Overview of Maternal Mortality in Kentucky and Strategies for Change

2020 KHA Quality Conference

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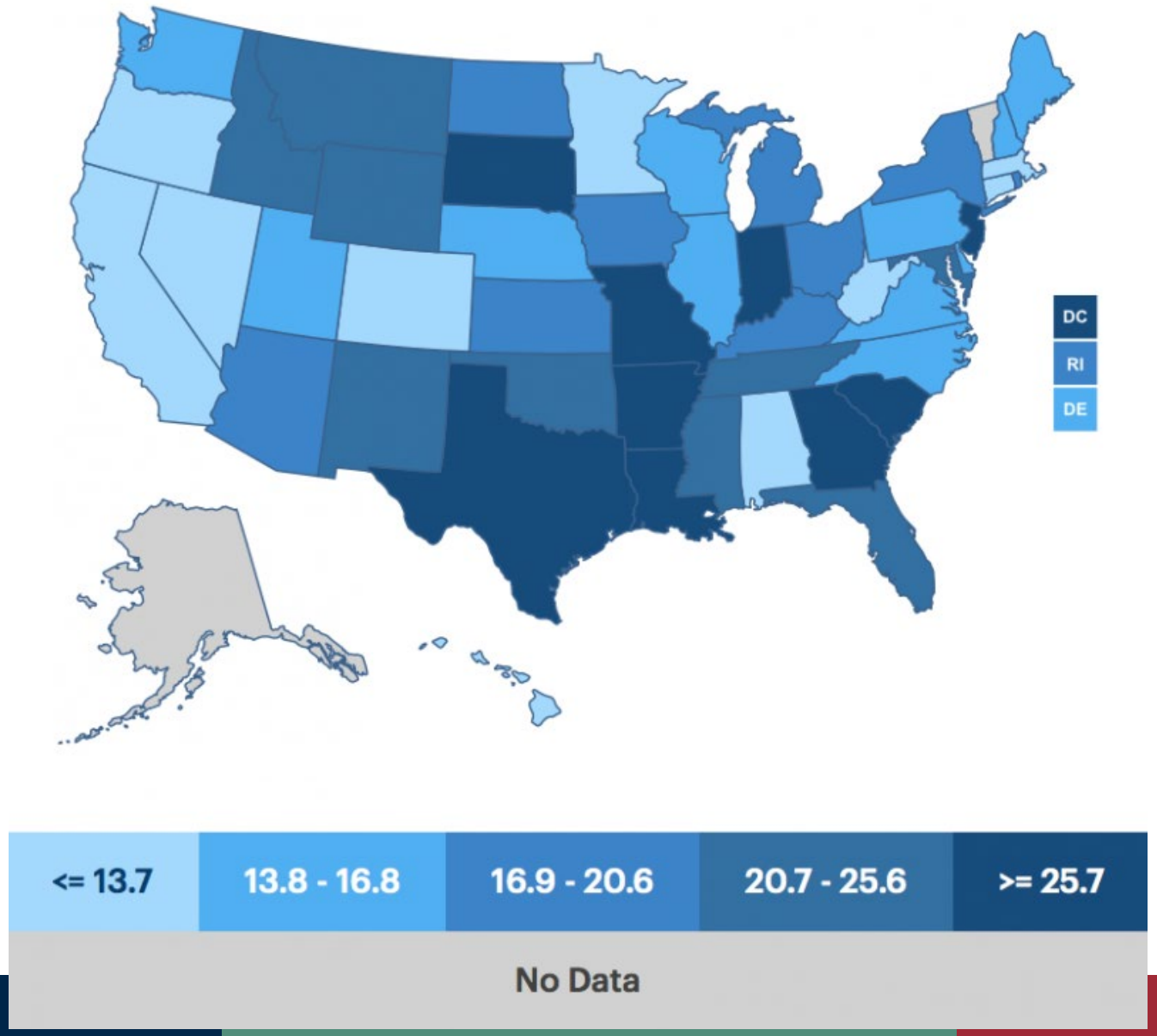
Deputy Commissioner

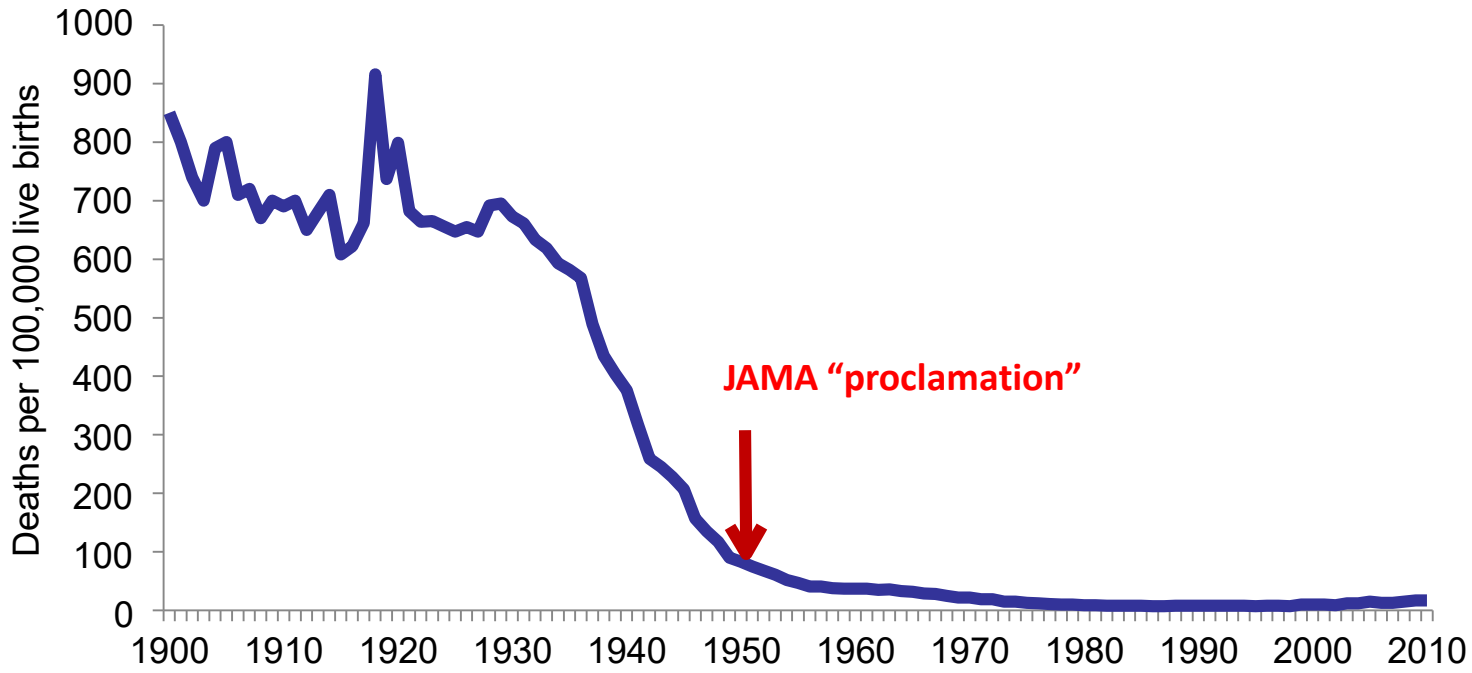
Kentucky Public Health

Prevent. Promote. Protect.

Maternal Mortality 2018 - CDC



Maternal Mortality Rate, United States

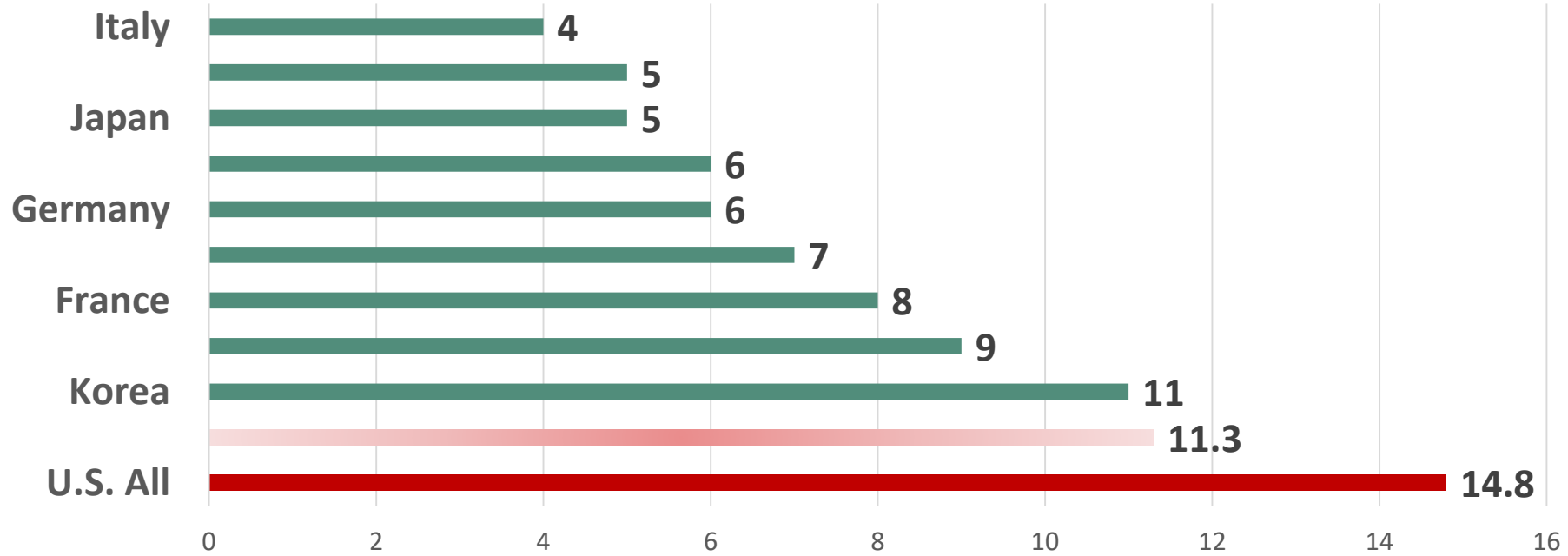


"The apparently irreducible minimum of
1 maternal death per 1000 live births."

Maternal Deaths—One in a Thousand. *JAMA*. 1950 ;144(13):1096–1097.

U.S. MMR* Compared to Industrialized Countries with 300,000+ births, 2014, using WHO Estimates

U.S. ranks last among wealthy countries – even if you limit the U.S. to white mothers.



* Maternal Mortality Ratio per 100,000 births

Source: *Maternal Mortality: 1990 to 2015* Estimates by WHO, UNICEF, UNFPA, World Bank Group & UN Population Division. Geneva: 2015. U.S. rates estimated based on adjustment to pregnancy-related mortality rates in Creanga et al. *Obstet Gynecol 2017.*

KRS 211.684
KRS 211.686

Composition of the Maternal Mortality Review Committee (MMRC)

- Maternal medicine specialists
- Neonatologists
- OB Anesthesiology
- OB Women's Cardiology
- American College of Obstetrics and Gynecology
- American Academy of Pediatrics
- Association of Women's Health Obstetric and Neonatal Nurses
- Department for Community Based Services
- KASPER
- Certified Nurse Midwife
- Kentucky Hospital Association
- Chief Medical Examiner
- Domestic Violence & Human Trafficking – Office of the Attorney General
- Department for Behavioral Health, Developmental and Intellectual Disabilities
- Kentucky State Police
- Department for Medicaid Services

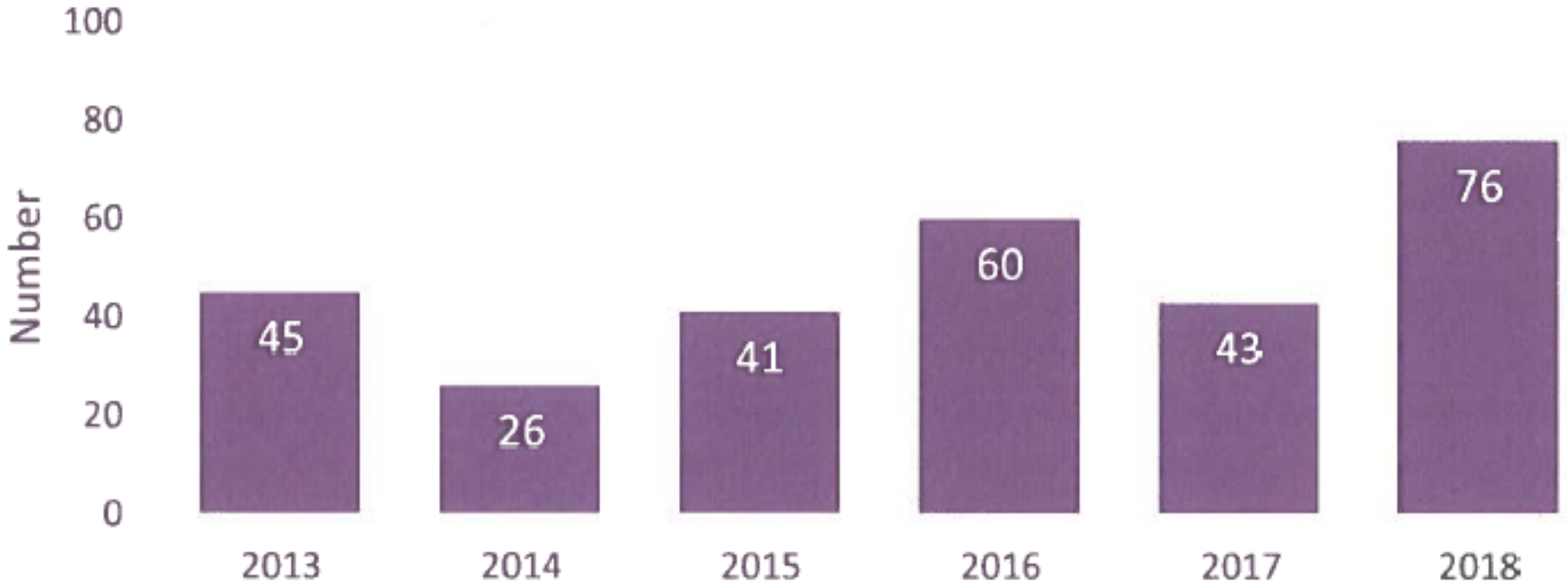
Methodology

1. Deaths of women 10 to 55 years of age
2. Deaths linked to live birth or stillborn death certificates occurring within one year prior to death
3. Deaths identified by the completion of the pregnancy boxed on the death certificate

MATERNAL MORTALITY REVIEW DATA

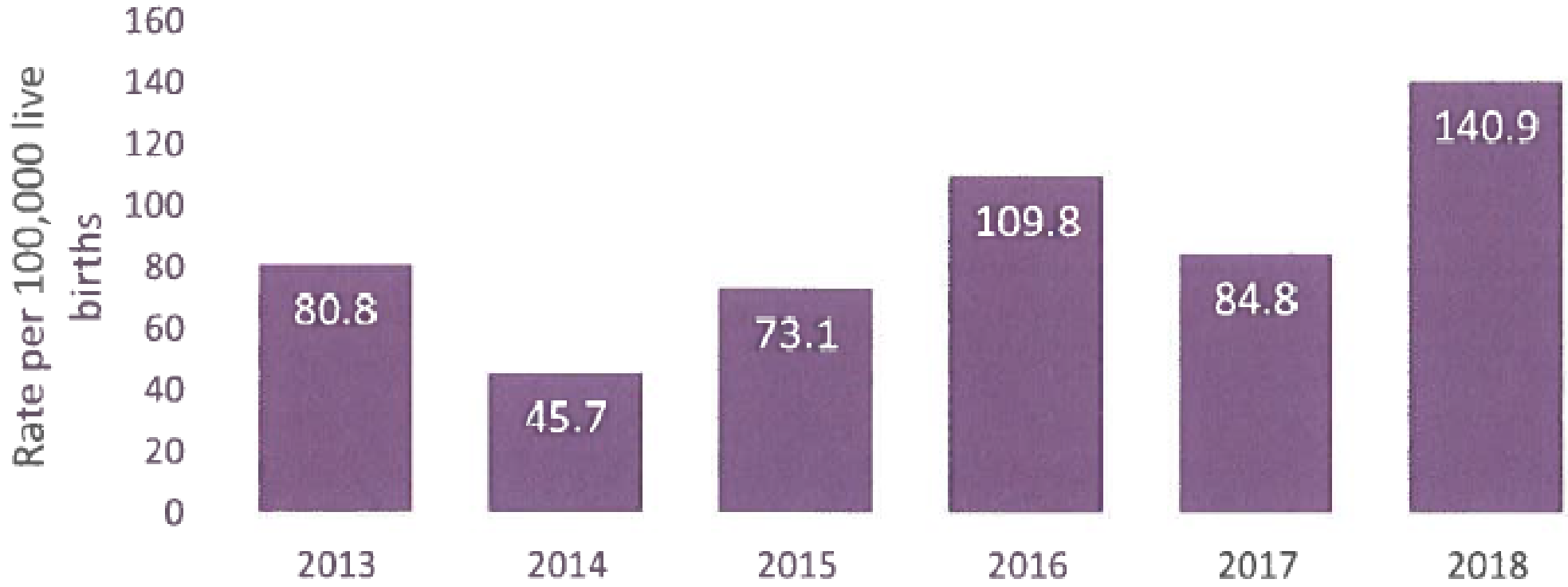
The maternal mortality review committee began in-depth review with 2017 deaths. As illustrated in Figure 3, mortality deaths have risen annually and are currently the highest rate recorded.

Figure 3: Total Number of Maternal Deaths, Kentucky (2013-2018)



Note: Maternal death is defined as any female between the ages of 15-55 that was pregnant within one year prior to death or pregnant at death and died from any cause. 2016-2018 data is preliminary and numbers may change
Data Source: Kentucky Vital Statistics files, linked live birth and death certificate files years 2013-2018

Figure 4: Rate of Maternal Deaths, Kentucky (2013-2018)



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Maternal Mortality Review Information Application (MMRIA)

CDC: A death is considered preventable, if the committee determines that there was at least some chance of the death being averted

Patient

- Lack of adherence to medications or treatment plans
- Abusive relationships or unstable housing
- Lack of social support systems
- Lack on insight into high risk patterns or warning signs

Preventable Factors

Provider

- Assessment
  - Lack of screening or incomplete assessment
  - Ineffective treatment
- Communication
  - Lack of communication between providers
    - More handoffs
  - Lack of communication between provider and family

Facility

- Inadequate assessment of risk

Preventable Factors

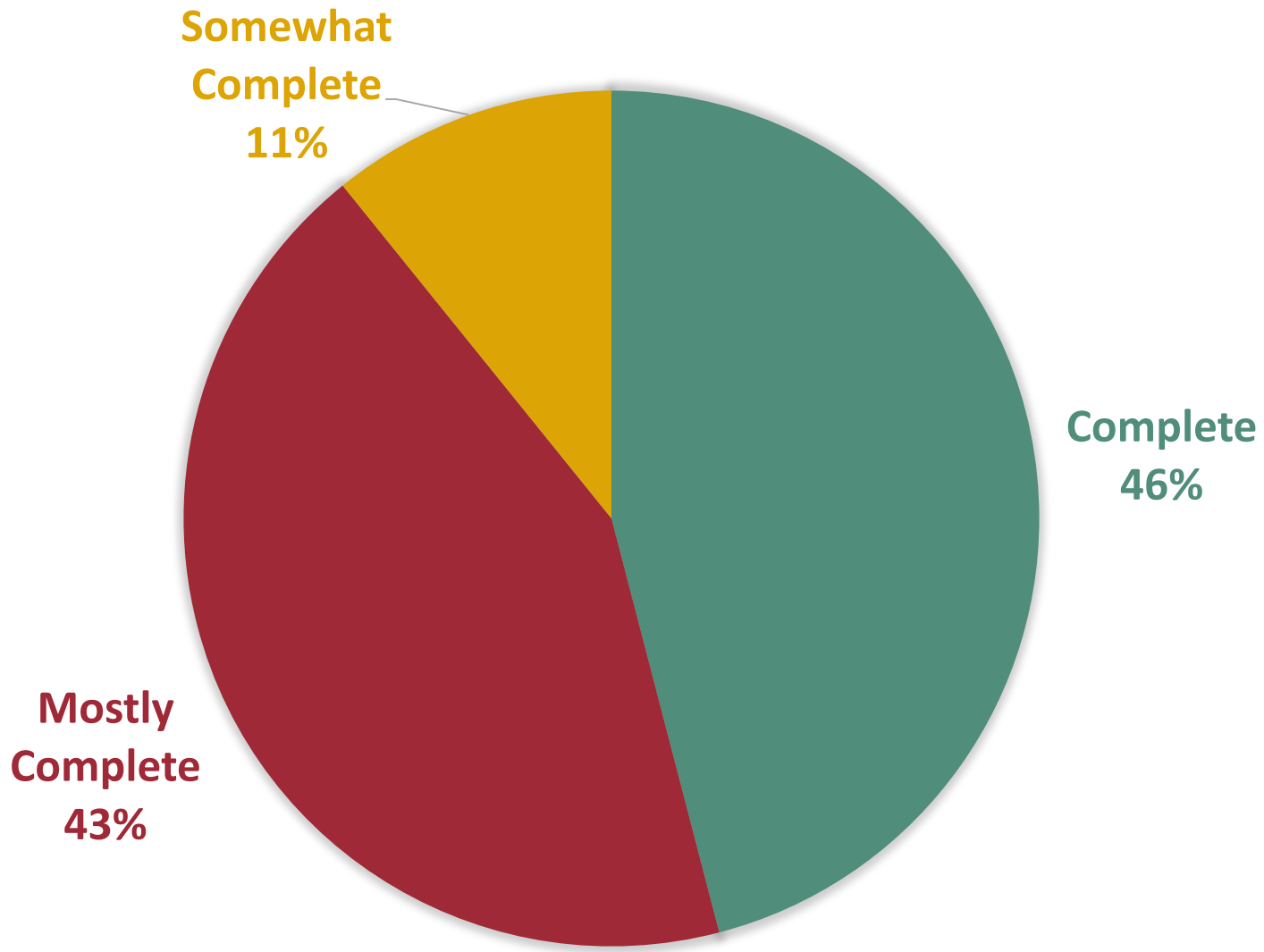
Community

- Lack of services needed in local area

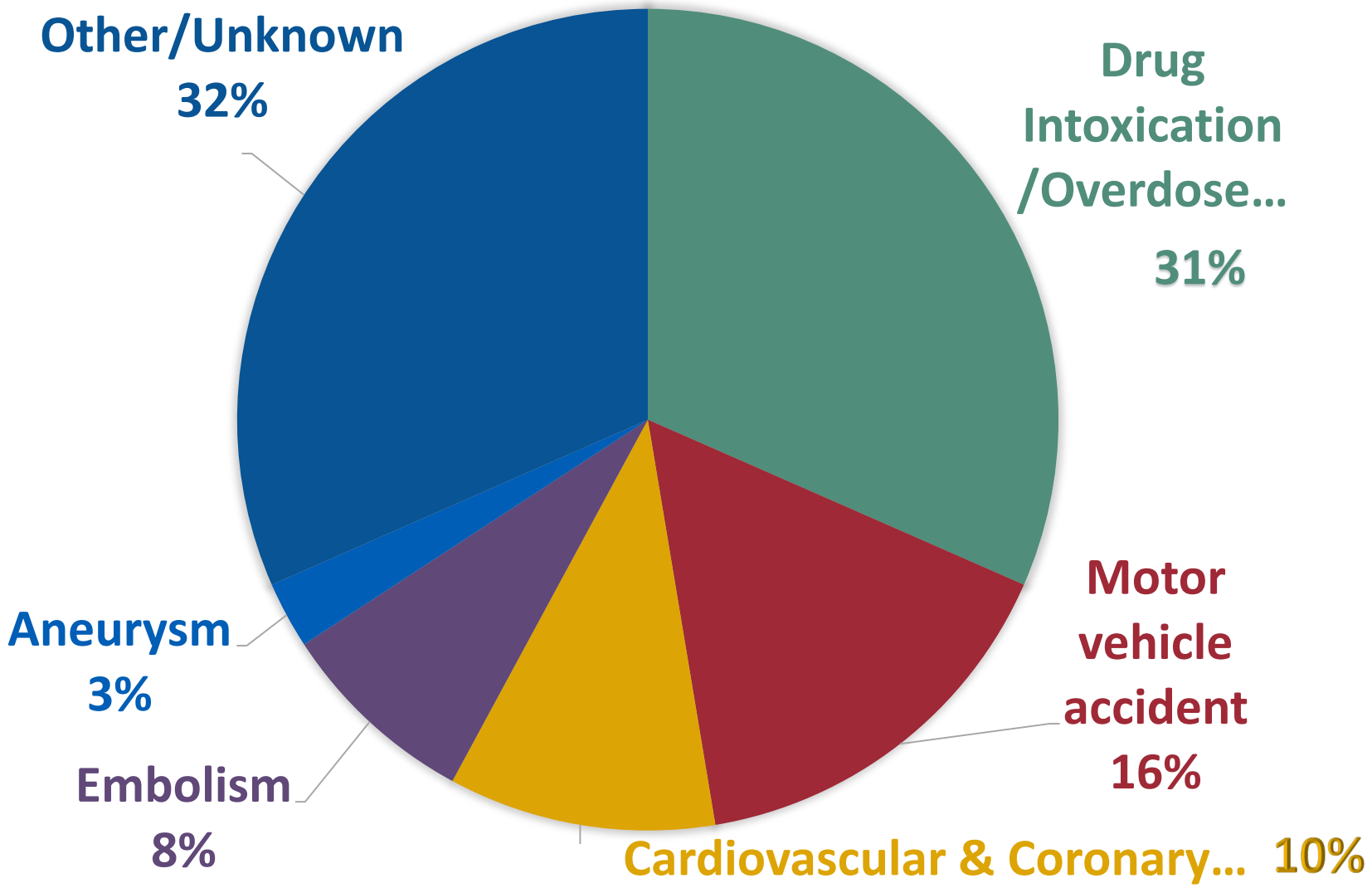
Systemic Factors

- Inadequate systems of care coordination
- Inadequate training and support for personnel
- Inadequate or unavailable personnel
- Lack of policies and procedures

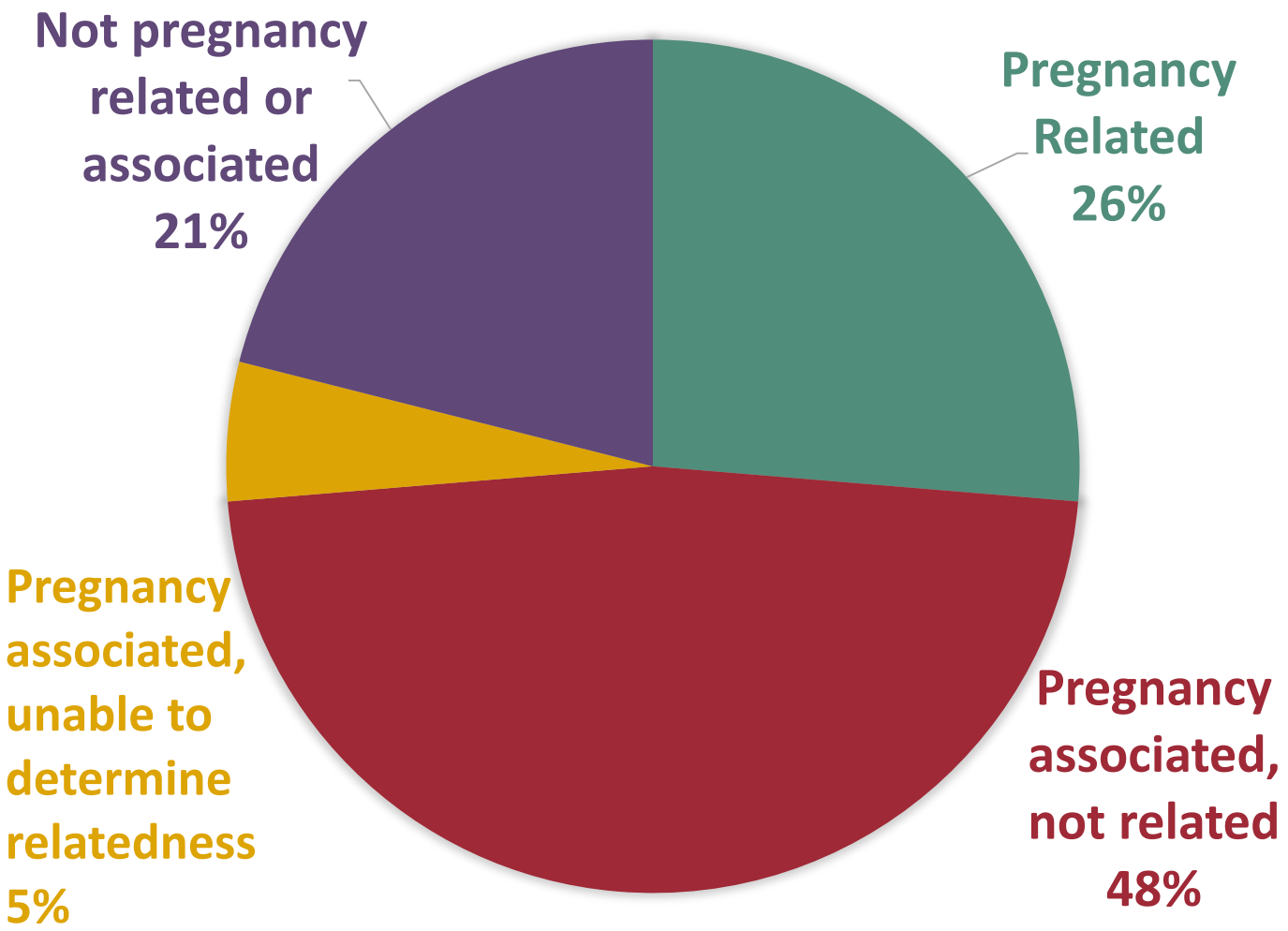
Completeness of Records



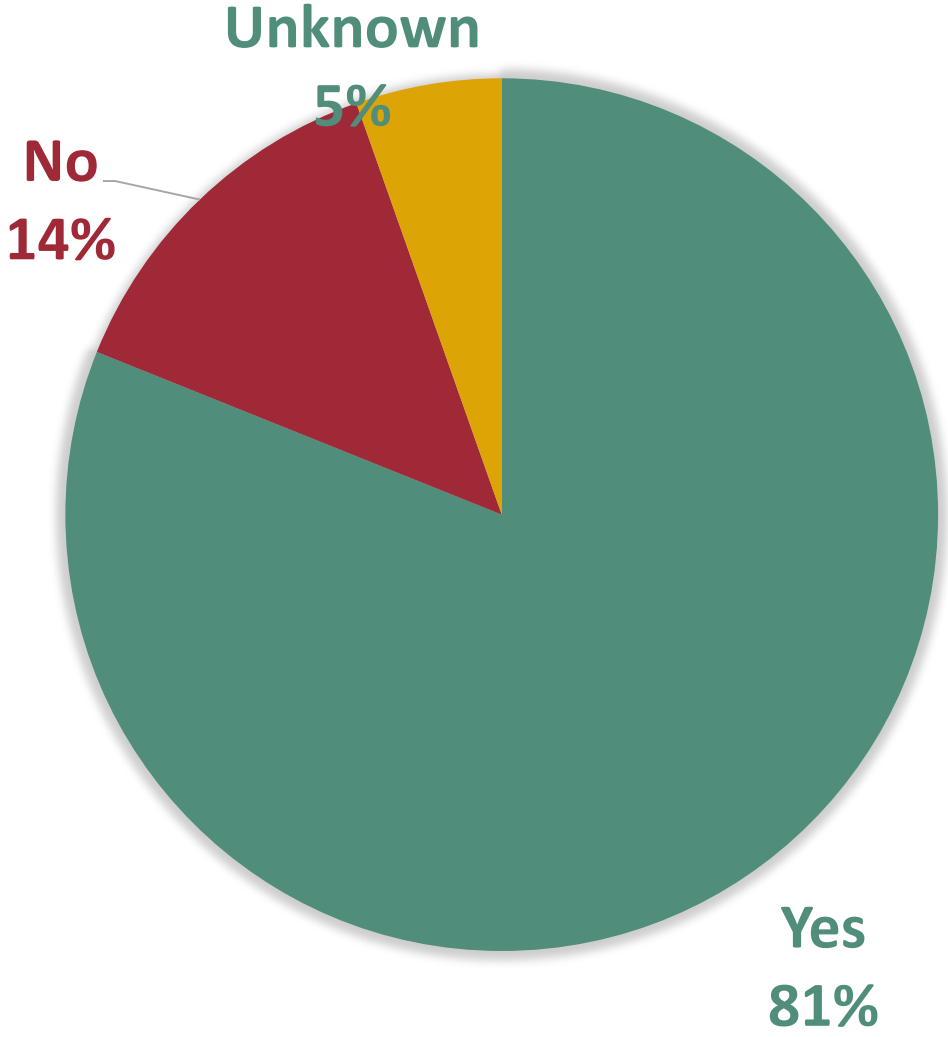
Immediate Cause of Death



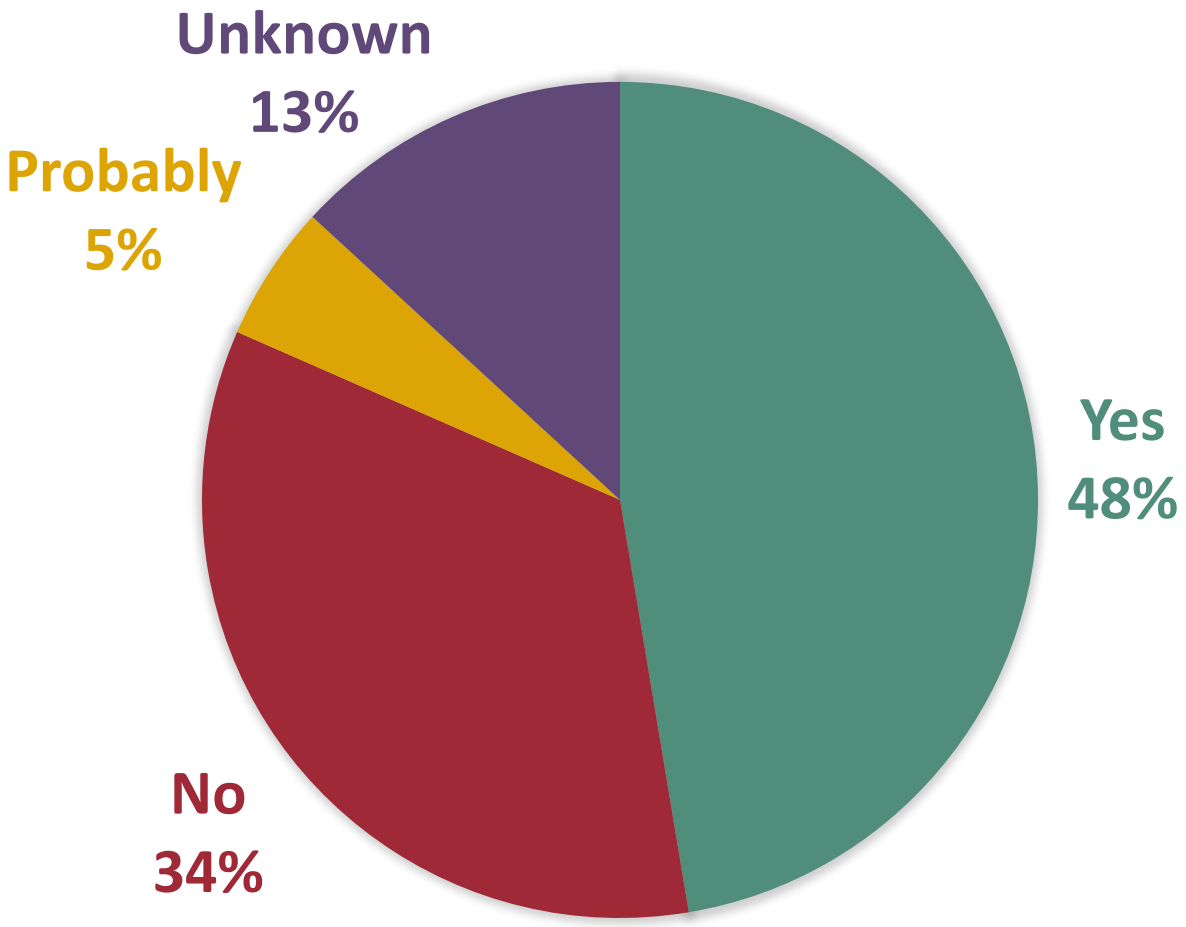
Pregnancy Relatedness



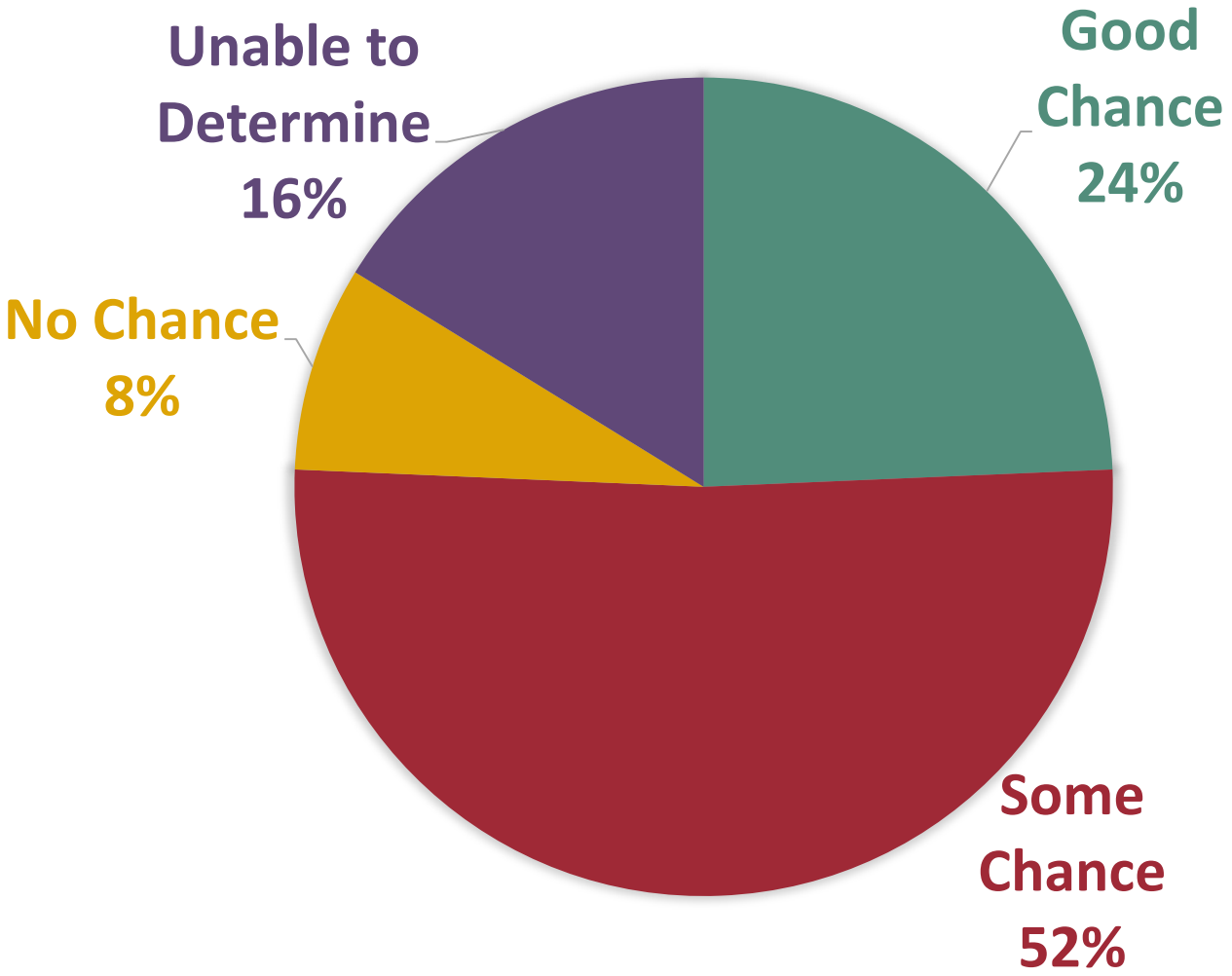
Preventable Death?



Substance Use Contributing to Death



Chance to Alter Outcome



Kentucky MMRC Recommendations

Improve case coordination throughout a woman's pregnancy between all health care providers addressing morbidities, emergency care, oral health, and mental health.

- Refer to ensure continued care
- Review KASPER for each new OB patient
- Inform about best practices for prescribing for opioids
- Screen and refer for SUD and mental health

Kentucky MMRC Recommendations

Encourage implementing safety measures throughout various clinical disciplines associated with the health care of pregnant and postpartum women.

- Educate all on maternal safety bundles
- Encourage safety planning among patients for prenatal and well women providers

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

- Council for Patient Safety in Women's Health Care
- Funded by the Maternal Child Health Bureau
- Initial funding for four years (2014-2018)
- Promote consistent and safe maternity care to:
  - reduce maternal mortality by 1,000
  - reduce severe maternal mortality by 100,000

AIM Core Partners

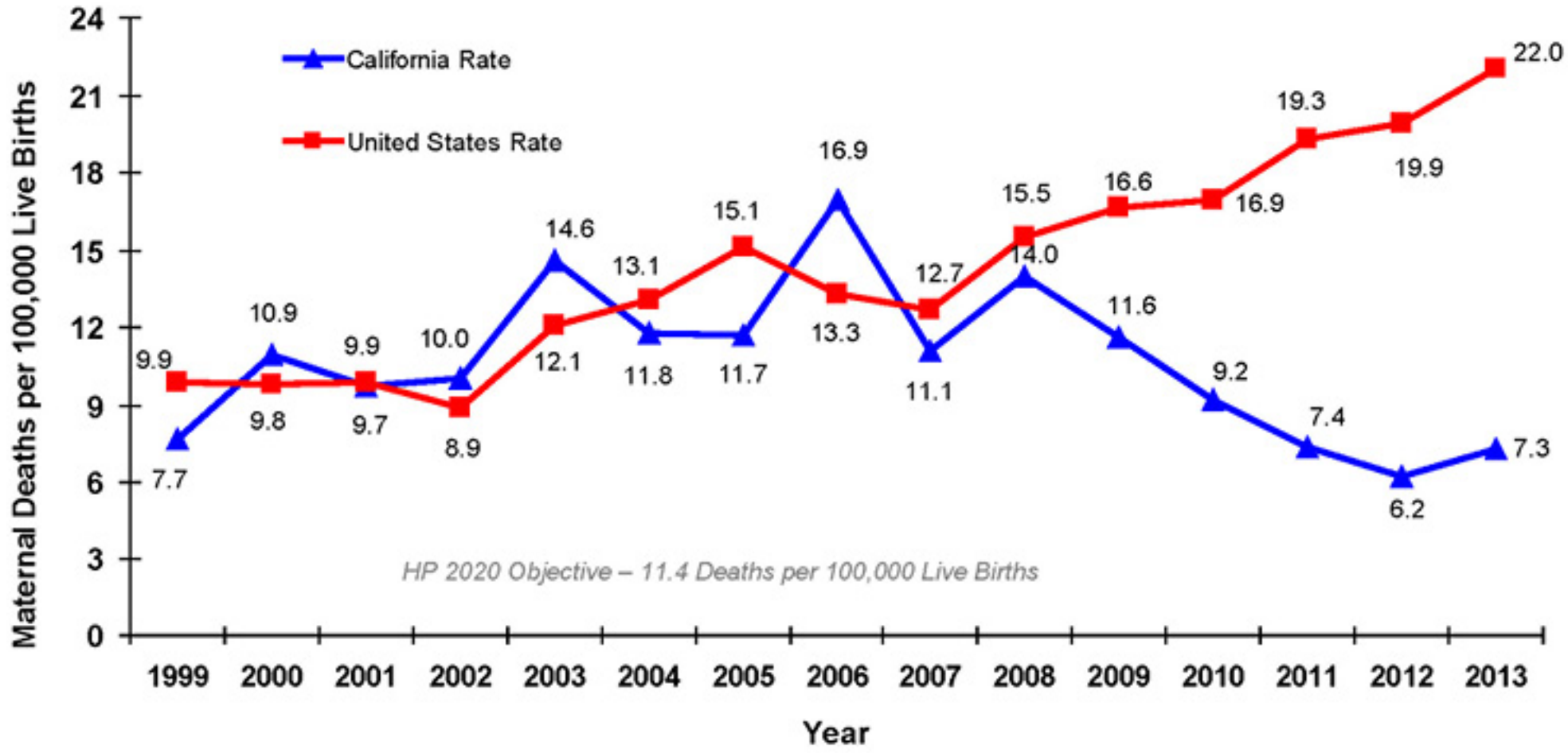
- American College of Obstetricians and Gynecologists (ACOG)
- American College of Nurse Midwives (ACNM)
- Association of Maternal and Child Health Programs (AMCHP)
- Association of State and Territorial Health Officials (ASTHO)
- Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN)
- California Maternal Quality Care Collaborative (CMQCC)
- Society for Maternal-Fetal Medicine (SMFM)

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH AIM

DENIAL and DELAY

- **National data-driven maternal s… improvement initiative** based on proven i… pproaches to improving maternal safety and c…
- ***Access Patien… tools proven to save lives and reduce mo… y.***
- ***Join a grow… mmunity dedicated to maternal safety and quality.***
- ***Champion a culture of maternal safety in the U.S.***

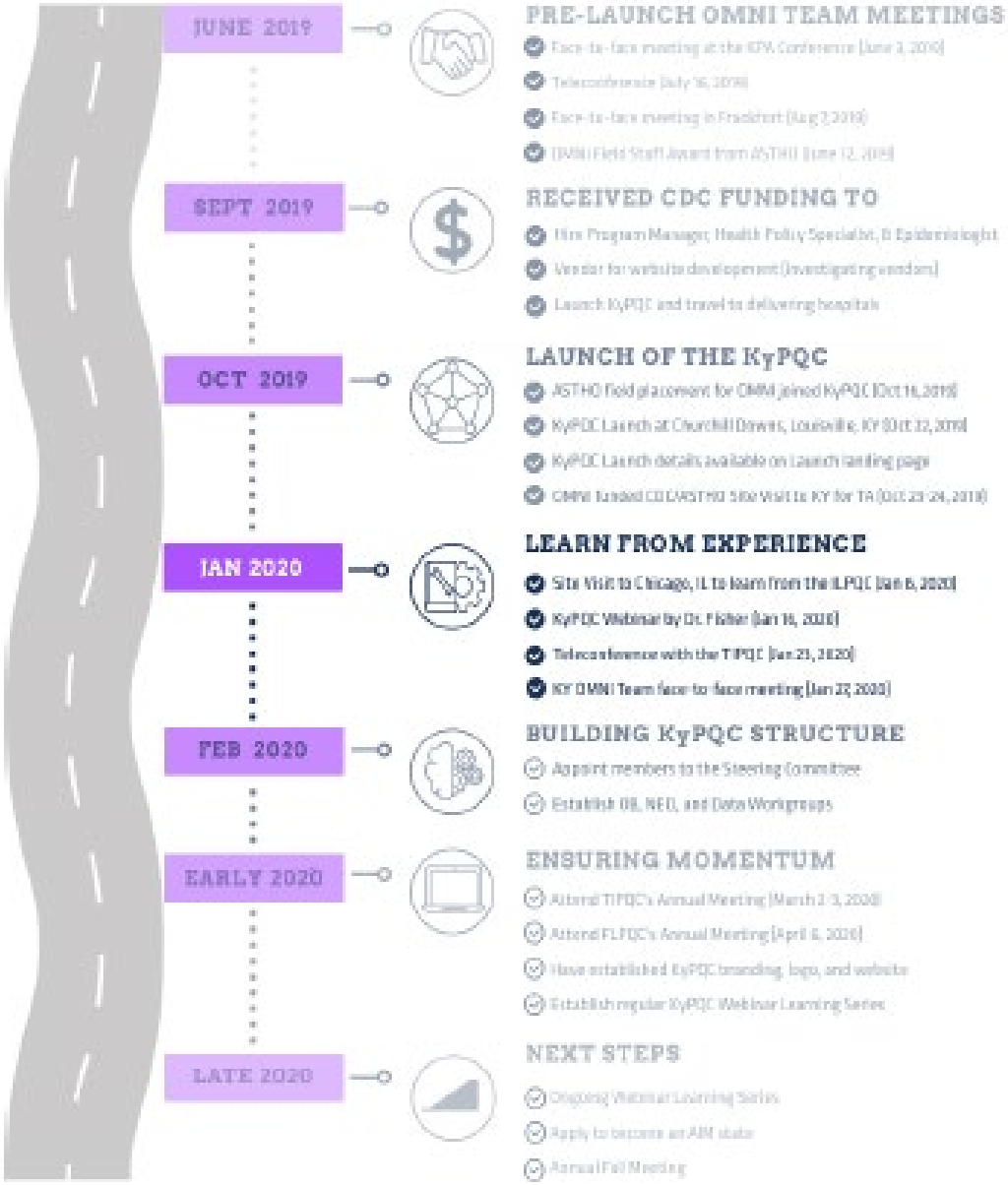
Maternal Mortality Rate, California and United States; 1999-2013



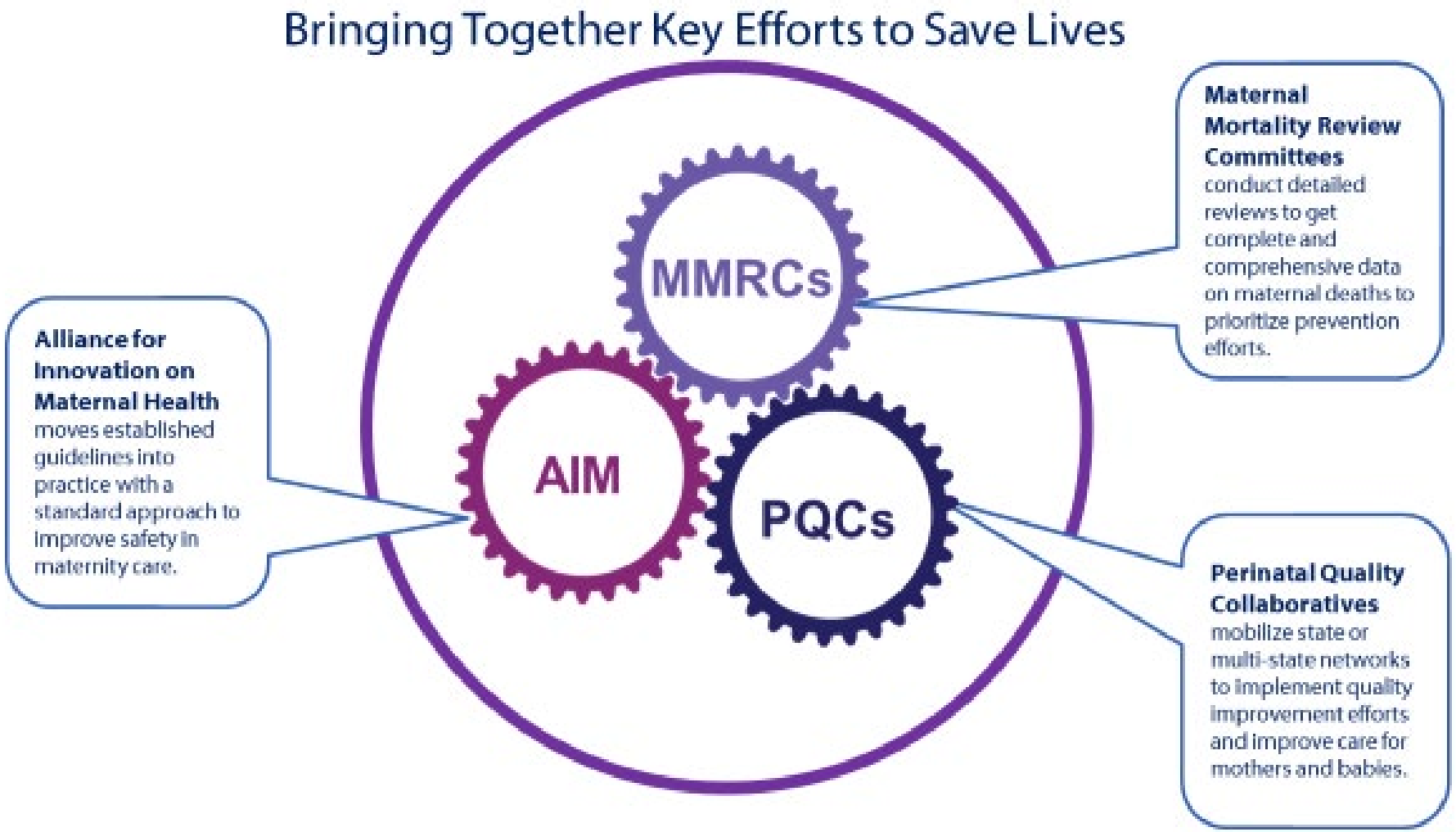
LAUNCH of the KENTUCKY PERINATAL QUALITY COLLABORATIVE (KyPQC)

October 22, 2019
Churchill Downs

KyPQC ROADMAP

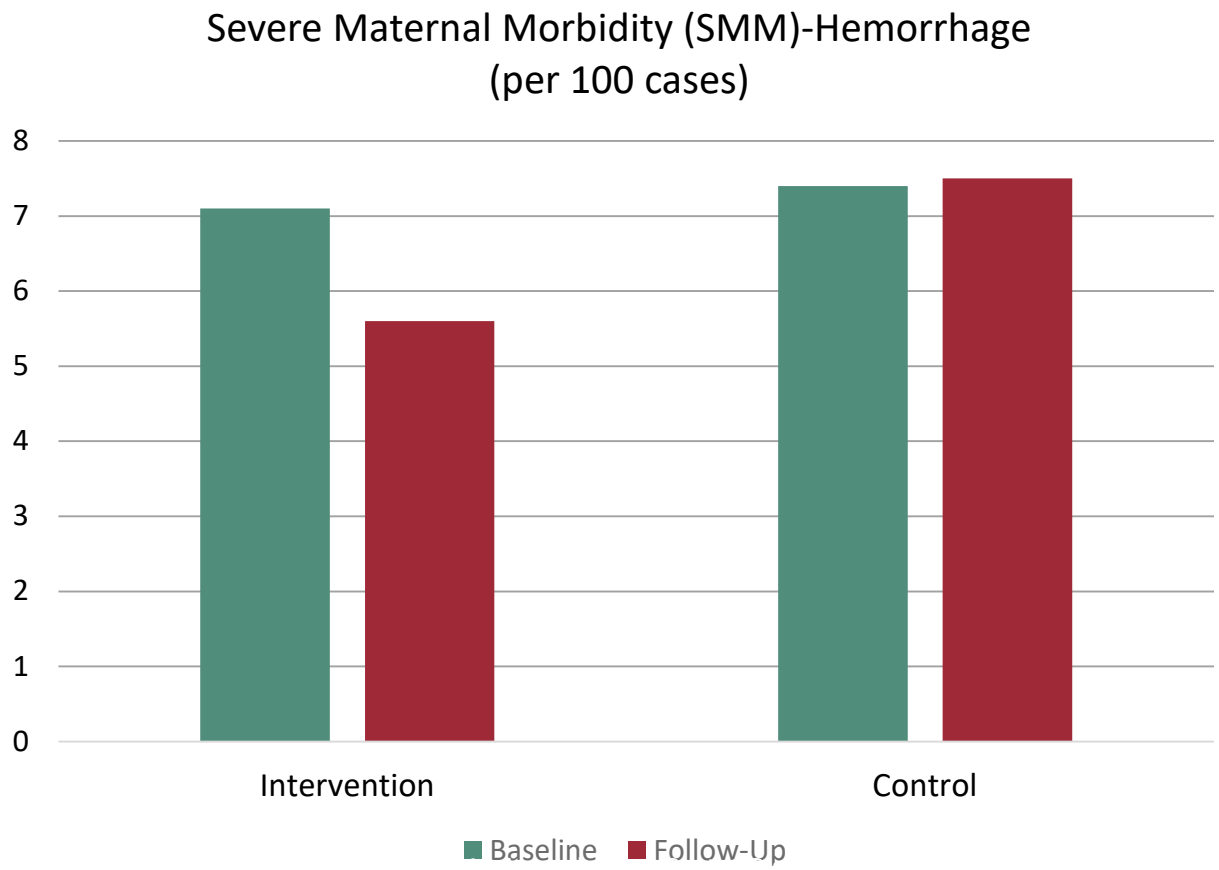


Partnership and Coordination



Source: CDC, Julie Zaharatos

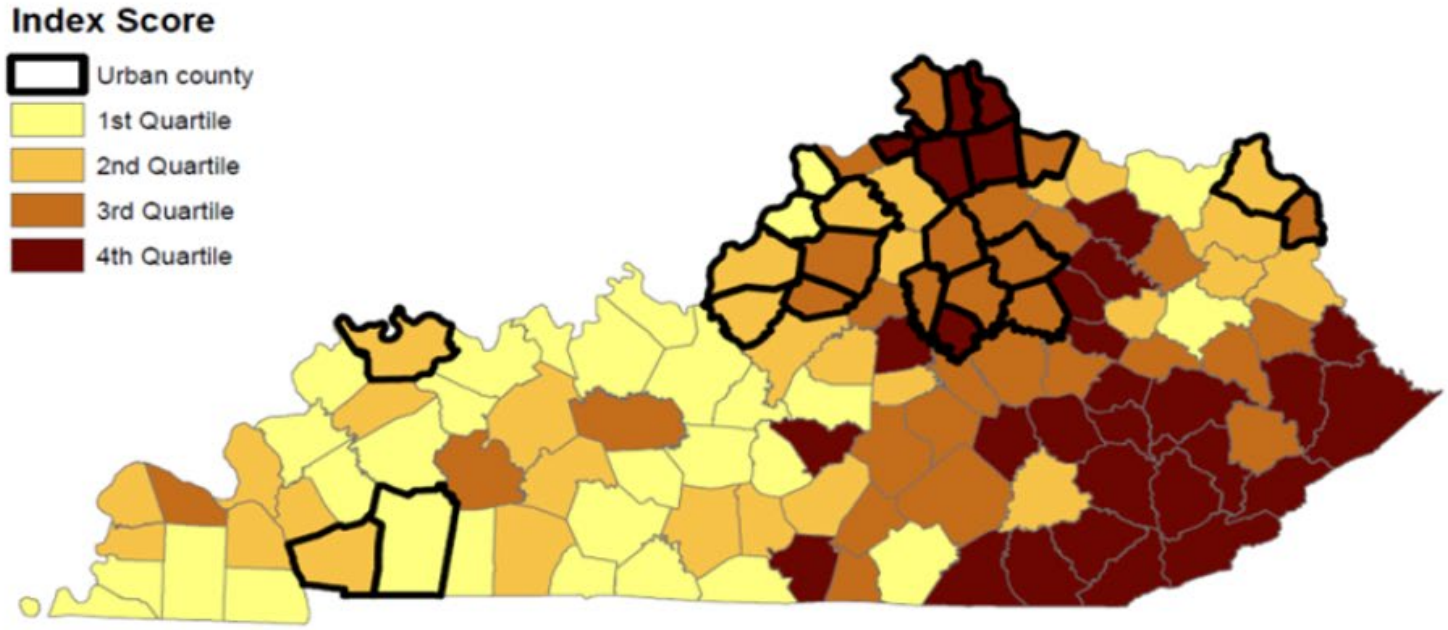
Severe Morbidity Reduction: Hemorrhage



- Hospitals that implemented hemorrhage safety bundle as part of a learning collaborative:
- 20% reduction in SMM-H
- 28% reduction if prior participation
- 11.7% decrease in SMM among all obstetric patients

Main et al. Am J Obstet Gynecol 2017;216(3):298.e1-298.e11.

Composite Risk Index for Opioid Overdose



Index score calculated by averaging county ranks in 1) fatal opioid overdose rate; 2) opioid overdose emergency department visit rate; 3) opioid overdose hospitalization rate; 4) MME >=100 rate; 5) neonatal abstinence syndrome rate

Data sources: Kentucky Inpatient and Outpatient Hospitalization Claims Files, Frankfort, KY; Cabinet for Health and Family Services, Office of Health Policy; Kentucky Death Certificate Database, Kentucky Office of Vital Statistics, Cabinet for Health and Family Services; KASPER Quarterly Trend Report, Third Quarter 2015, Kentucky Department for Public Health. Data are provisional and subject to change.

CHFS
Cabinet for Health and Family Services

54 Kentucky Counties with Increased Vulnerability to Rapid Dissemination of HIV/HCV Infections Among People who Inject Drugs and Preventive Syringe Services Programs (SSPs)

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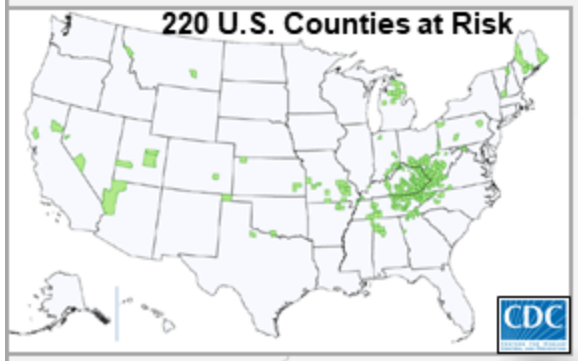


National Ranking by County*

1	Wolfe	34	Martin	108	Gallatin
3	Breathitt	35	Boyle	125	Bath
4	Perry	39	Lawrence	126	Grayson
5	Clay	40	Rockcastle	129	Greenup
6	Bell	45	Harlan	132	Green
8	Leslie	48	McCreary	153	Casey
9	Knox	50	Letcher	154	Carter
10	Floyd	53	Johnson	163	Monroe
11	Clinton	54	Russell	167	Garrard
12	Owsley	56	Elliott	175	Robertson
14	Whitley	65	Laurel	178	Lewis
15	Powell	67	Carroll	179	Edmonson
17	Knott	75	Taylor	180	Allen
21	Pike	77	Grant	187	Boyd
23	Magoffin	93	Adair	191	Hickman
25	Estill	97	Lincoln	202	Breckinridge
30	Lee	99	Wayne	212	Campbell
31	Menifee	101	Cumberland	214	Mercer

** Vulnerable Counties in RED have Operating SSPs*

Specific concerns regarding Kentucky Counties:

1. Dense drug user networks similar to Scott County, Indiana
2. Lack of syringe services programs

54 Vulnerable Counties

70 Operating SSPs (60 Counties) as of 1/08/2020

2 Counties are Approved but Not Yet Operational

NOTE: CDC stresses that this is a REGION-WIDE problem, not just a county-specific problem.


KyPQC
Kentucky Perinatal Quality Collaborative

KASPER Review of Postpartum Opioid Prescribing (2014-2017)

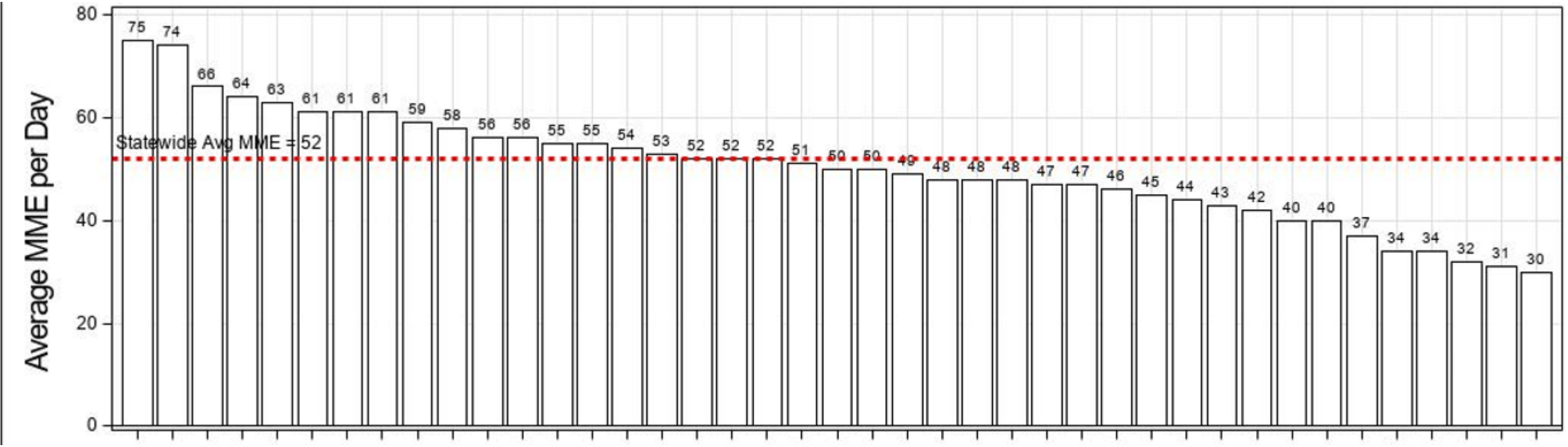
KASPER Review of Postpartum Opioid Prescribing (2014-2017)

		ALL (Opioid Naïve + Opioid Experienced)							
#	Outcome Measures	2014		2015		2016		2017	
		SVD	CS	SVD	CS	SVD	CS	SVD	CS
0	Number of Births/Mothers	8,359	10,132	8,593	10,654	8,263	10,823	7,733	11,441
1	Average Dose per Rx (# of Pills)	23.43	30.40	22.98	30.84	22.22	30.37	20.52	29.23
2	Average Days' Supply per Rx (# of Days)	3.81	4.50	3.75	4.51	3.81	4.65	3.50	4.47
3	Average MME per Day/Rx (Morphine Mg Equiv.)	45.6	58.2	45.2	59.5	42.3	57.4	41.5	57.5

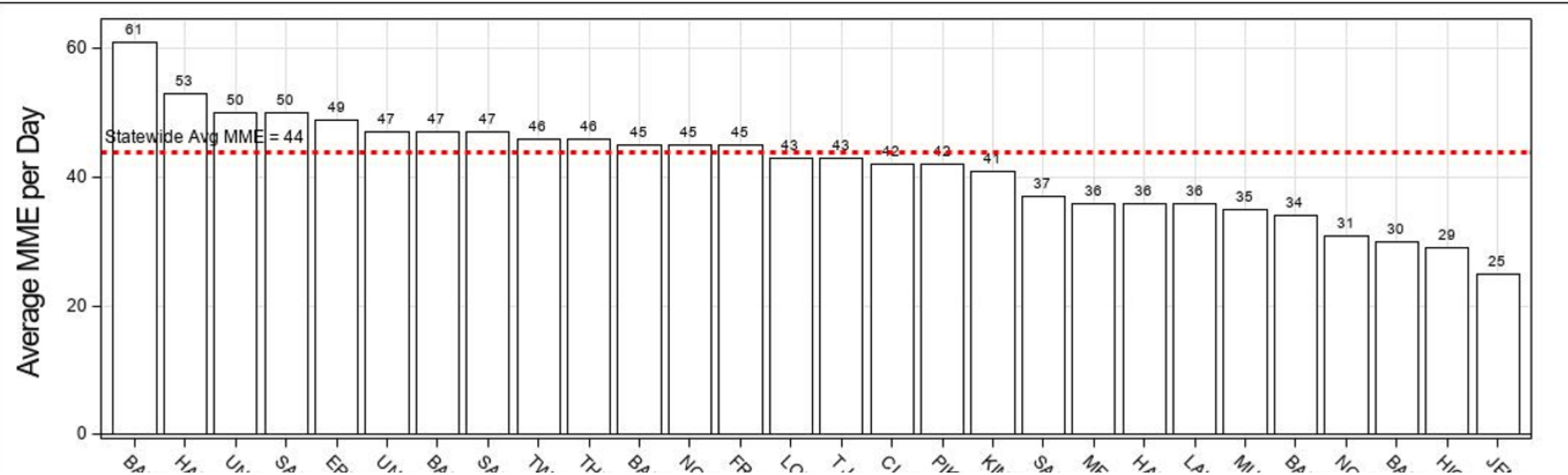
KASPER Review of Postpartum Opioid Prescribing (2014-2017)

		ALL (Opioid Naïve + Opioid Experienced)							
#	Outcome Measures	2014		2015		2016		2017	
		SVD	CS	SVD	CS	SVD	CS	SVD	CS
0	Number of Births/Mothers	8,359	10,132	8,593	10,654	8,263	10,823	7,733	11,441
1	Average Dose per Rx (# of Pills)	23.43	30.40	22.98	30.84	22.22	30.37	20.52	29.23
2	Average Days' Supply per Rx (# of Days)	3.81	4.50	3.75	4.51	3.81	4.65	3.50	4.47
3	Average MME per Day/Rx (Morphine Mg Equiv.)	45.6	58.2	45.2	59.5	42.3	57.4	41.5	57.5

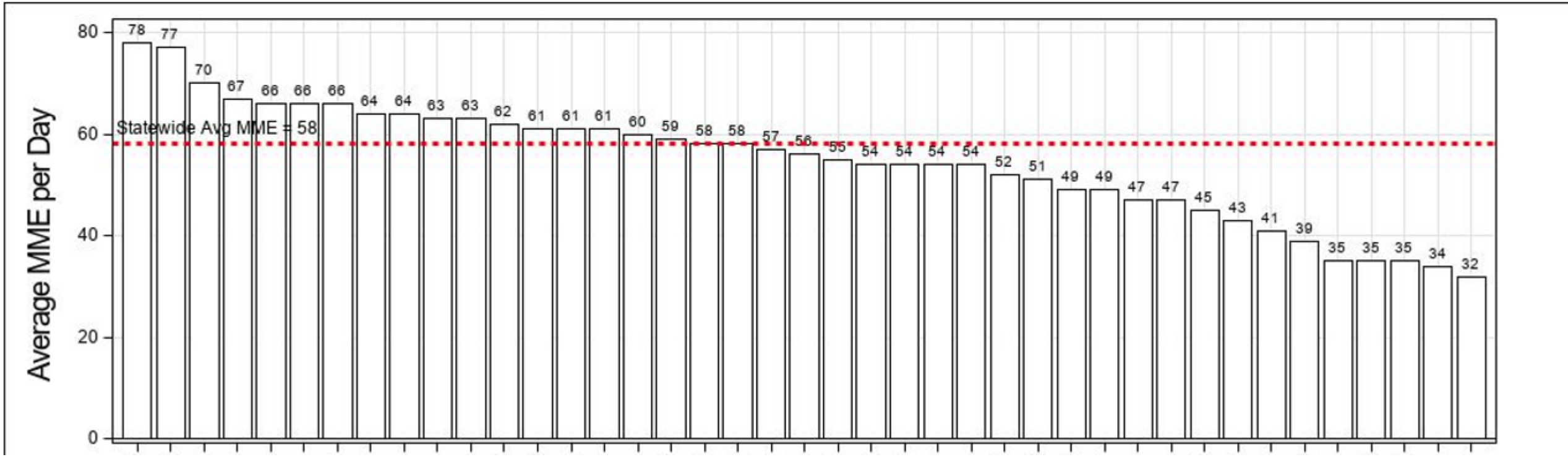
Attributing Initial (within 7 days of delivery) Opioid Analgesic Prescribing to Hospitals (N=75,998)



SPONTANEOUS VAGINAL DELIVERY (SVD) ONLY BIRTHS (N=30,436)



CESAREAN SECTION ONLY BIRTHS (N=39,964)




KY
SOS
Statewide Opioid Stewardship

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