ Due to (or as a consequence of): _____					
d. _____					
PART II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART I					
33. WAS AN AUTOPSY PERFORMED? <input type="checkbox"/> Yes <input type="checkbox"/> No					
34. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> No					
35. DID TOBACCO USE CONTRIBUTE TO DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/> Unknown		36. IF FEMALE: <input type="checkbox"/> Not pregnant within past year <input type="checkbox"/> Pregnant at time of death <input type="checkbox"/> Not pregnant, but pregnant within 42 days of death <input type="checkbox"/> Not pregnant, but pregnant 43 days to 1 year before death <input type="checkbox"/> Unknown if pregnant within the past year		37. MANNER OF DEATH <input type="checkbox"/> Natural <input type="checkbox"/> Homicide <input type="checkbox"/> Accident <input type="checkbox"/> Pending Investigation <input type="checkbox"/> Suicide <input type="checkbox"/> Could not be determined	
38. DATE OF INJURY (Mo/Day/Yr) (Spell Month)		39. TIME OF INJURY		40. PLACE OF INJURY (e.g., Decedent's home, construction site, restaurant, wooded area)	
41. INJURY AT WORK? <input type="checkbox"/> Yes <input type="checkbox"/> No					
42. LOCATION OF INJURY: State: _____ City or Town: _____		43. DESCRIBE HOW INJURY OCCURRED: _____		44. IF TRANSPORTATION INJURY, SPECIFY: <input type="checkbox"/> Driver/Operator <input type="checkbox"/> Passenger <input type="checkbox"/> Native Hawaiian <input type="checkbox"/> Pedestrian <input type="checkbox"/> Other (Specify): _____	
45. CERTIFIER (Check only one): <input type="checkbox"/> Certifying physician-To the best of my knowledge, death occurred due to the cause(s) and manner stated. <input type="checkbox"/> Pronouncing & Certifying physician-To the best of my knowledge, death occurred at the time, date, and place, and due to the cause(s) and manner stated. <input type="checkbox"/> Medical Examiner/Coroner-On the basis of examination, and/or investigation, in my opinion, death occurred at the time, date, and place, and due to the cause(s) and manner stated.					
Signature of certifier: _____					
46. NAME, ADDRESS, AND ZIP CODE OF PERSON COMPLETING CAUSE OF DEATH (Item 32)					
47. TITLE OF CERTIFIER		48. LICENSE NUMBER		49. DATE CERTIFIED (Mo/Day/Yr)	
50. FOR REGISTRAR ONLY- DATE FILED (Mo/Day/Yr)					
51. DECEDENT'S EDUCATION-Check the box that best describes the highest degree or level of school completed at the time of death. <input type="checkbox"/> 8th grade or less <input type="checkbox"/> 9th - 12th grade; no diploma <input type="checkbox"/> High school graduate or GED completed <input type="checkbox"/> Some college credit, but no degree <input type="checkbox"/> Associate degree (e.g., AA, AS) <input type="checkbox"/> Bachelor's degree (e.g., BA, AB, BS) <input type="checkbox"/> Master's degree (e.g., MA, MS, MEng, MEd, MSc, MFA) <input type="checkbox"/> Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD)		52. DECEDENT OF HISPANIC ORIGIN? Check the box that best describes whether the decedent is Spanish/Hispanic/Latino. Check the "No" box if decedent is not Spanish/Hispanic/Latino. <input type="checkbox"/> No, not Spanish/Hispanic/Latino <input type="checkbox"/> Yes, Mexican, Mexican American, Chicano <input type="checkbox"/> Yes, Puerto Rican <input type="checkbox"/> Yes, Cuban <input type="checkbox"/> Yes, other Spanish/Hispanic/Latino (Specify) _____		53. DECEDENT'S RACE (Check one or more races to indicate what the decedent considered himself or herself to be) <input type="checkbox"/> White <input type="checkbox"/> Black or African American <input type="checkbox"/> American Indian or Alaska Native (Name of the enrolled or principal tribe) _____ <input type="checkbox"/> Asian Indian <input type="checkbox"/> Chinese <input type="checkbox"/> Filipino <input type="checkbox"/> Japanese <input type="checkbox"/> Korean <input type="checkbox"/> Vietnamese <input type="checkbox"/> Other Asian (Specify) _____ <input type="checkbox"/> Native Hawaiian <input type="checkbox"/> Guamanian or Chamorro <input type="checkbox"/> Samoan <input type="checkbox"/> Other Pacific Islander (Specify) _____ <input type="checkbox"/> Other (Specify) _____	
54. DECEDENT'S USUAL OCCUPATION (Indicate type of work done during most of working life. DO NOT USE RETIRED).					
55. KIND OF BUSINESS/INDUSTRY					

PART II (Other significant conditions)

- Enter all diseases or conditions contributing to death that were not reported in the chain of events in Part I and that did not result in the underlying cause of death. See attached examples.
- If two or more possible sequences resulted in death, or if two conditions seem to have added together, report in Part I the one that, in your opinion, most directly caused death. Report in Part II the other conditions or diseases.

CHANGES TO CAUSE OF DEATH

Should additional medical information or autopsy findings become available that would change the cause of death originally reported, the original death certificate should be amended by the certifying physician by immediately reporting the revised cause of death to the State Vital Records Office.

ITEMS 33-34 - AUTOPSY

- 33 - Enter "Yes" if either a partial or full autopsy was performed. Otherwise enter "No".
- 34 - Enter "Yes" if autopsy findings were available to complete the cause of death; otherwise enter "No". Leave item blank if no autopsy was performed.

ITEM 35 - DID TOBACCO USE CONTRIBUTE TO DEATH?

Check "yes" if, in your opinion, the use of tobacco contributed to death. Tobacco use may contribute to deaths due to a wide variety of diseases; for example, tobacco use contributes to many deaths due to emphysema or lung cancer and some heart disease and cancers of the head and neck. Check "no" if, in your clinical judgment, tobacco use did not contribute to this particular death.

ITEM 36 - IF FEMALE, WAS DECEDENT PREGNANT AT TIME OF DEATH OR WITHIN PAST YEAR?

This information is important in determining pregnancy-related mortality.

ITEM 37 - MANNER OF DEATH

- Always check Manner of Death, which is important: 1) in determining accurate causes of death; 2) in processing insurance claims; and 3) in statistical studies of injuries and death.
- Indicate "Pending investigation" if the manner of death cannot be determined whether due to an accident, suicide, or homicide within the statutory time limit for filing the death certificate. This should be changed later to one of the other terms.
- Indicate "Could not be Determined" ONLY when it is impossible to determine the manner of death.

To improve case identification:

U.S. Standard Pregnancy Question, 2003 (sort of)

Checkbox format:

IF FEMALE:

- ☐ Not pregnant within past year
- ☐ Pregnant at time of death
- ☐ Not pregnant, but pregnant within 42 days of death
- ☐ Not pregnant, but pregnant 43 days to 1 year before death
- ☐ Unknown if pregnant within the past year

Meant to solve 2 problems:

- (1) Most states had no such question; and***
- (2) Different questions used in different states***

The Check Box

Determining Pregnancy Status to Improve Maternal Mortality Surveillance

Andrea P. MacKay, MSPH, Roger Rochat, MD, Jack C. Smith, MS, Cynthia J. Berg, MD, MPH

Objective: More than half of pregnancy-related deaths are not identified through routine surveillance methods. The purpose of this study was to evaluate the effectiveness of the pregnancy check box on death certificates in ascertaining pregnancy-related deaths.

Methods: Data derived from the Centers for Disease Control and Prevention's ongoing Pregnancy Mortality Surveillance System were used to identify states that included a check box on the death certificate in 1991 and 1992. Death certificates from those states were evaluated to determine the number and proportion of pregnancy-related deaths identified by a marked check box. Characteristics of death were also examined.

Results: Sixteen states and New York City included a check box or question specifically asking about pregnancy of the decedent. Of the 425 pregnancy-related deaths identified in the 17 reporting areas, 124 (29%) were determined to be pregnancy-related deaths only because of the pregnancy status information provided in the check box. The proportion of deaths identified only by a marked check box ranged from less than 5% for four states to 40% or more for seven states.

Conclusions: The availability of pregnancy status information on death certificates is a simple and effective aid in ascertaining a pregnancy-related death, when no other indicators of pregnancy appear on the death certificate. Routine use of the pregnancy check box for all states would lead to substantially increased classification of maternal deaths and more accurate classification of the causes of and risk factors for maternal deaths.

***16 States
already had a
checkbox as far
back as 1991-
1992, but with
different
wording***

Table III. Separate questions related to pregnancy on state certificates in 2003

Alabama.	Was there a pregnancy in last 42 days? (Specify Yes, No, or Unknown)
California	If female, pregnant in last year? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
Florida	If female, was there a pregnancy in the past 3 months? <input type="checkbox"/> Yes <input type="checkbox"/> No If female aged 10–54: <input type="checkbox"/> not pregnant within past year <input type="checkbox"/> pregnant at time of death <input type="checkbox"/> not pregnant, but pregnant within 42 days of death <input type="checkbox"/> not pregnant, but pregnant 43 days to 1 year before death <input type="checkbox"/> unknown if pregnant within the past year
Idaho.	If female, was there a pregnancy in past three months? <input type="checkbox"/> Yes <input type="checkbox"/> No
Illinois	Was decedent pregnant or 90 days postpartum? (Yes or no)
Indiana.	If female, was there a pregnancy in the past 12 months? (Specify yes or no)
Iowa	If female, was there a pregnancy in the past 12 months? <input type="checkbox"/> Yes <input type="checkbox"/> No
Kentucky	If deceased was female 10–49, was she pregnant in the last 90 days? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
Louisiana	If female: Was decedent pregnant in the past 12 months? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
Maryland	<i>Separate fields on dates of death and delivery support capability to compute the other categories in the standard.</i> Was female pregnant: At death? <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> unknown In last 12 months? <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> unknown
Minnesota.	Had decedent been pregnant within 90 days prior to death? <input type="checkbox"/> Yes <input type="checkbox"/> No
Mississippi	If deceased was female 10–49, was she pregnant in the last 90 days? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
Missouri	If female: <input type="checkbox"/> not pregnant within past year <input type="checkbox"/> not pregnant but pregnant with 42 days of death <input type="checkbox"/> not pregnant but pregnant 43 days to 1 year before death <input type="checkbox"/> pregnant at time of death <input type="checkbox"/> unknown if pregnant within past year
Montana.	If female, was there a pregnancy in the past 3 months? <input type="checkbox"/> Yes <input type="checkbox"/> No
Nebraska	If female, was she pregnant at death, or any time 90 days prior to death? <input type="checkbox"/> Yes <input type="checkbox"/> No
New Jersey	Was decedent pregnant within last 6 weeks? <input type="checkbox"/> Yes <input type="checkbox"/> No
New Mexico	If female: <input type="checkbox"/> not pregnant within 1 year of death <input type="checkbox"/> pregnant at time of death <input type="checkbox"/> not pregnant at death, but pregnant within 42 days of death <input type="checkbox"/> not pregnant at death, but pregnant 43 days to 1 year before death <input type="checkbox"/> unknown if pregnant within 1 year of death
New York City	<i>Also have date of outcome, so could compute intervals if needed.</i> If female: <input type="checkbox"/> not pregnant within last year <input type="checkbox"/> pregnant at time of death <input type="checkbox"/> not pregnant, but pregnant within 42 days of death <input type="checkbox"/> not pregnant, but pregnant 43 days to 1 year before death <input type="checkbox"/> unknown if pregnant within past year
New York State	<i>Also have date of delivery, so could compute intervals if needed.</i>
North Dakota	Was deceased pregnant within 18 months of death? <input type="checkbox"/> Yes <input type="checkbox"/> No
Texas	Was decedent pregnant at time of death <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown within last 12 months <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
Virginia	If female, was there a pregnancy in past 3 months? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

Time periods used:
42 days;
6 weeks;
3 months;
90 days;
12 mos;
“last year”

Source: Hoyert . *Maternal Mortality and Related Concepts*. NCHS. Vital Health Stat 3(33). 2007. p.12.

Delays in Adoption of the U.S. Standard Pregnancy Question among States

	New Adopters*	Total
2003	4	4
2004	7	11
2005	7	18
2006	4	22
2007	2	24
2008	7	31
2009	0	31
2010	4	35
2011	2	37
2012	4	41
2013	1	42
2014	5	47
2015	2	49
2016	1	50
2017	1	51

Specific State	
California	2003
New Hampshire	4/2004
Connecticut	2005
Minnesota	3/2011
Wisconsin	9/2013
Massachusetts	9/2014

* Note: Some states adopted change in the middle of the calendar year.

Our Analysis

We did an analysis that examined data by state, modeled for whether or not they were using the new item, and came up with national estimates.

Not enough cases to do single state analyses, but could look at some of the larger states.

Recent Increases in the U.S. Maternal Mortality Rate

Disentangling Trends From Measurement Issues

Marian F. MacDorman, PhD, Eugene Declercq, PhD, Howard Cabral, PhD, and Christine Morton, PhD

RESULTS: The estimated maternal mortality rate (per 100,000 live births) for 48 states and Washington, DC (excluding California and Texas, analyzed separately) increased by 26.6%, from 18.8 in 2000 to 23.8 in 2014. California showed a declining trend, whereas Texas had a sudden increase in 2011–2012. Analysis of the measurement change suggests that U.S. rates in the early 2000s were higher than previously reported.

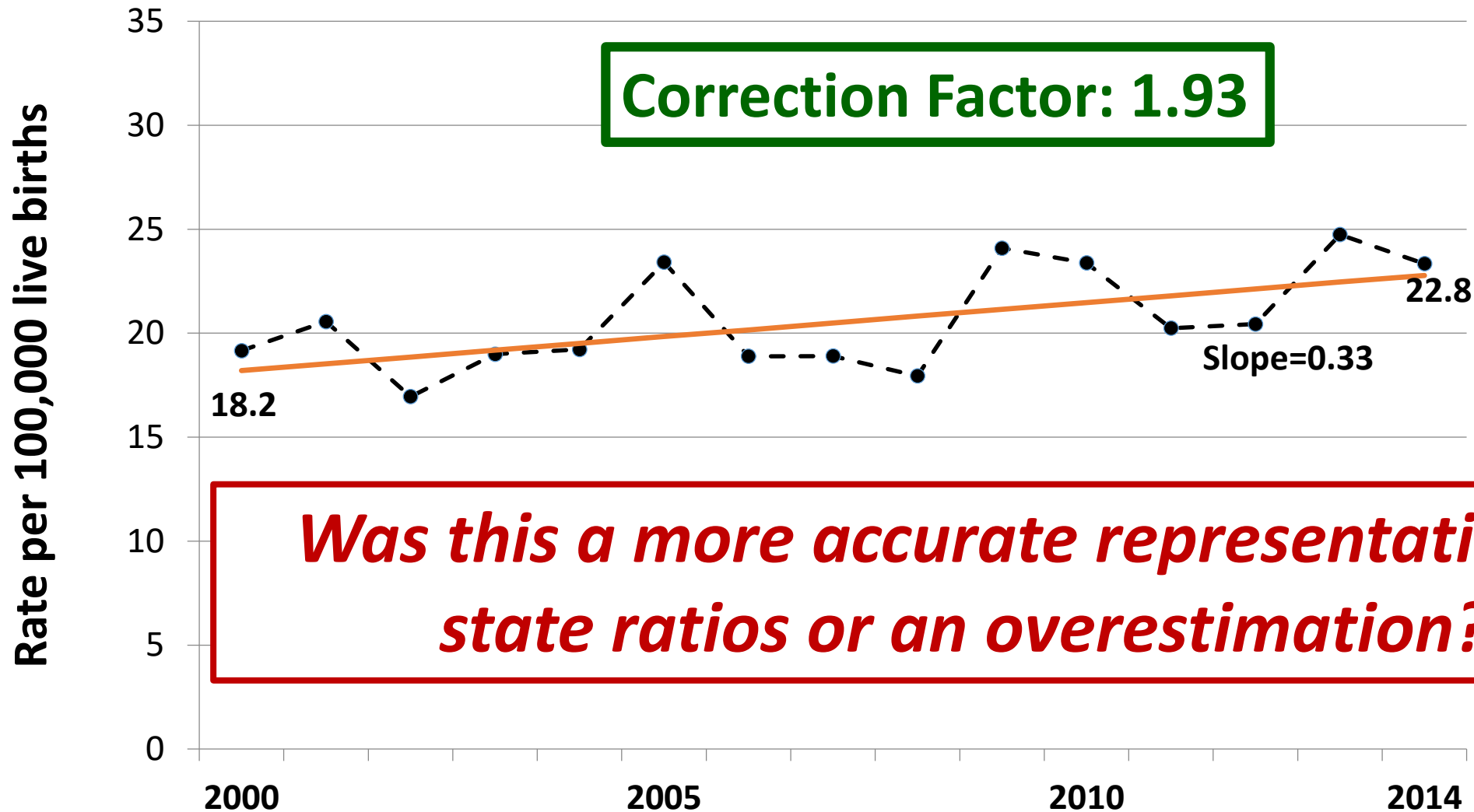
(Obstet Gynecol 2016;128:447–55)

Grouping the States

- **Group 1** – 24 states & D.C. that did not have an unrevised pregnancy question and adopted the U. S. standard question by January 2013
- **Group 2** – 14 states that had an unrevised pregnancy question with a timeframe longer than the U.S. standard
- **Group 3** – 7 states that had not revised by late 2013 with either no pregnancy question or a nonstandard pregnancy question on their unrevised death certificate.
- **Group 4** – 3 states that had an unrevised pregnancy question consistent with the U.S. standard.

California and Texas are unique – each in their own ways

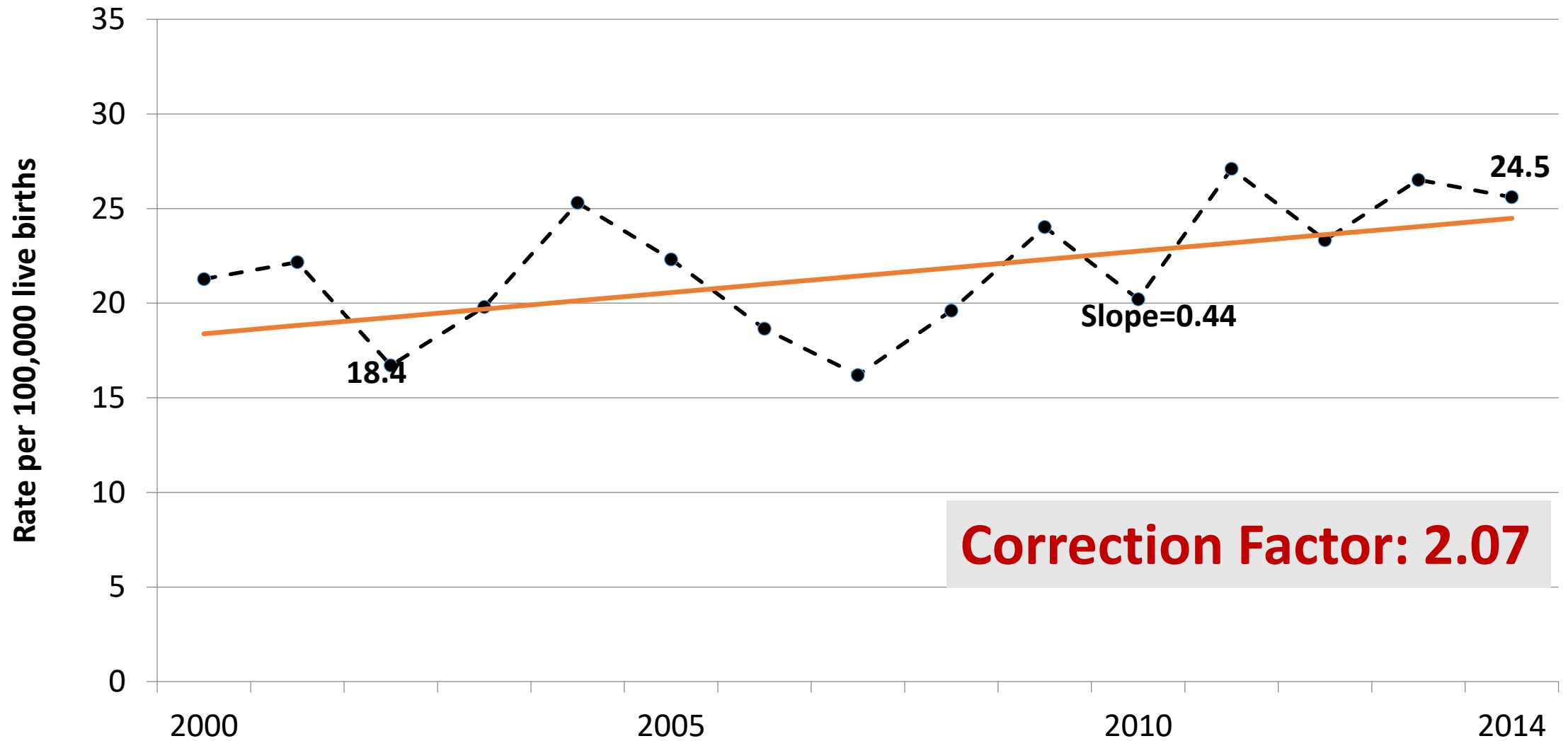
Group 1 states (had no question & added Standard)



Was this a more accurate representation of state ratios or an overestimation?

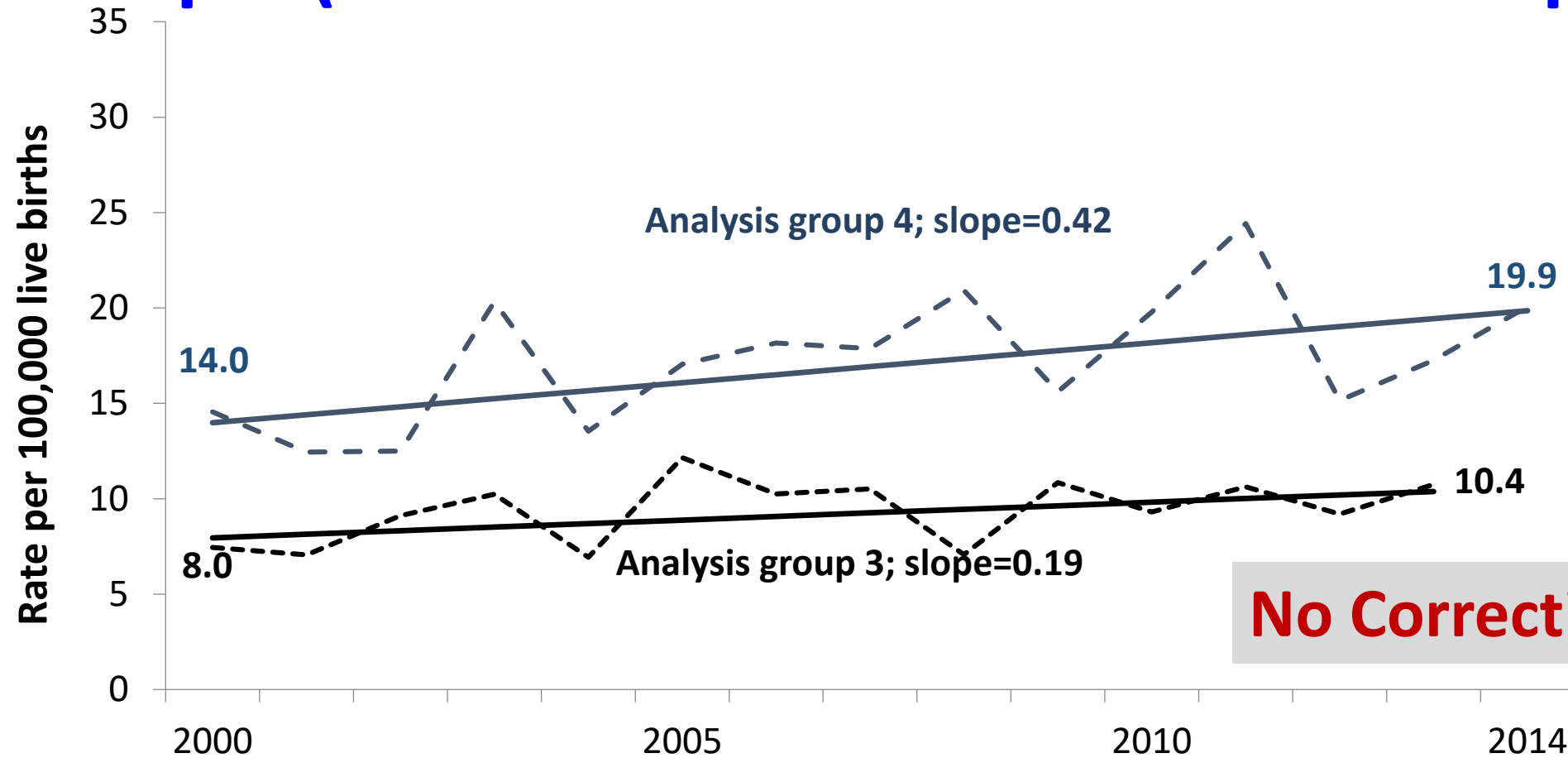
Note: Includes 24 states that did not have a pregnancy question on their unrevised death certificate and which adopted the U.S. standard question upon revision: Arkansas, Arizona, Connecticut, Delaware, Georgia, Idaho, Kansas, Maine, Michigan, Montana, New Hampshire, Nevada, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Washington, and Wyoming.

14 Group 2 states (had different question & then standardized)



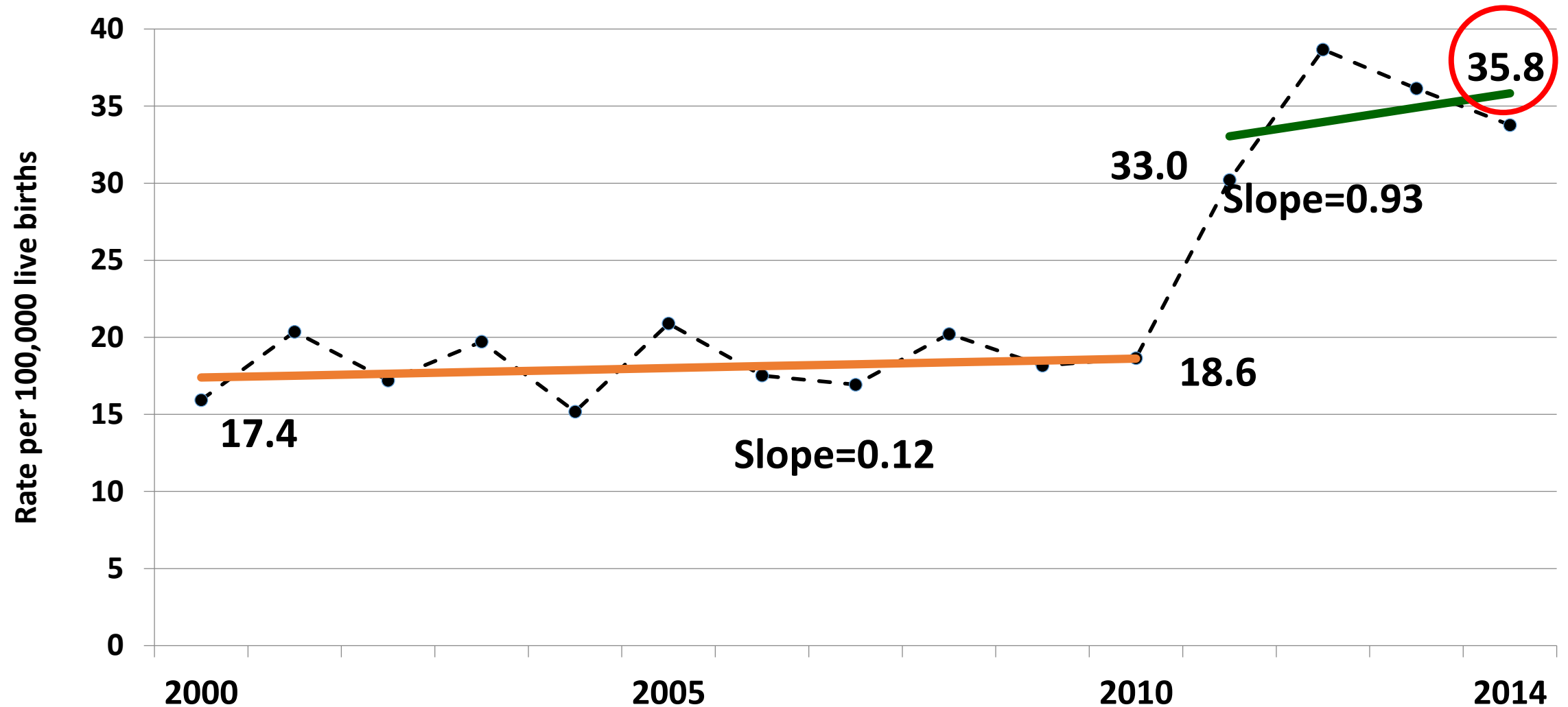
Note: Includes 13 states that had a pregnancy question asking about a longer timeframe on their unrevised death certificate and which adopted the U.S. standard question upon revision: Florida, Illinois, Indiana, Idaho, Kentucky Louisiana, Mississippi, **Minnesota**, Missouri, Nebraska, New Jersey, New York, and North Dakota.

Group 3 (7 states– no question & no revision by 2013) & Group 4 (3 states no revision & had same question)



Note: Group 3 includes 8 states who did not have a pregnancy question on their unrevised death certificate (Alaska, Colorado, Hawaii, North Carolina, **Massachusetts**, West Virginia, and Wisconsin) or who had a pregnancy question with a longer timeframe (Virginia) and had not revised as of late 2013. (Wisconsin revised in late 2013 and their data were excluded from the 2013 data point.) Group 4 includes 3 states (Alabama, Maryland and New Mexico) who had an unrevised pregnancy question consistent with the U.S. standard.

Adjusted MMRs, Texas, 2000-2014



Texas revised to the U.S. standard pregnancy question in 2006. The unrevised question asked about pregnancies within the past 12 months. Analysis group 2 correction factor was used to adjust unrevised data.

Is the Problem Over Ascertainment??

- Research into the cause of death category finds much of the increase is coming from *less specific ICD-10 codes*.
- Other specified pregnancy-related conditions (O26.8)
- Other obstetric complications (O21–O22, O24–O41.0, O41.8–O43.1, O43.8–O43.9, O47–O66, O68–O70, O71.2, O71.5, O71.6, O71.8, O71.9, O73–O75.2, O75.4–O75.9, O87–O90, O92)
- Other specified diseases and conditions (O99.8)
- Obstetric death of unspecified cause (O95)

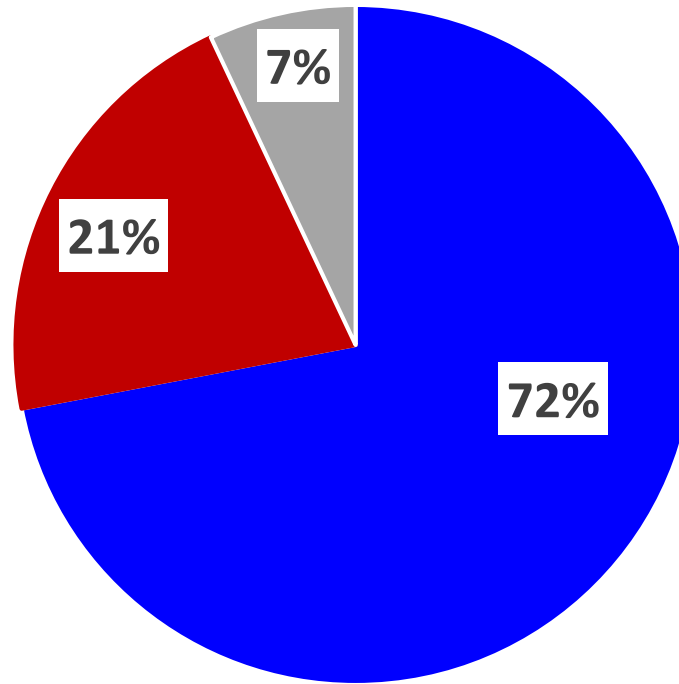
Assessing the impact of ill-defined causes on maternal deaths and mortality rates by cause of death, 27 states and DC, 2008-2009 to 2013-2014

Underlying cause of death (ICD-10 category)	2008-9		2013-14		Percent change 2008-9 to 2013-14
	Number of deaths	Rate~	Number of deaths	Rate~	
Total maternal (A34, O00-O05, O98-O99)	780	20.6	907	25.4	23.3
Ill-defined causes (O26.8, O95, O99.8)	266	7.0	371	10.4	47.9
Total maternal minus ill-defined causes (Remainder)	514	13.5	536	15.0	10.6
Total direct obstetric (A34, O00-O92)	527	13.9	595	16.6	19.7
Other specified pregnancy-related conditions (O26.8)	130	3.4	212	5.9	73.0
Total direct obstetric minus O26.8 (Remainder)	397	10.5	383	10.7	2.3
Total indirect causes (O98-O99)	202	5.3	294	8.2	54.4
Other specified diseases and conditions (O99.8)	85	2.2	141	3.9	75.9
Total indirect causes minus O99.8 (Remainder)	117	3.1	153	4.3	38.7

Over-ascertainment Results of a 4 state study (Georgia, Louisiana, Michigan, and Ohio)

Pregnancy Checkbox Accuracy

In 28% of cases with pregnancy checkbox checked, not certain woman was pregnant



■ Pregnant ■ Not Pregnant ■ Unable to confirm

Source: A. Daymude. Checking the pregnancy checkbox: Evaluation of a four-state quality assurance pilot. *Birth* 2019 online

Impact of the Checkbox – Better and Worse Ascertainment

- While the checkbox contributed to errors, the Four Committee data show that the ***checkbox also improved identification of pregnancy-related deaths. Without the pregnancy checkbox, approximately:***
- ***50% of pregnancy-related deaths that occurred during pregnancy***
- ***11% of pregnancy-related deaths that occurred within 42 days of the end of pregnancy, and***
- ***8% of pregnancy-related deaths that occurred within 43 days to 1 year of the end of pregnancy***
would have been missed.

***So has there been any way to
monitor maternal death since 2007?***

***CDC and Pregnancy Related
Mortality***

Three Sources of U.S. Maternal Death Data

- **National Vital Statistics System (NVSS)**. This is the source of the official maternal mortality ratio for the United States and is based on "...information from death certificates filed in the 50 states and the District of Columbia that are subsequently compiled into national data.... Physicians, medical examiners, and coroners are responsible for completing the medical portion of the death certificate." These state data are compiled by NCHS into a national data system.
- **Pregnancy Mortality Surveillance System (PMSS)**. This system was established by CDC. It is based on reports from 52 areas (50 states, Washington, D.C. and New York city) which submits to CDC "... deidentified copies of death certificates for females 12–55 years who died during or within 1 year of pregnancy from any cause; when available, linked birth or fetal death certificates are also sent. Additional sources include computerized searches of Lexis Nexis, reports by public health agencies, including state-based maternal mortality review committees, professional organizations, and individual health care providers." The records are reviewed by specially trained clinicians to determine whether or not a death was pregnancy related.
- **Maternal Mortality Review Information Application (MMRIA)**. State interdisciplinary committees do case reviews of maternal deaths. CDC building a data system to compile data from MMRCs. Project got a major boost in recent federal legislation.

Pregnancy Mortality Surveillance System



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™



CDC A-Z INDEX ▾

Reproductive Health

Reproductive Health

About Us



Data and Statistics



Emergency Preparedness



Maternal and Child Health
Epidemiology Program



Pregnancy Risk Assessment
Monitoring System

Infertility



Assisted Reproductive
Technology (ART)

Depression Among Women



Maternal and Infant Health



Pregnancy Complications



Weight Gain During
Pregnancy

Tobacco Use and Pregnancy



Pregnancy-Related Deaths



Pregnancy Mortality Surveillance System

Perinatal Quality
Collaboratives



Preterm Birth



[CDC](#) > [Reproductive Health](#) > [Maternal and Infant Health](#) > [Pregnancy-Related Deaths](#)

Pregnancy Mortality Surveillance System



When did CDC start conducting national surveillance of pregnancy-related deaths?

CDC initiated national surveillance of pregnancy-related deaths in 1986 because more clinical information was needed to fill data gaps about causes of maternal death.

How does CDC define pregnancy-related deaths?

For reporting purposes, a pregnancy-related death is defined as the death of a woman while pregnant or within 1 year of pregnancy termination—regardless of the duration or site of the pregnancy—from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

How are the data collected and coded?

Each year, CDC requests the 52 reporting areas (50 states, New York City, and Washington DC) to voluntarily send copies of death certificates for all women who died during pregnancy or within 1 year of pregnancy, and copies of the matching birth or fetal death certificates, if they have the ability to perform such record links. All of the information obtained is summarized, and medically trained epidemiologists determine the cause and time of death related to the pregnancy. Causes of death are coded by using a system established in 1986 by the American College of Obstetricians and Gynecologists and the Centers for Disease Control and Prevention Maternal Mortality Study Group.

How are the data used?

Data are analyzed by CDC scientists. Information about causes of pregnancy-related deaths and risk factors associated with these deaths is released periodically through peer-reviewed literature, CDC's *Morbidity and Mortality Weekly Reports*, and the CDC Web site. This information helps clinicians and public health professionals to better understand circumstances surrounding pregnancy-related deaths and to take appropriate action.



www.birthbythenumbers.org

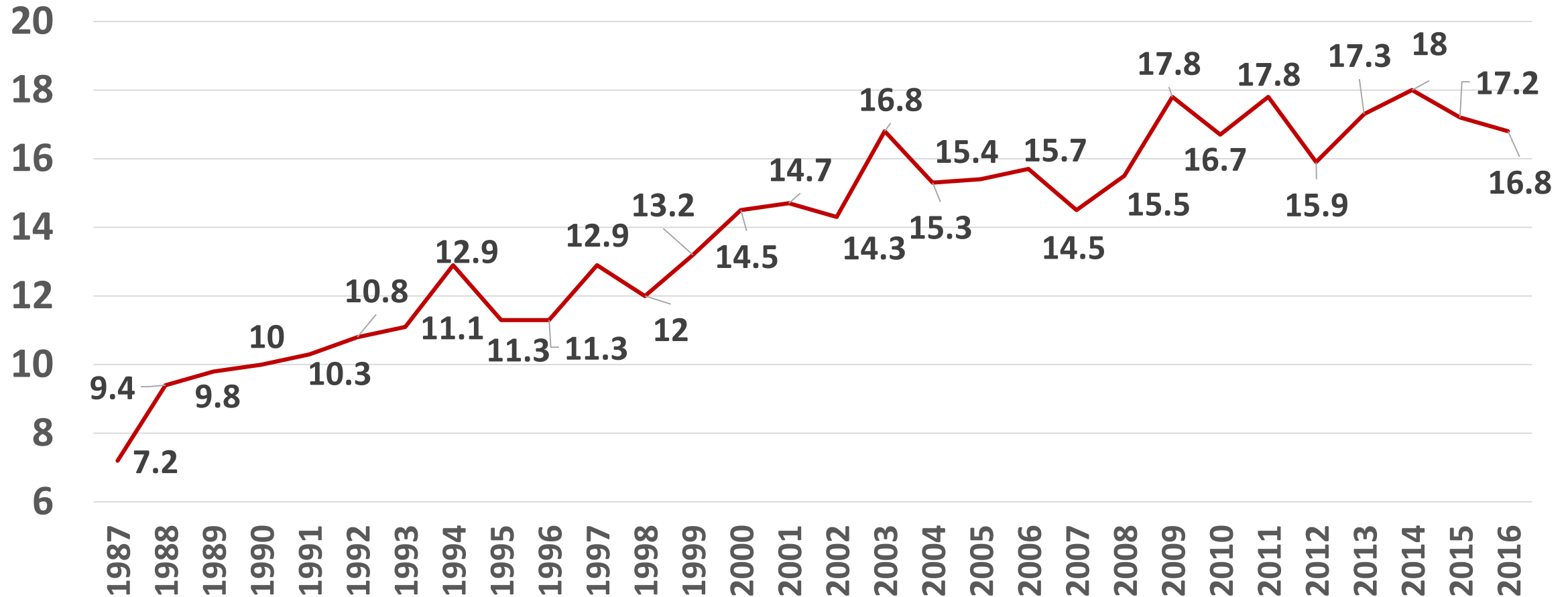
Data for CDCs Pregnancy Related Mortality System

*Each year, CDC requests the 52 reporting areas (50 states, New York City, and Washington DC) to **voluntarily send copies of death certificates for all women who died during pregnancy or within 1 year of pregnancy, and copies of the matching birth or fetal death certificates**, if they have the ability to perform such record links. All of the information obtained is summarized, and medically trained epidemiologists determine the cause and time of death related to the pregnancy. Causes of death are coded by using a system established in 1986 by the American College of Obstetricians and Gynecologists and the Centers for Disease Control and Prevention Maternal Mortality Study Group.*

Our best existing measure

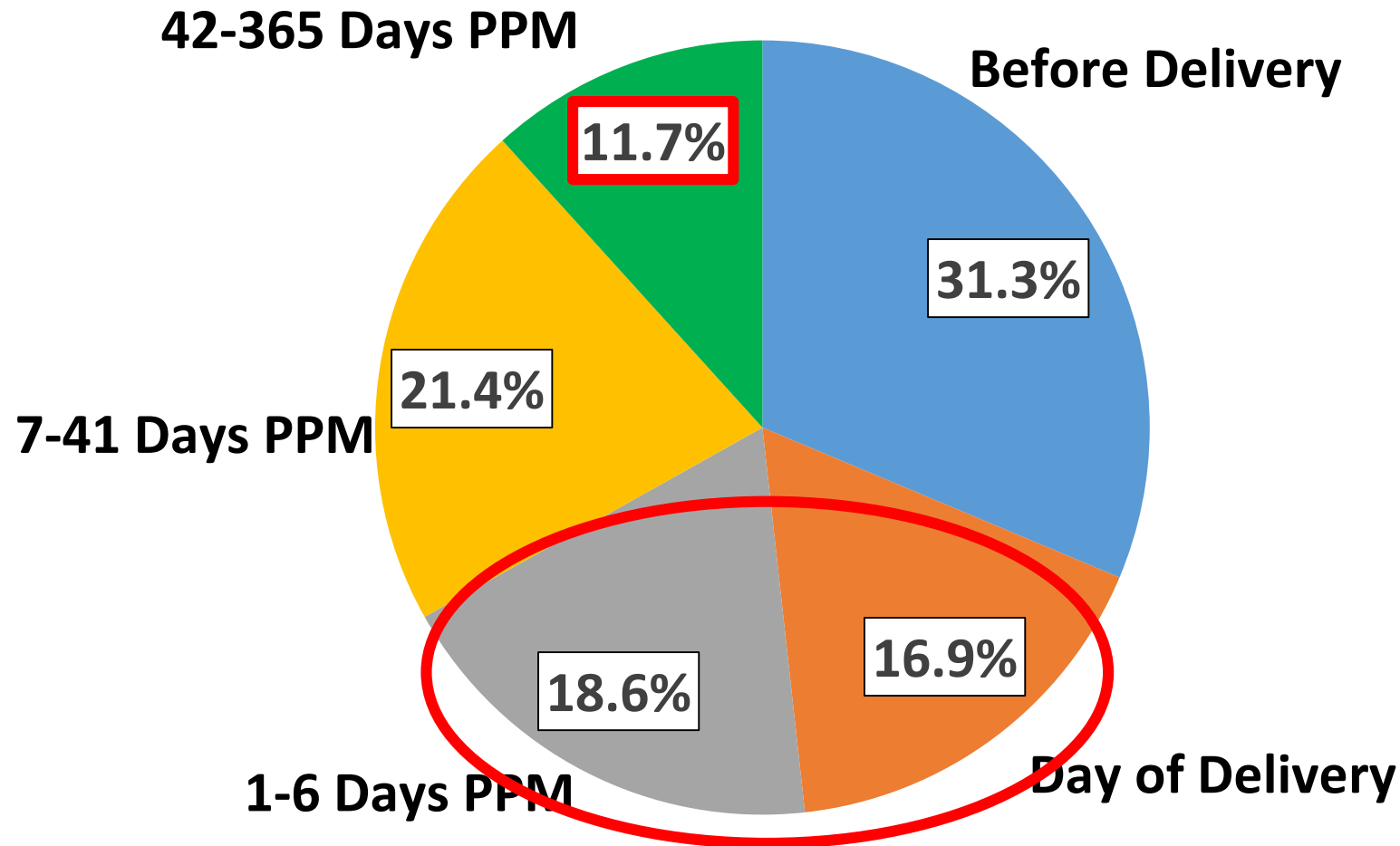
Pregnancy Related Mortality, U.S., 1987-2016

Pregnancy Related Mortality Ratio (per 100,000 births)



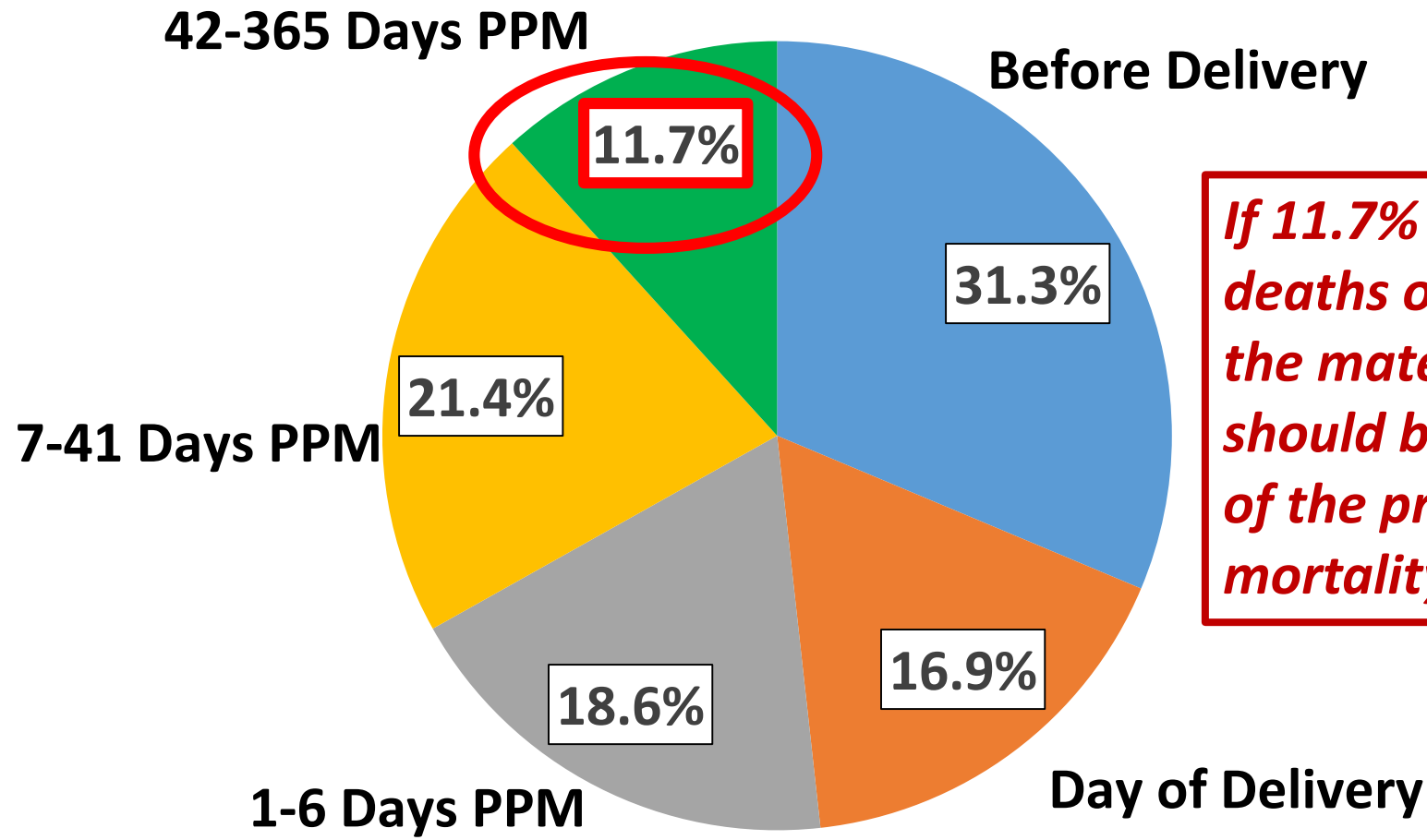
Source: CDC. Adapted from Creanga. Pregnancy-Related Mortality in the United States. *Obstet Gynecol* 2017 & Petersen E. et al. Vital Signs: Pregnancy-Related Deaths, U.S., 2011–2015,. *MMWR* .vol.68. May 7, 2019. 1-7 & Petersen E et al. Racial/Ethnic Disparities in Pregnancy Related Deaths – U.S. 2007-'16. *MMWR* 9/6/19.

Timing of Maternal Deaths



Source: Petersen E. et al. Vital Signs: Pregnancy-Related Deaths, United States, 2011–2015, and Strategies for Prevention, 13 States, 2013–2017. *MMWR* .vol.68. May 7, 2019. 1-7.

Timing of Maternal Deaths



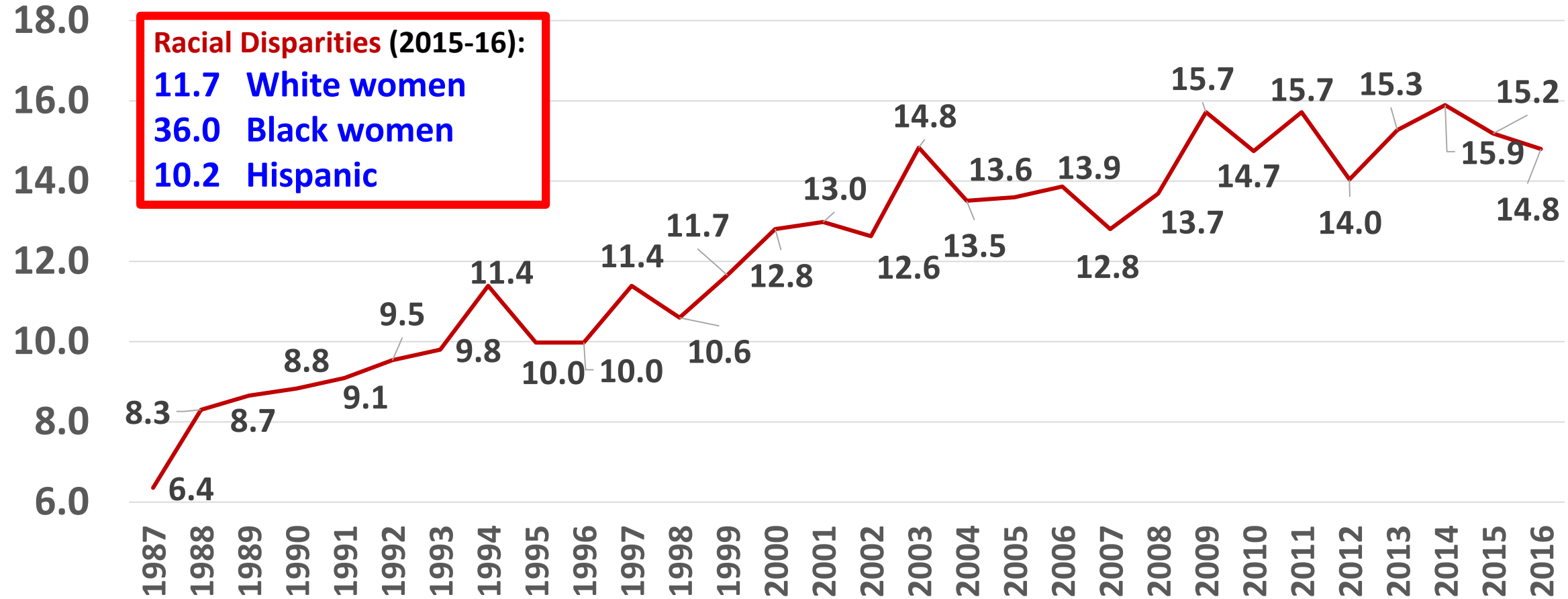
If 11.7% of the pregnancy related deaths occur at 42+ days, then the maternal mortality ration should be approximately 88.3% of the pregnancy related mortality rate.

Source: Petersen E. et al. Vital Signs: Pregnancy-Related Deaths, United States, 2011–2015, and Strategies for Prevention, 13 States, 2013–2017. *MMWR* .vol.68. May 7, 2019. 1-7.

Based on assumption of 11.7% of deaths ppm

Estimated Maternal Mortality, U.S., 1987-2016

Pregnancy Related Mortality Ratio (per 100,000 births)



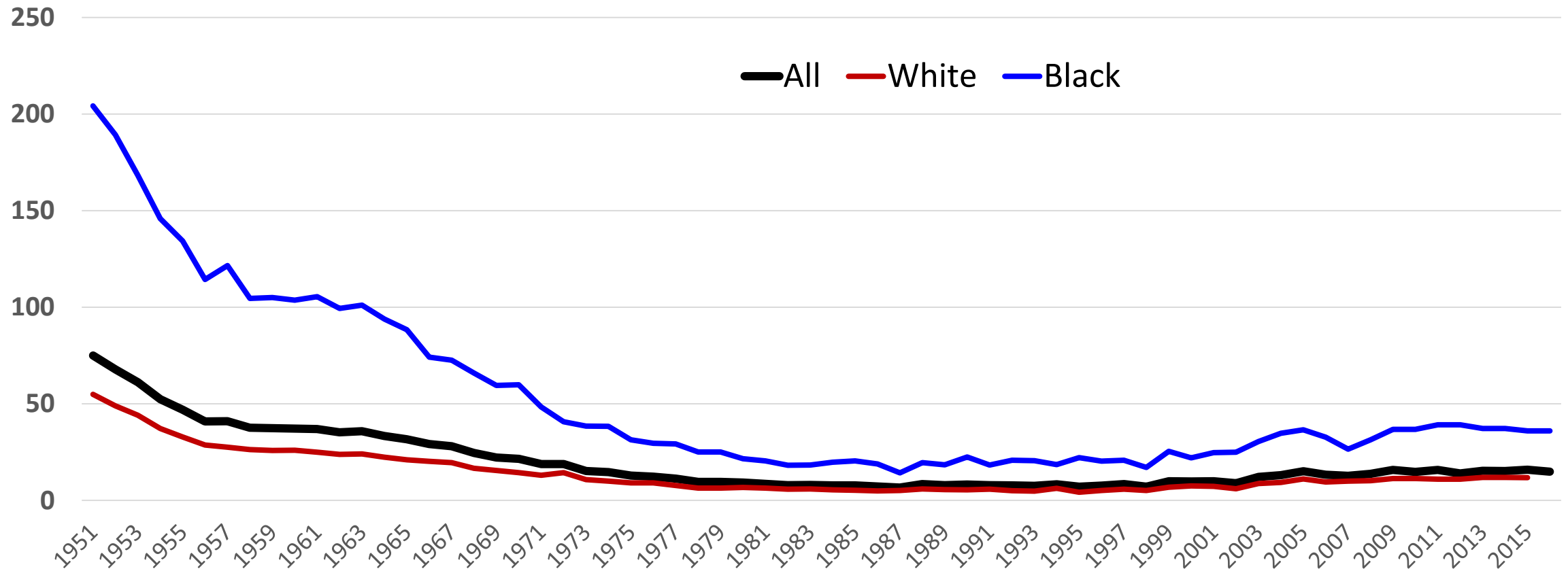
Source: CDC. Adapted from Creanga. Pregnancy-Related Mortality in the United States. *Obstet Gynecol* 2017 & Petersen E. et al. Vital Signs: Pregnancy-Related Deaths, United States, 2011–2015,. *MMWR* .vol.68. May 7, 2019. 1-7..

Five key points concerning maternal mortality

- 1. The persistence of racial disparities*
- 2. The U.S. in a comparative context*
- 3. Maternal mortality is a public health problem more than a clinical one*
- 4. The problem is much bigger than maternal deaths*
- 5. Potential policy solutions*

1. The persistence of racial disparities

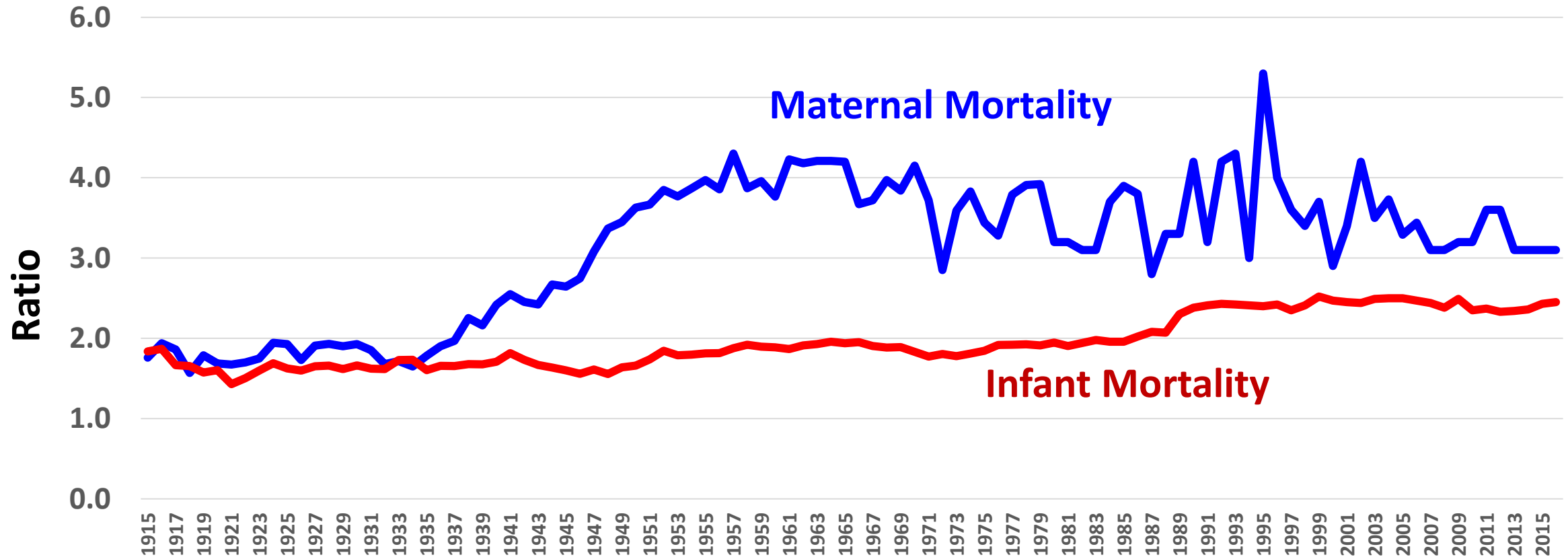
U.S. Maternal Mortality (per 100,000 live births), 1951-2016* by Race



* Rates from 2008-2016 blend two year averages and based on Petersen E. *MMWR* .vol.68.No. 35 Sept. 6, 2019. 762-765 with pregnancy related rates adjusted for timing of deaths

(1) The Persistence of Racial Disparities

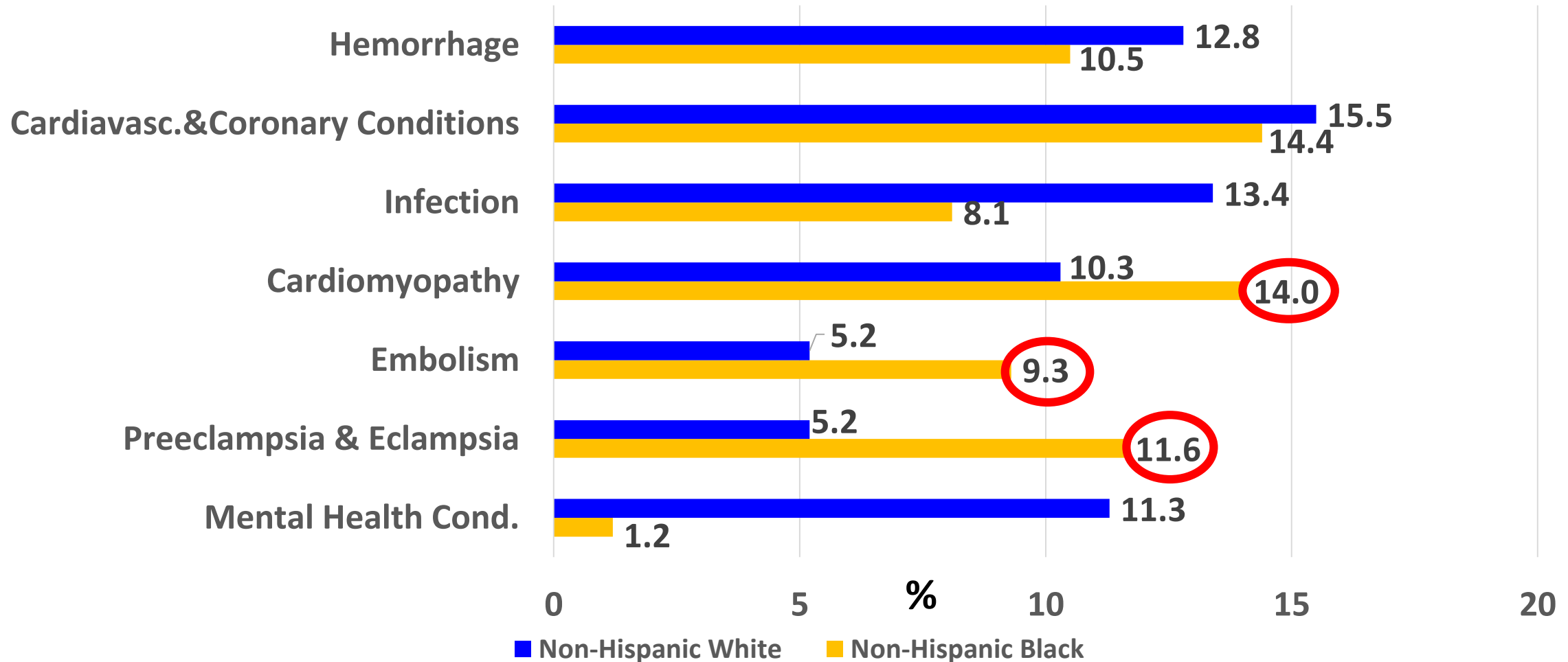
U.S. Infant & Maternal Mortality Black to White Ratios, 1915-2016



Source: NCHS. Maternal Mortality and Related Concepts. Vital & Health Statistics. Series 33; #3. & annual data reports. 1915-1960 data from NCHS. *Vital Statistics Rates In The United States 1940-1960*. NOTE: Shifts in measurement (e.g. not all states were part of registration system prior to 1933; infant race was based on race of the child until 1980 & then race of the mother post 1980) accounts for some of the variation over time. 2007-2016 based on 2 year estimates of the pregnancy related mortality rate: Petersen E. *MMWR*.9/6/19.

Manifestation of Racial Disparities

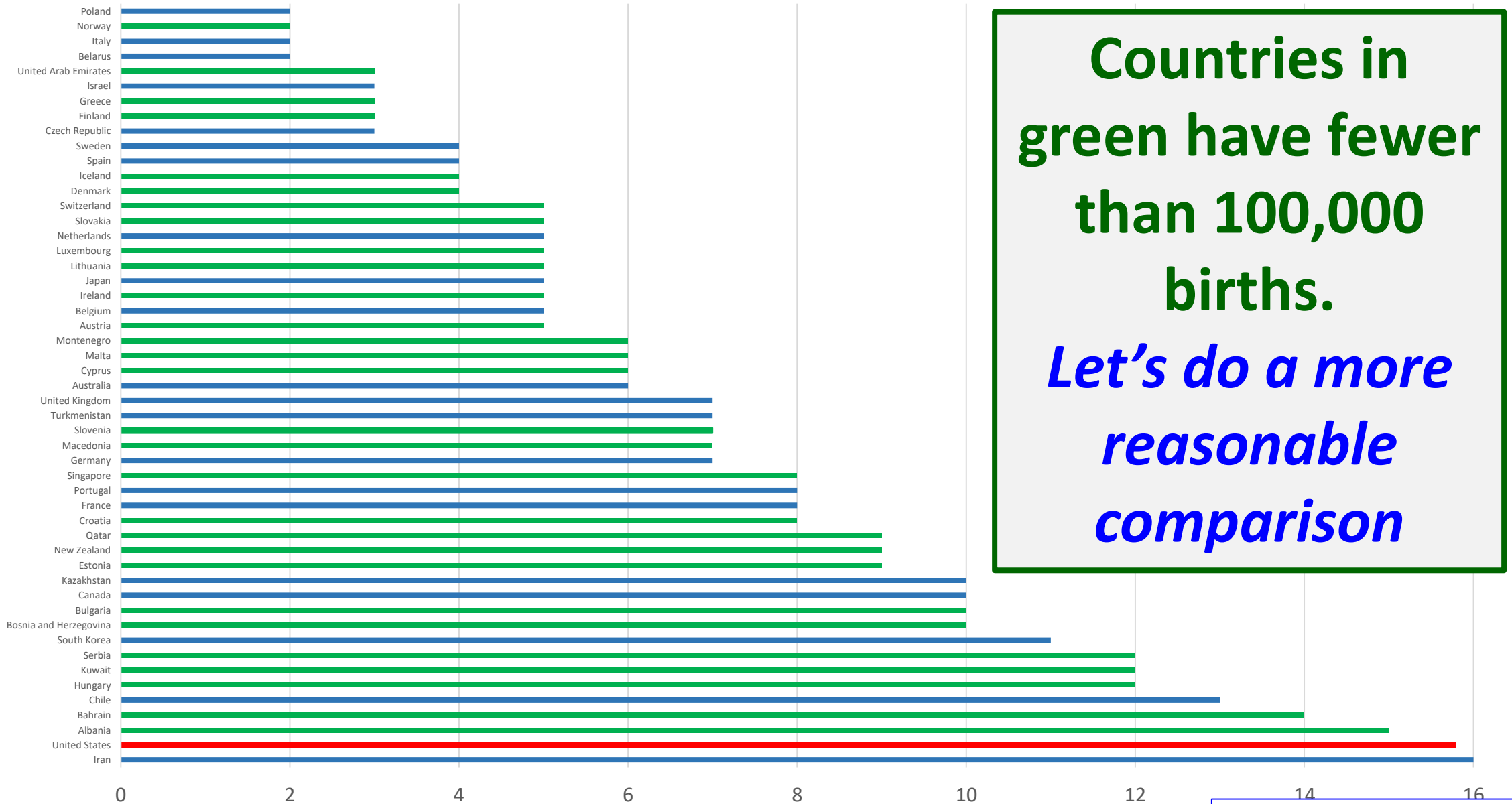
*Leading Underlying Causes of **Pregnancy-Related Deaths**, by **Race-Ethnicity***



Source: CDC. 2018. *Report from 9 Maternal Mortality Review Committees.*

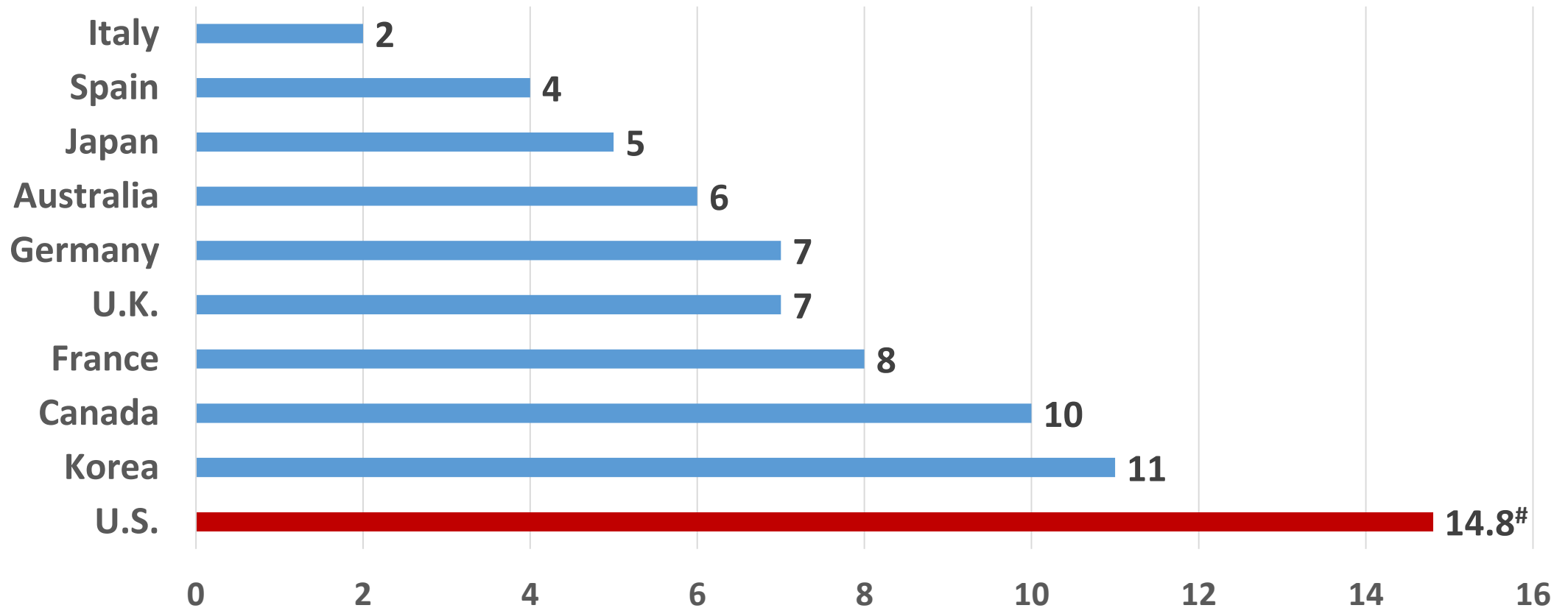
2. Now that we have a reliably estimated maternal mortality rate, how does the U.S. compare internationally?

Maternal Mortality Ratios, 2017



Putting the Problem in Context

*U.S. **MMR*** Compared to Countries with 300,000+ births, 2016-7*



* **Maternal Mortality** per 100,000 births; # Estimated from 2016 U.S. Pregnancy Related Mortality.

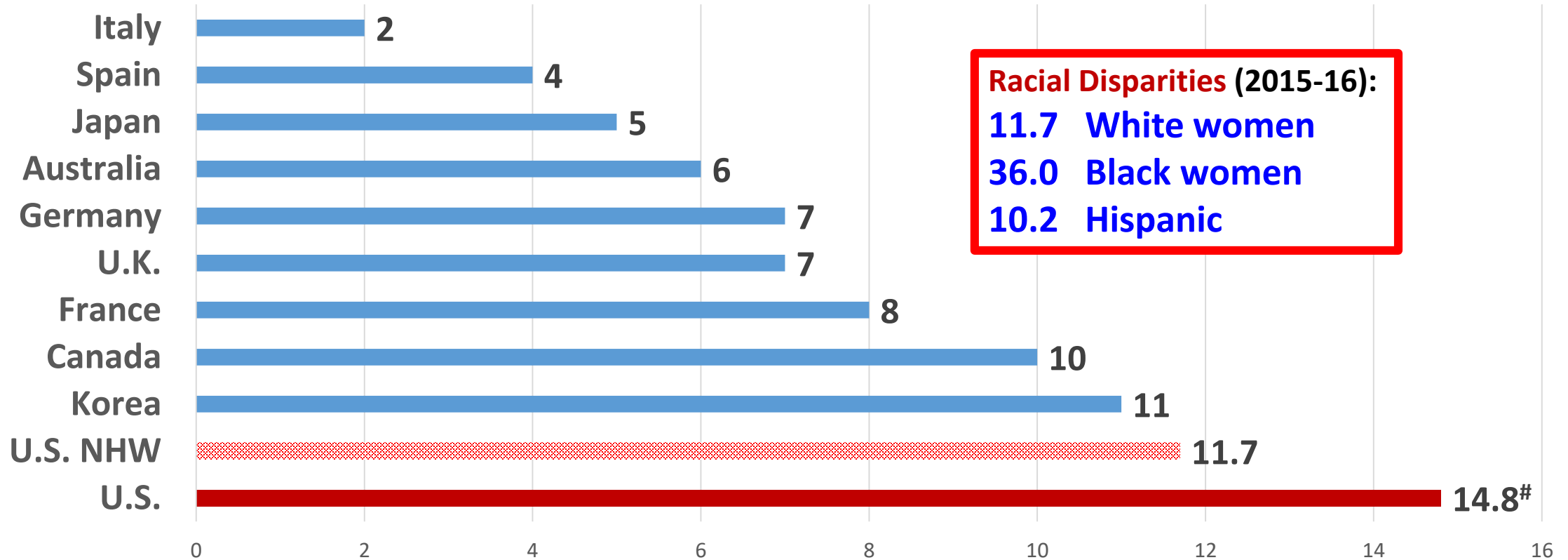
WHO estimates U.S. as having an MMR of 19.

Sources: *Maternal Mortality: 2000 to 2015* Estimates by WHO, UNICEF, UNFPA, World Bank Group & UN Population Div.. Geneva: 2019; U.S.

adapted from data in Petersen E. *MMWR* .vol.68.No. 35 Sept. 6, 2019. 762-765.. by adjusting for timing of deaths .

Putting the Problem in Context

*U.S. **MMR*** Compared to Countries with 300,000+ births, 2016-7*

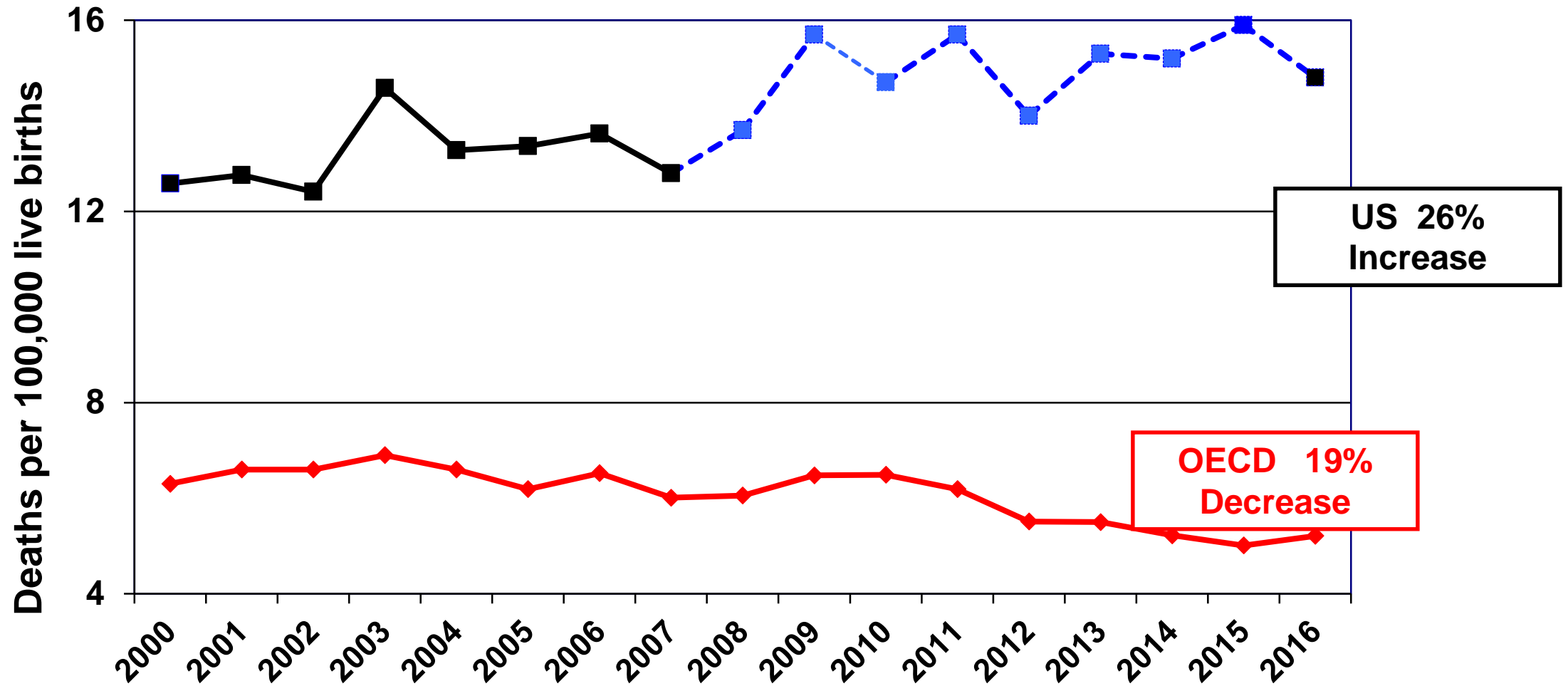


* **Maternal Mortality** per 100,000 births; # Estimated from 2016 U.S. Pregnancy Related Mortality.

Sources: *Maternal Mortality: 2000 to 2015* Estimates by WHO, UNICEF, UNFPA, World Bank Group & UN Population Div.. Geneva: 2019; U.S. adapted from data in Petersen E. *MMWR* . *MMWR* .vol.68.No. 35 Sept. 6, 2019. 762-765.. by adjusting for timing of deaths .

US vs Comparable Countries

Estimated U.S. Maternal Mortality Ratios (per 100K births), 2000-2016, U.S. & Comparable Countries *



* Countries with 300,000+ births (2015): Australia, Canada, France, Germany, Italy, Japan, S. Korea, Spain, United Kingdom

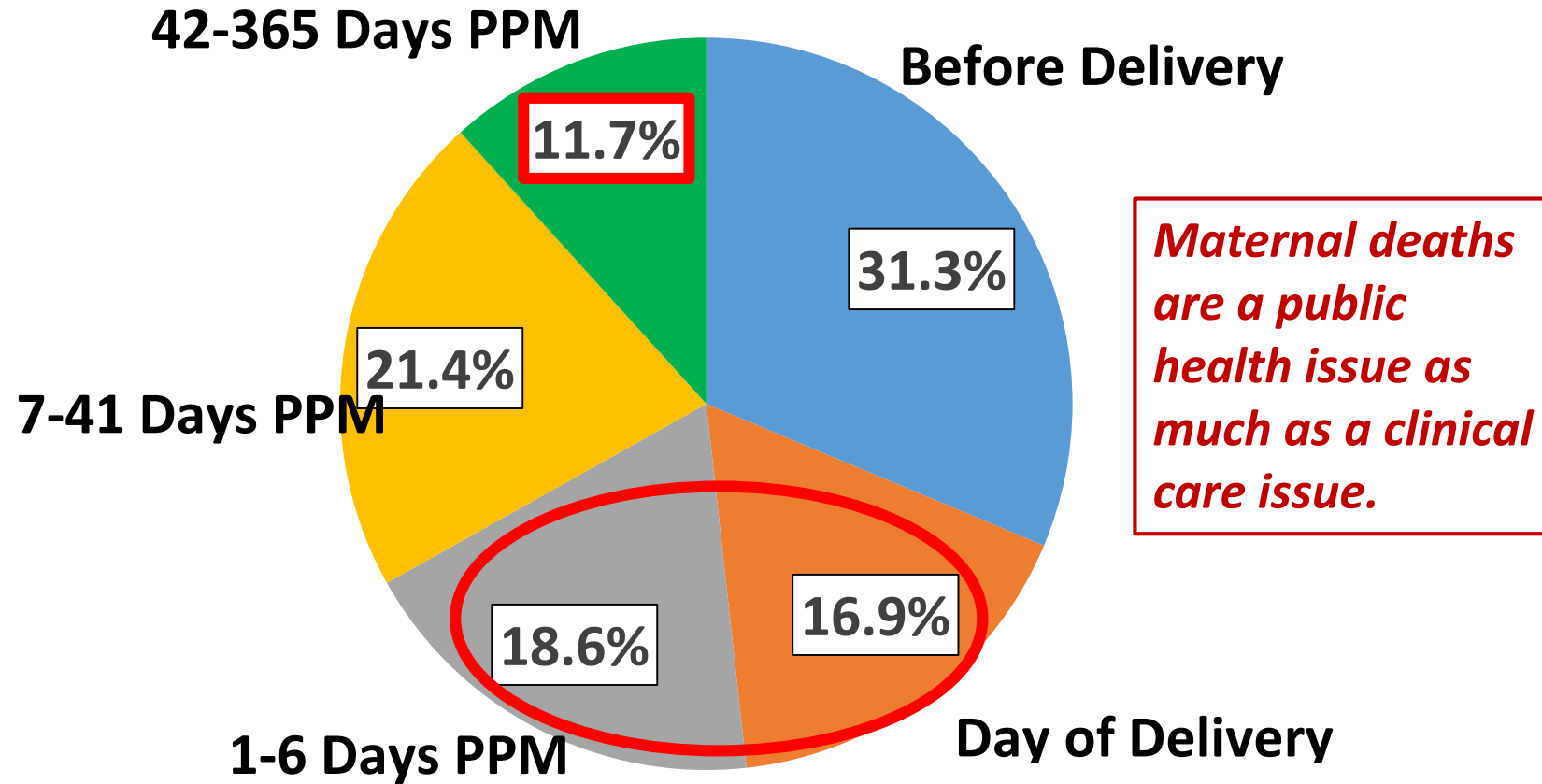
Sources: OECD Health Data 2019; NCHS. 2009. *Deaths, Final Data, 2007 and adapted from Creanga. Obstet Gynecol 2017 & Petersen, MMWR, 2019. ...*

www.birthingthenumbers.org

3. Maternal mortality is a public health problem more than a clinical one

Remember this chart?

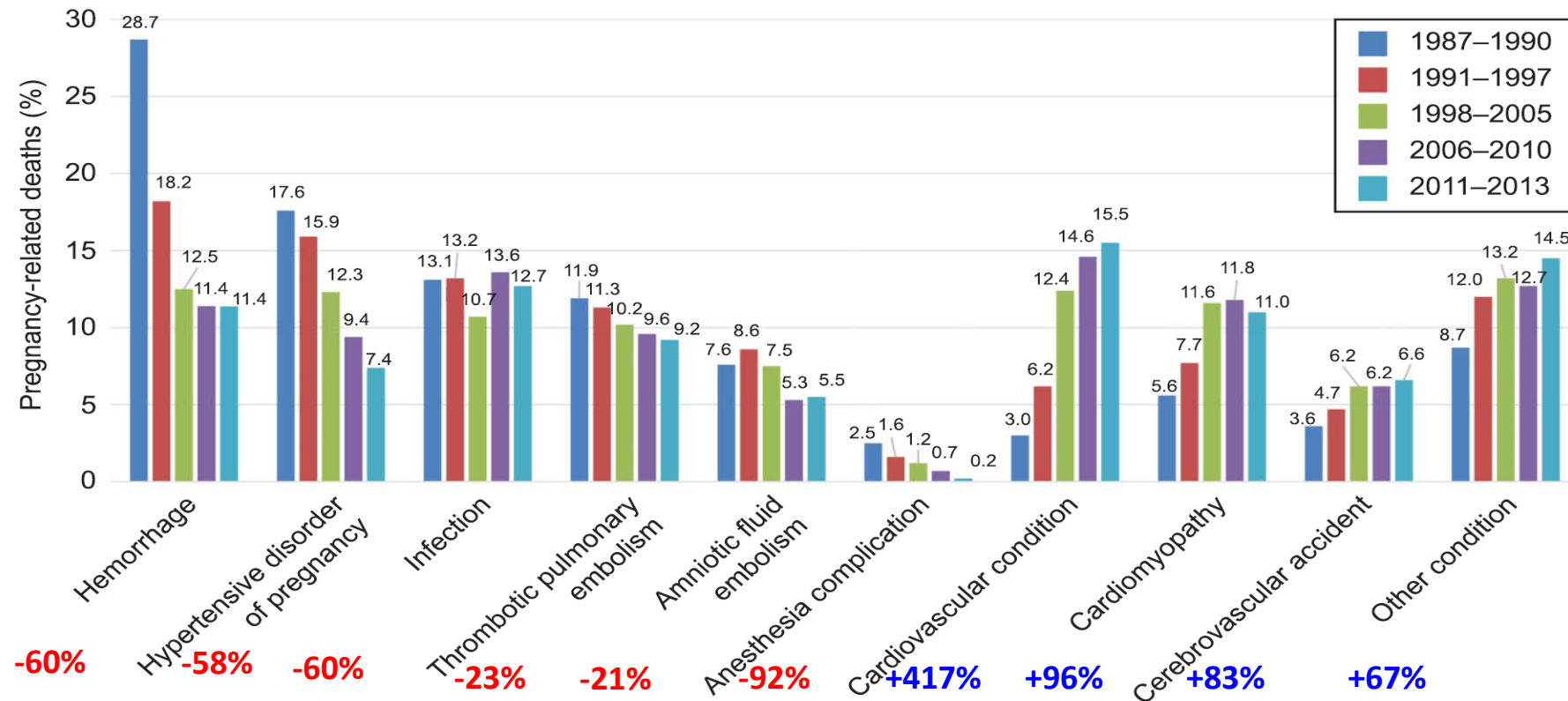
Timing of Pregnancy Related Deaths



Source: Petersen E. et al. Vital Signs: Pregnancy-Related Deaths, United States, 2011–2015, and Strategies for Prevention, 13 States, 2013–2017. *MMWR* .vol.68. May 7, 2019. 1-7.

(3) Moving to a Public Health Approach

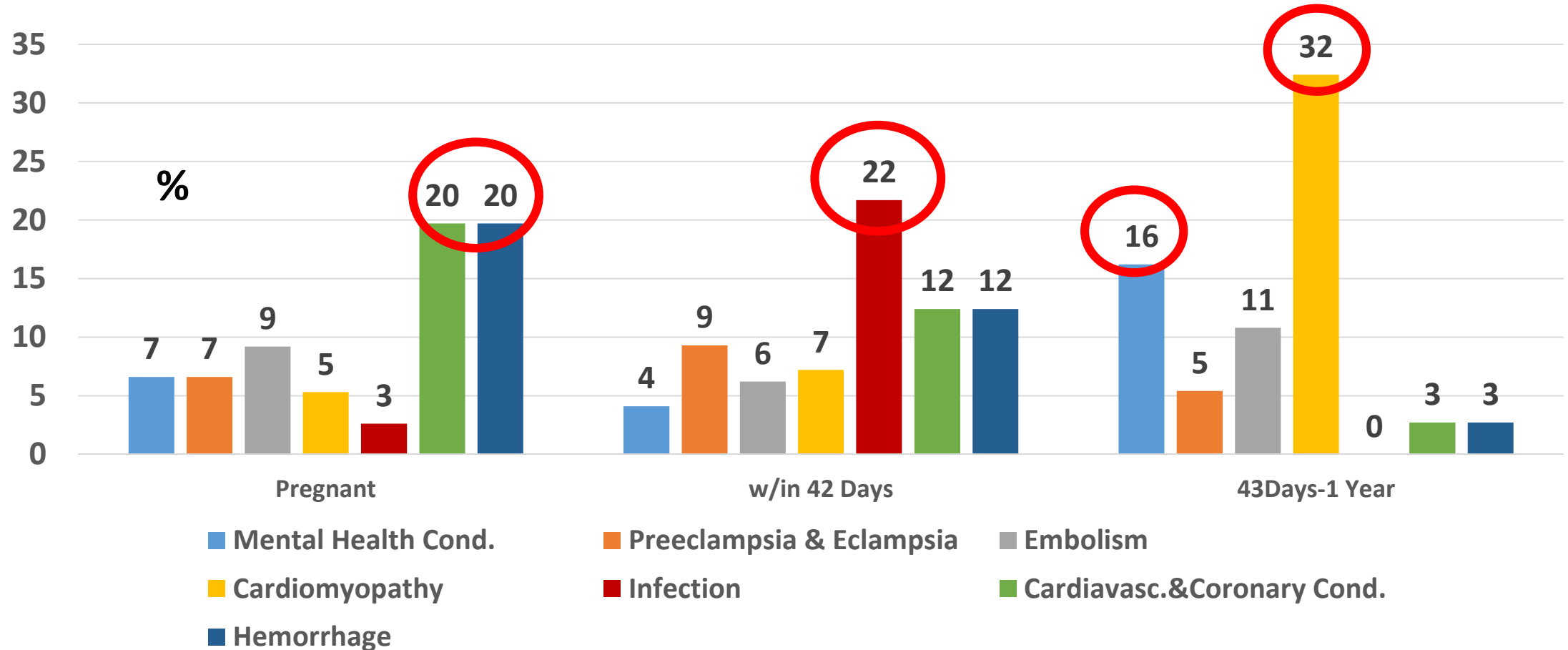
Cause-specific proportionate *Pregnancy-Related* mortality: United States, 1987–2013.



Source: Creanga. Pregnancy-Related Mortality in the United States. *Obstet Gynecol* 2017.

Moving to a Public Health Approach

Leading Underlying Causes of *Pregnancy-Related Deaths*, by *Timing of Death*



Source: CDC. 2018. *Report from 9 Maternal Mortality Review Committees.*

4. The problem is much bigger than maternal deaths

Not just about maternal mortality

National Vital Statistics Reports

Volume 68, Number 9



June 24, 2019

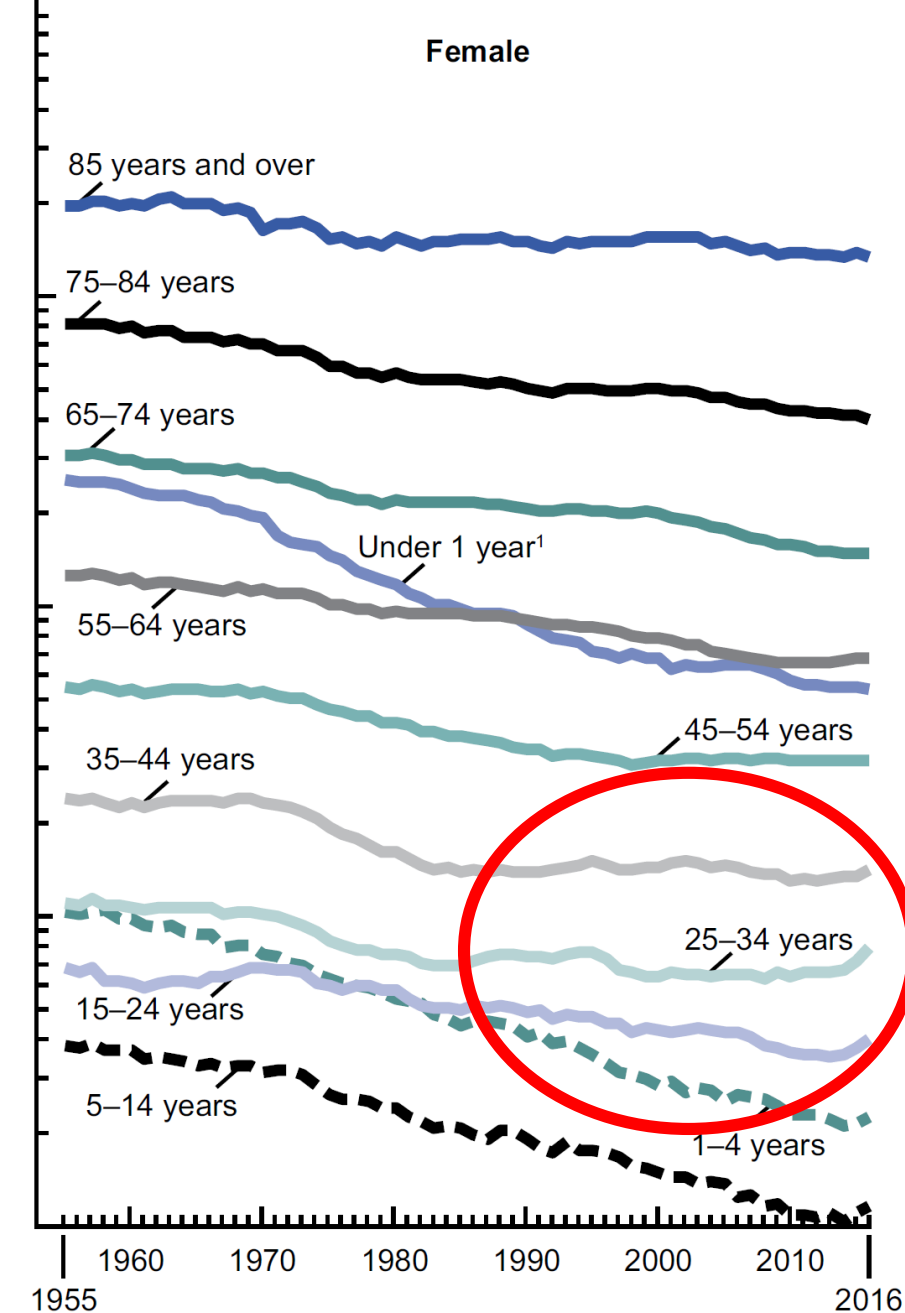
Deaths: Final Data for 2017

STAT

Maternal deaths represent the canary in the coal mine for women's health

By Eugene Declercq and Neel Shah

August 22, 2018

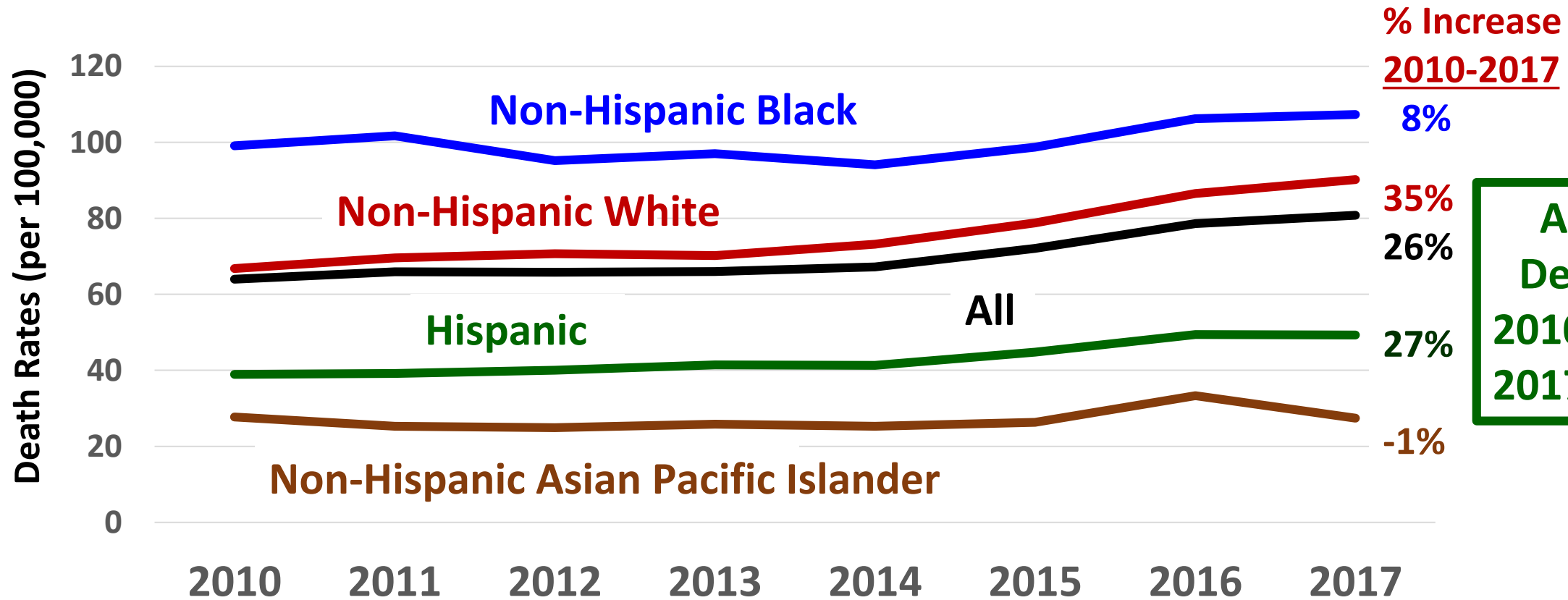


Births in U.S. by Maternal Age, 2017

Age	# Births	%
<20	196,294	5.1%
20-24	764,780	19.8%
25-29	1,123,577	29.1%
30-34	1,091,917	28.3%
35+	678,932	17.6%
Total	3,855,500	100%

The Problem is Bigger than Maternal Mortality

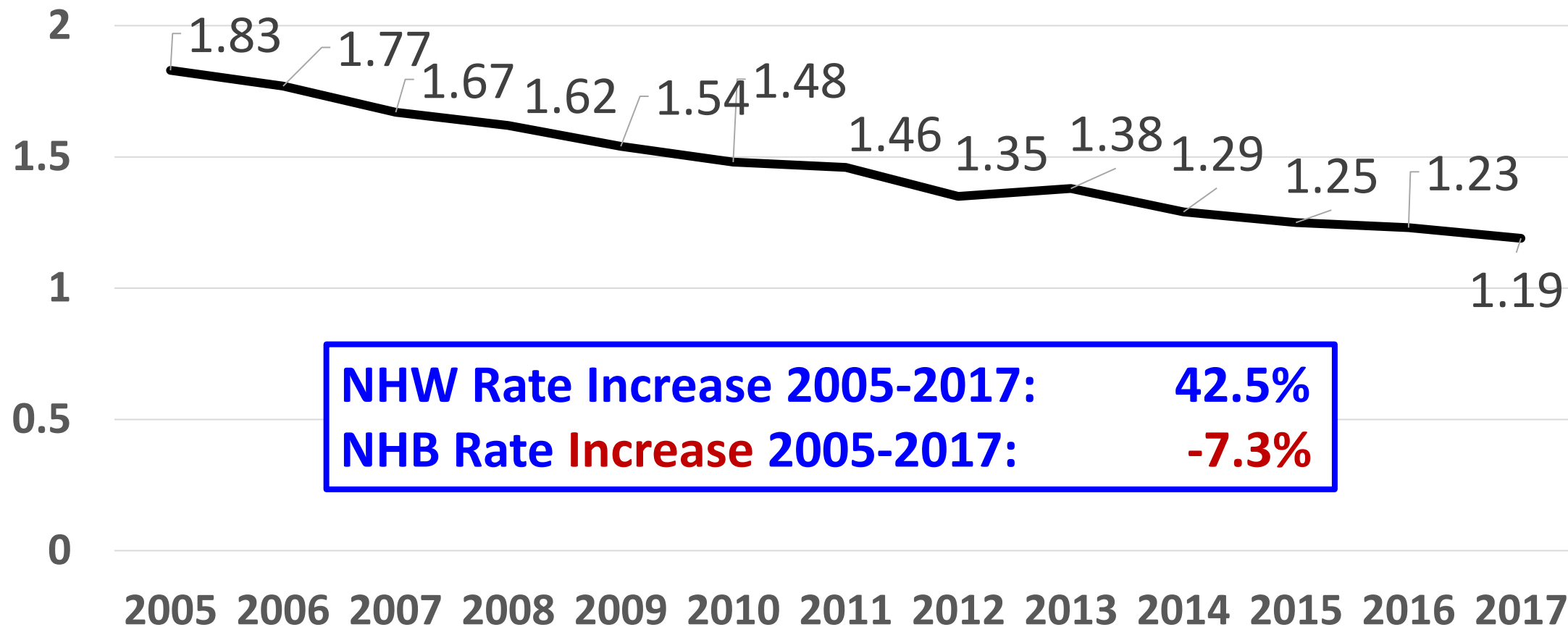
*Overall Deaths rates (per 100K), Females 25-34,
by Race/Ethnicity, 2010-2017*



All Female Deaths 25-34	
2010	13,067
2017	18,066

NOTE: Pregnancy related mortality rate increased by <1% 2010-2017

Ratio of Black/White Female Death Rates, Women 25-34, 2005-2017



(4) Problem is Bigger than Maternal Mortality

Top 10 Causes of Death for Women 25-34 in 2017

	Total Deaths	% of total	Rate per 100 K	% Change in rate 2010-2017	Proportion of 2010-17 Increase
All causes	18,066	100.0	80.8	26.3%	---
Accidents (unintentional inj.)	6,668	36.9	29.8	61.1%	58.0%
Malignant neoplasms	1,926	10.7	8.6	-4.4%	1.8%
Intentional self-harm (suicide) .	1,600	8.9	7.2	35.8%	10.2%
Diseases of heart	1,232	6.8	5.5	12.2%	4.4%
Assault (homicide)	881	4.9	3.9	18.2%	3.9%
Pregnancy, childbirth & puerperium	512	2.8	2.3	27.8%	2.9%
Chronic liver disease and cirrhosis	367	2.0	1.6	23.1%	2.1%
Diabetes mellitus	352	1.9	1.6	23.1%	1.9%
Cerebrovascular diseases	254	1.4	1.1	-8.3%	0.0%
Septicemia	192	1.1	0.9	0.0%	0.2%
All other causes (residual)	4,082	22.6	18.3	11.6%	

Sources: Heron M. *Deaths: Leading causes for 2010*. National vital statistics reports; vol62 no 6. Hyattsville,MD: National Center for Health Statistics. 2013 & 2017 data from CDC, NCHS, Underlying Cause of Death 1999-2017 on CDC WONDER Online Database, released December, 2018; Accessed 11/7/2019.

5. Potential policy solutions

To amend titles XIX and XXI of the Social Security Act to improve Medicaid and the Children’s Health Insurance Program for low-income mothers.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 25, 2018

Mr. BOOKER (for himself, Mrs. GILLIBRAND, Ms. BALDWIN, Mr. CARDIN, Mr. BLUMENTHAL, and Ms. HARRIS) introduced the following bill; which was read twice and referred to the Committee on Finance

A BILL

To amend titles XIX and XXI of the Social Security Act to improve Medicaid and the Children’s Health Insurance Program for low-income mothers.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Maximizing Outcomes
5 for Moms through Medicaid Improvement and Enhance-
6 ment of Services Act”, or the “MOMMIES Act”.

7 **SEC. 2. ENHANCING MEDICAID AND CHIP BENEFITS FOR**

8 **LOW-INCOME PREGNANT WOMEN.**

To support States in their work to end preventable morbidity and mortality in maternity care by using evidence-based quality improvement to protect the health of mothers during pregnancy, childbirth, and in the postpartum period and to reduce neonatal and infant mortality, to eliminate racial disparities in maternal health outcomes, and for other purposes.

IN THE SENATE OF THE UNITED STATES

AUGUST 22, 2018

Ms. HARRIS (for herself, Mrs. GILLIBRAND, Mr. CARDIN, Mr. WYDEN, Mr. BLUMENTHAL, Mr. NELSON, Mr. JONES, Mr. MERKLEY, Ms. DUCKWORTH, Mr. CARPER, Mr. BROWN, Ms. BALDWIN, Ms. HIRONO, and Ms. STABENOW) introduced the following bill; which was read twice and referred to the Committee on Finance

SECTION 1. SHORT TITLE.

This Act may be cited as the “Maternal Care Access and Reducing Emergencies Act” or the “Maternal CARE Act”.

SEC. 2. FINDINGS.

Congress finds the following:

(1) In the United States, maternal mortality rates are among the highest in the developed world and increased by 26.6 percent between 2000 and 2014.

Need is for public health approaches involving improving access for women to preconception, prenatal and postpartum care.

Three components

- 1. Expanded coverage for Medicaid to fund care – if 12% of the deaths are postpartum why not cover women out to a year?*
- 2. Coverage doesn't mean anything unless there's someone to go see – vastly expand midwifery training opportunities in general and for women of color in particular. Likewise expand opportunities for certified doulas to help fill in gaps in the system.*
- 3. Keep women in the system. Problem of loss from the system postpartum.*

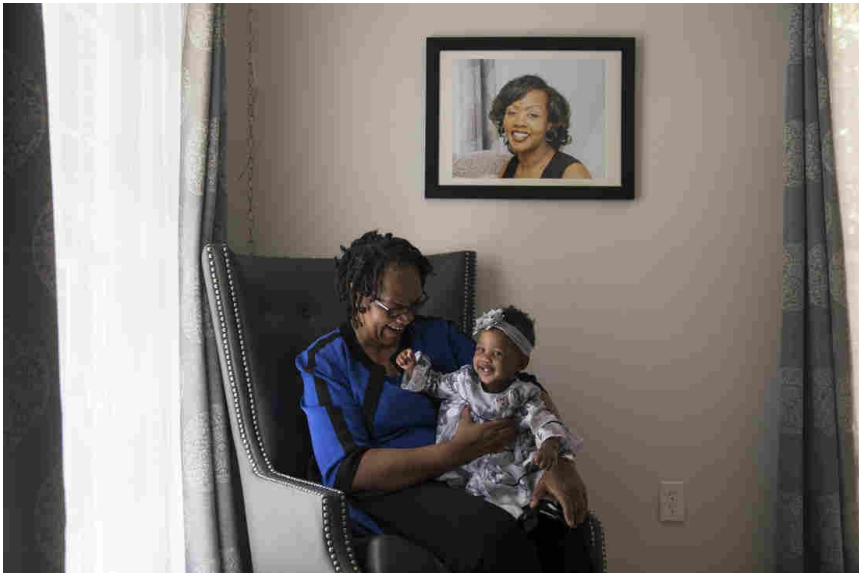
WHAT WILL DRIVE THE POLICY PROCESS?

POLITICAL WILL & MEDIA COVERAGE

PROPUBLICA'S LOST MOTHERS SERIES

Nothing Protects Black Women From Dying in Pregnancy & Childbirth

Not education. Not income. Not even being an expert on racial disparities in health care.





DC NATIONAL RALLY

A PRE-MOTHER'S DAY MOVEMENT TO MAKE SURE ALL MOMS GET THE CARE THEY DESERVE

Saturday May 11th
On the National Mall,

1:00 - 3:30 PM

*Our country's most inspiring moms
(and their families)...
sounding off...
on a rock concert stage...
in the heart of the nation's capital.*



Learn more at www.MarchforMoms.org

NATIONAL MATERNAL HEALTH WEEK

MAY 5th-12th, 2019



forMoms

May 3, 2020

#BeyondMothersDay

- Promote State & Federal Legislative Efforts to Improve Maternal Health
- Drive Media Attention on State of Maternal Health
- Seek City, State and National Proclamations
- Organize Visits in DC on Capitol Hill May 10th
- Rally on National DC Mall on May 11th
- Livestream the Rally on Facebook Live
- Curate and Promote Daily Themes Related to Maternal Health

www.birthingthenumbers.org



Lee



Maya



Ruby



Corey



Lucy



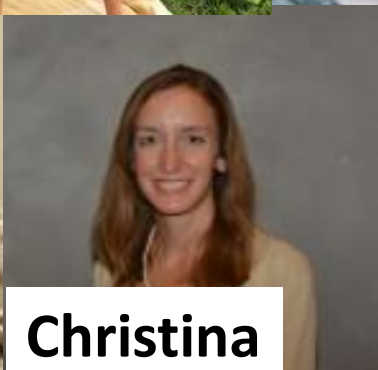
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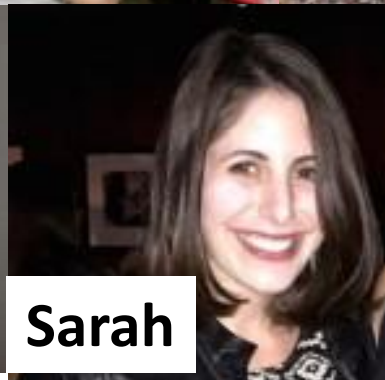
Jordy



Kyla



Christina



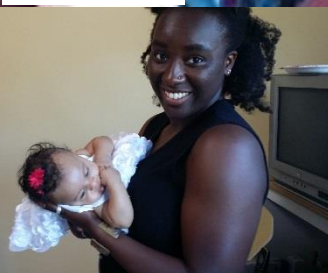
Sarah



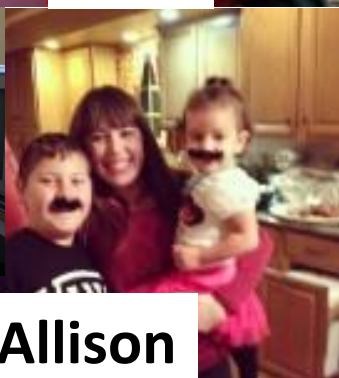
Katie



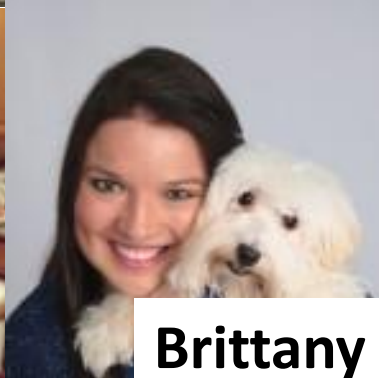
Sheridan



Ebere



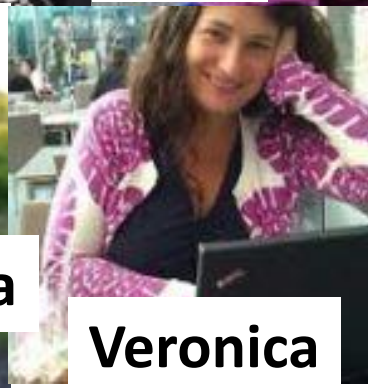
Allison



Brittany



Jessica



Veronica



Kali



Gene

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State Maternal Mortality Review Committees, PQCs, and AIM

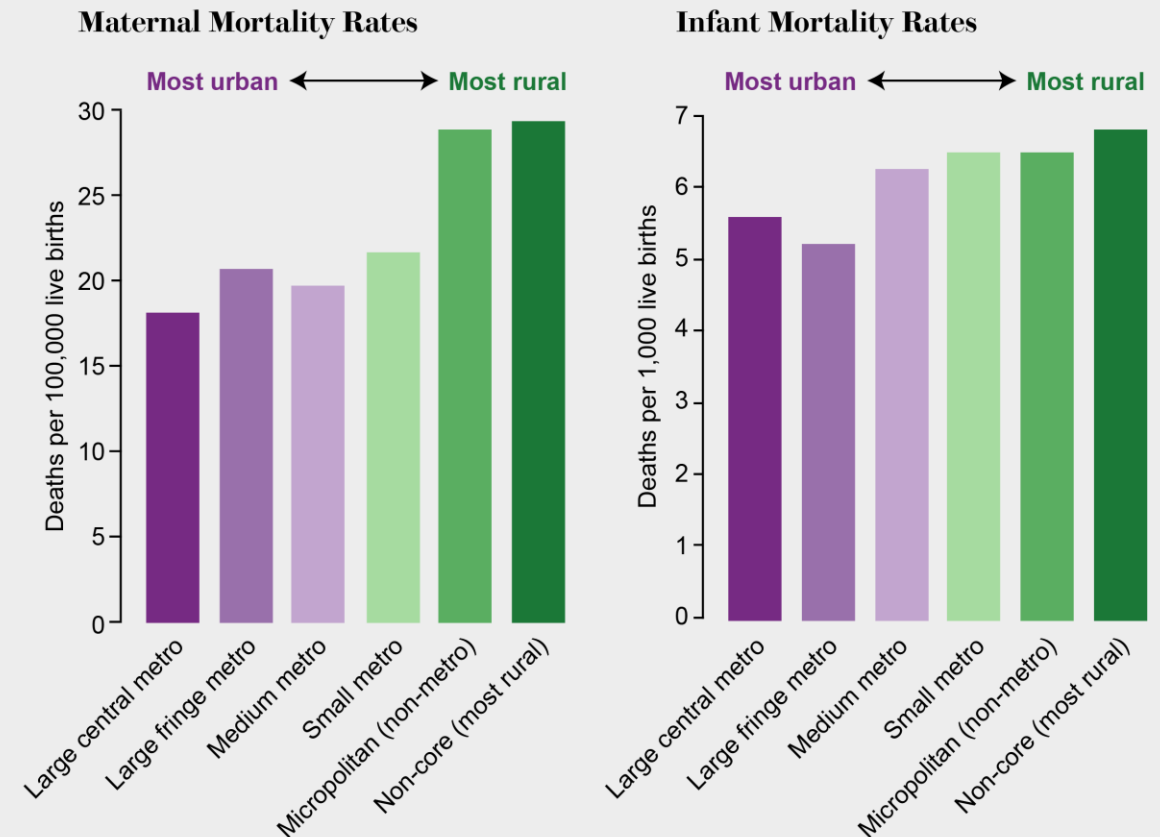
This list was compiled by ACOG and reflects the most recent information available on states across the country.

STATE	Maternal Mortality Review Committee (MMRC)	Perinatal Quality Collaborative (PQC)	Current AIM State
Alabama	YES	YES	-
Alaska	YES	YES	YES
Arizona	YES	YES	-
Arkansas	Implementing review (2019 law)	YES	-
California	YES	YES	YES
Colorado	YES (2019 law)	YES	YES
Connecticut	YES (2018 law)	YES	-
Delaware	YES	YES	YES
<i>District of Columbia</i>	YES (2018 law)	-	-
Florida	YES	YES	YES
Georgia	YES	YES	YES
Hawaii	YES	YES	-
Idaho	Implementing review (2019 law)	-	-
Illinois	YES	YES	YES
Indiana	YES (2018 law)	YES	YES
Iowa	YES	-	-
Kansas	YES (2018 law)	YES	-
Kentucky	YES (2018 law)	-	-
Louisiana	YES	YES	YES
Maine	Implementing review	YES	-
Maryland	YES	YES	YES
Massachusetts	YES	YES	YES
Michigan	YES	YES	YES
Minnesota	YES	YES	-
Mississippi	YES	YES	YES

Urban-Rural Differences

Maternal and Infant Mortality Rates Are Highest in Rural America

According to publicly available data from the U.S. Centers for Disease Control and Prevention analyzed by *Scientific American*, women living in rural areas of the U.S. have significantly higher chances of dying from causes related to pregnancy or childbirth compared with their city-dwelling counterparts. Likewise, babies are more likely to die before their first birthday if they live in rural locations. The graphs below reflect 2015 data.



Source: Maron, D. Maternal Health Care Is Disappearing in Rural America. *Scientific American*. 2/15/17