

Infant Mortality in West Virginia

Focus on Sleep Related Deaths and Safe Sleep

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Objectives

Leading causes of infant death in WV

Infant sleep-related death terminology

Unsafe sleeping practices and environments that contribute to infant death in WV

- OMCFH FIMR data overview 2015-2017
- Sleep related deaths as recorded in FIMR
 - Demographics
 - Preventability
- PRAMS findings 2016-2020
 - Demographics
 - Medicaid vs Non- Medicaid
 - Health care provider discussions
 - Current sleep environment habits

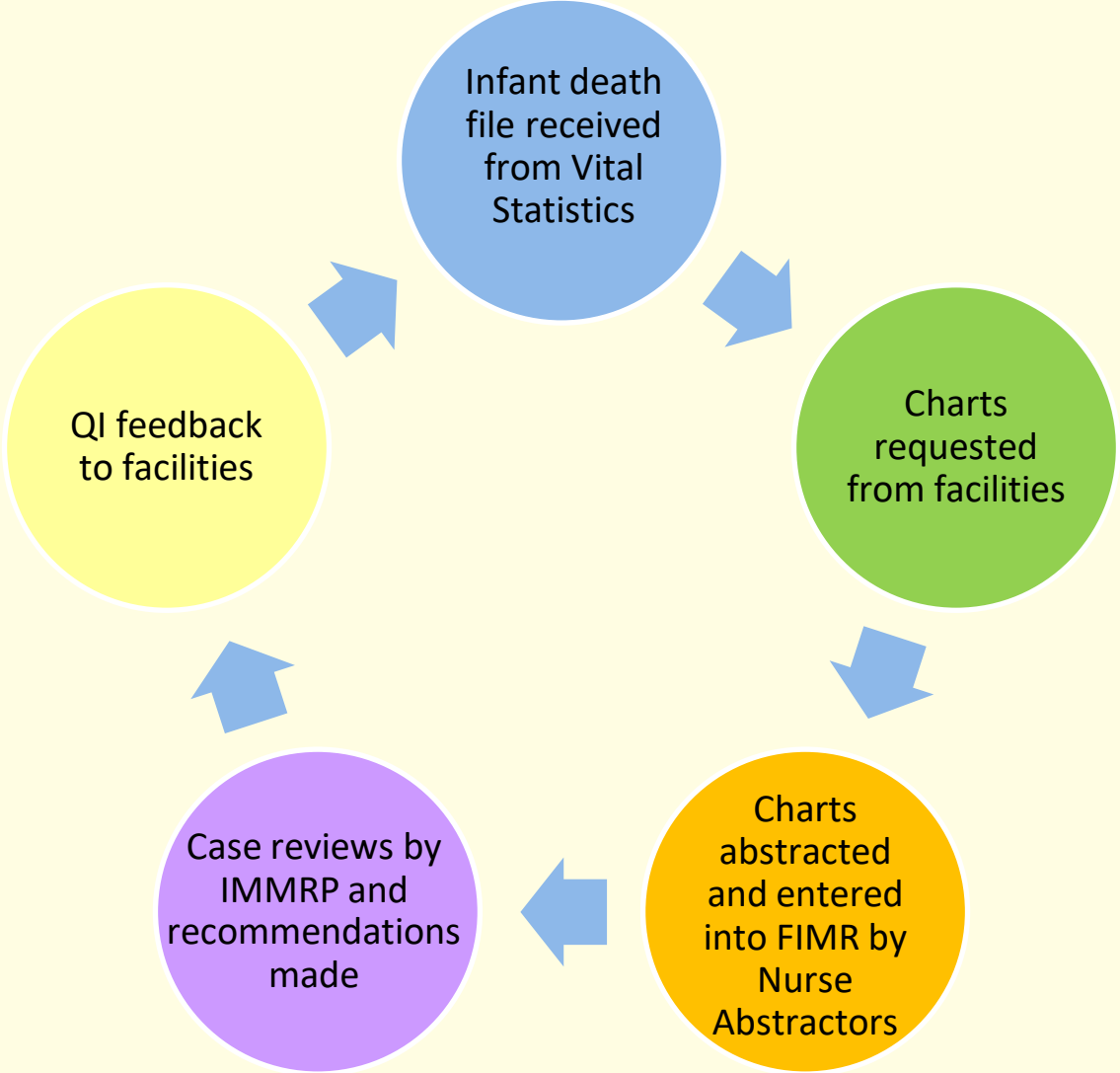
IMMRP Legislation WV Code §61-12A-2

In 2008, the West Virginia Legislature created a Maternal Mortality Review Team (MMRT). Subsequent legislation passed in 2011 expanded the responsibilities of the MMRT to include infant mortality reviews and renamed the team the Infant and Maternal Mortality Review Team (IMMRT).

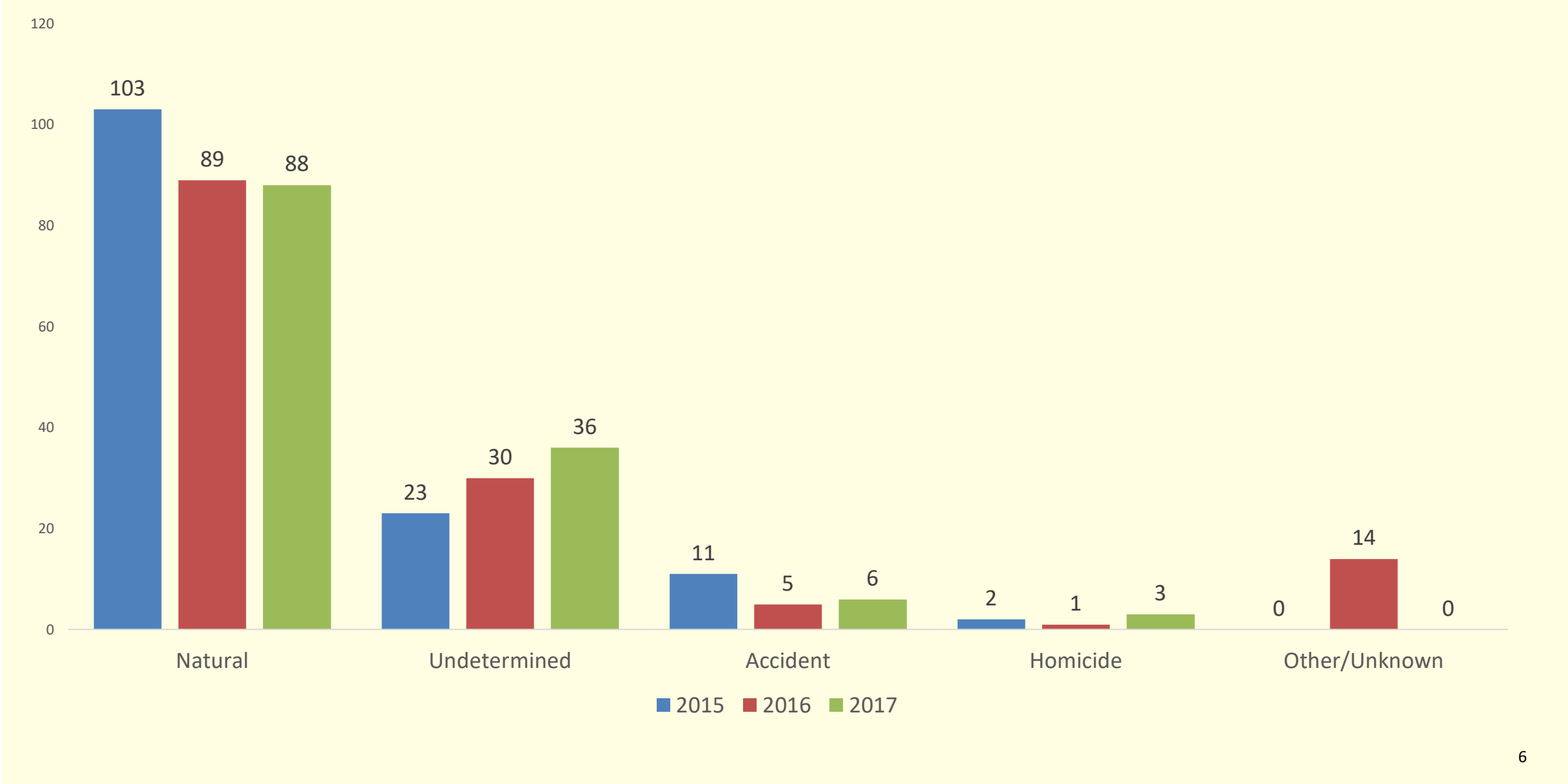
The fatality review team concept evolved further in 2013 creating an umbrella Fatality and Mortality Review Team under which four advisory panels were organized: Unintentional Pharmaceutical Drug Overdose Fatality Review Panel (UPDODRP); Child Fatality Review Panel (CFRP); Domestic Violence Fatality Review Panel (DVFRP); and Infant and Maternal Mortality Review Panel (IMMRP).

The Infant and Maternal Mortality Review process is a method of understanding the diverse factors and issues that contribute to preventable deaths and identifying and implementing interventions to address these problems. The knowledge gained from the reviews may be used to enhance services, influence public health policy and direct planning efforts intended to lower mortality rates.

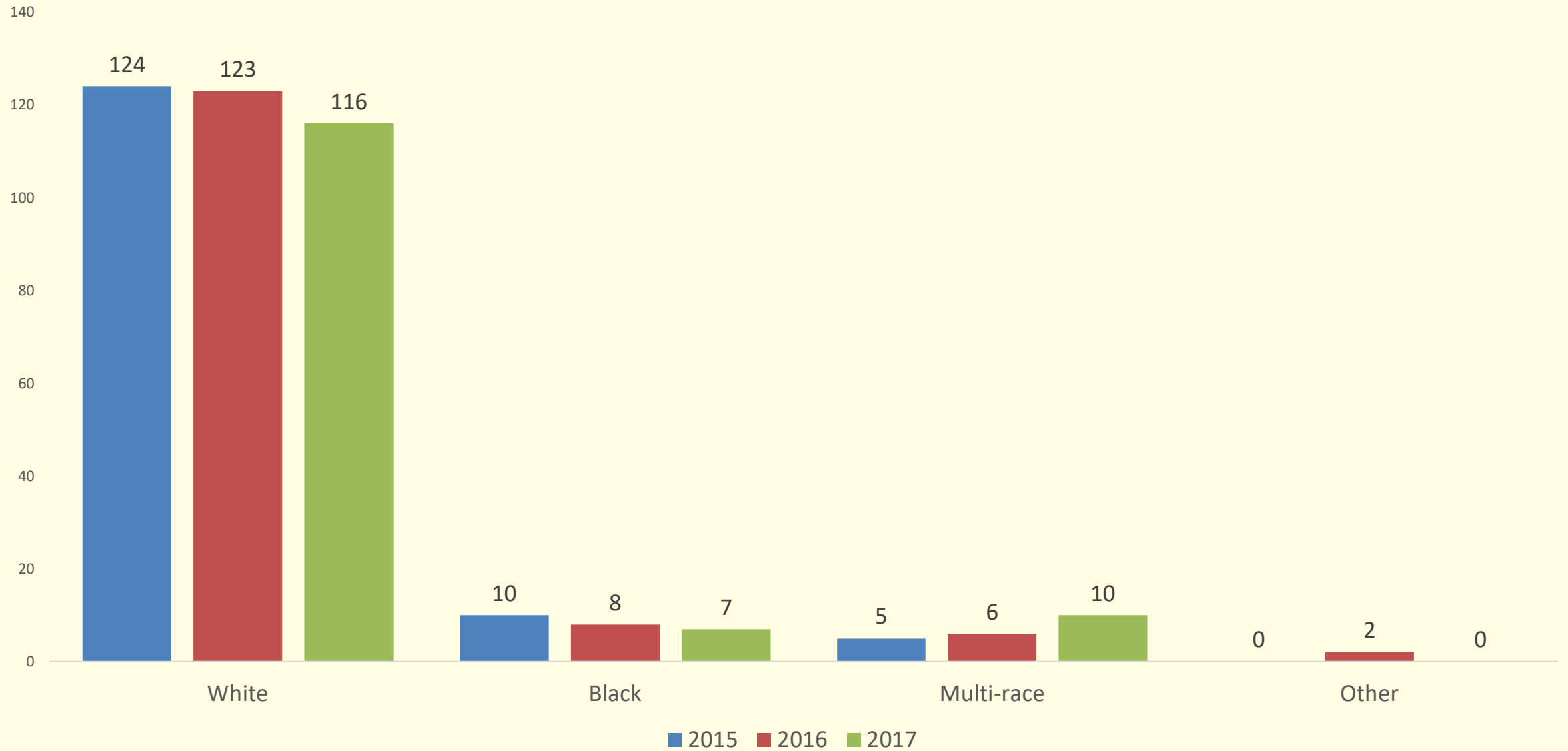
FIMR Process



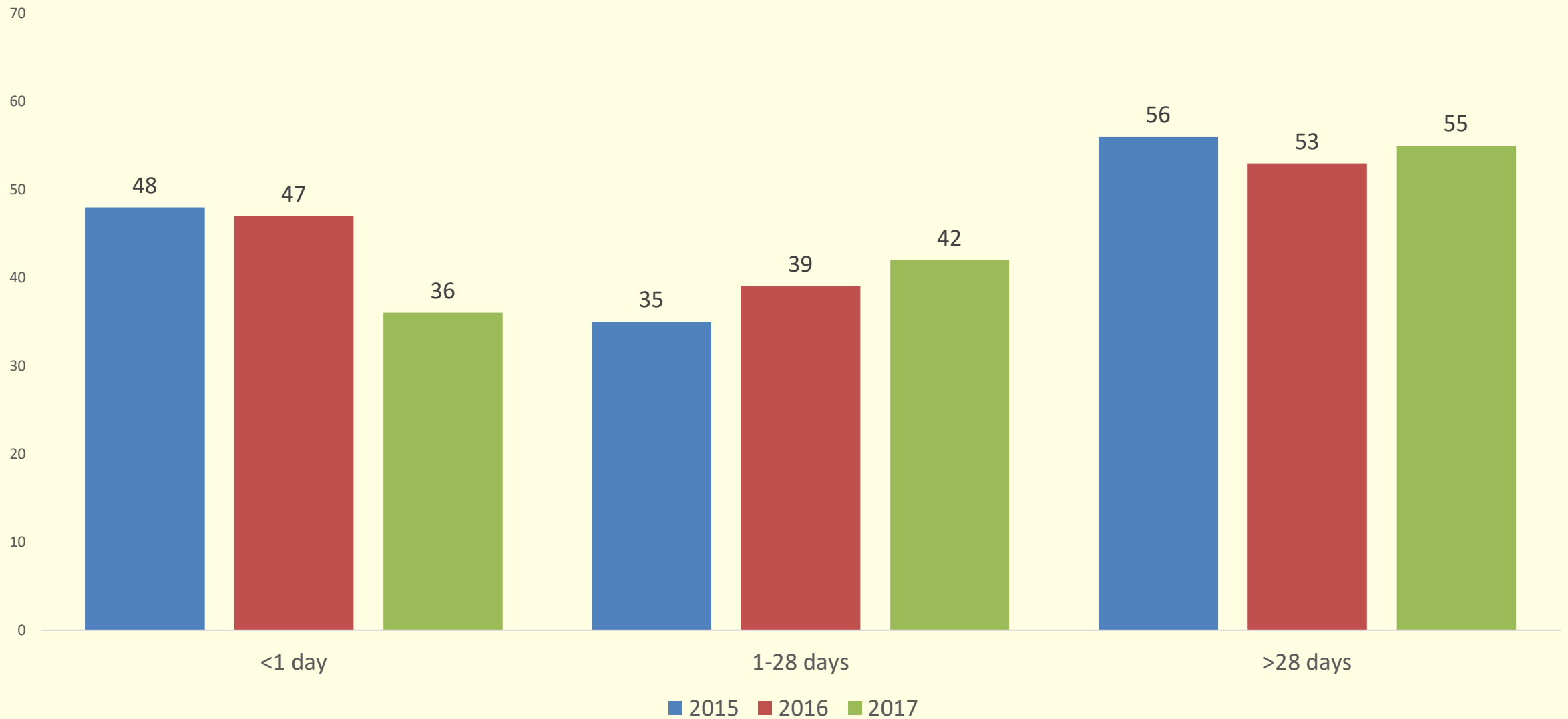
Manner of Death



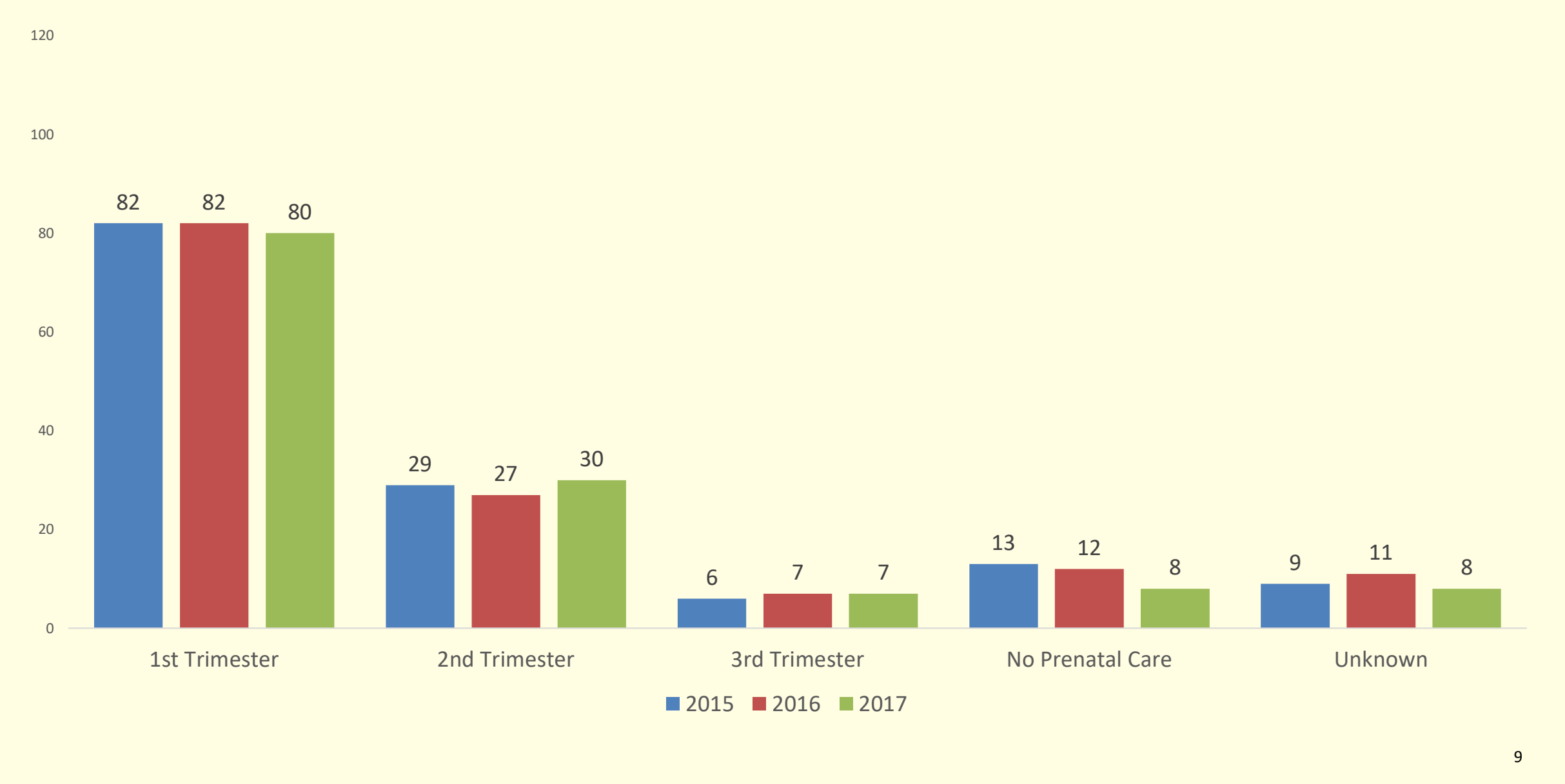
Race of Infant



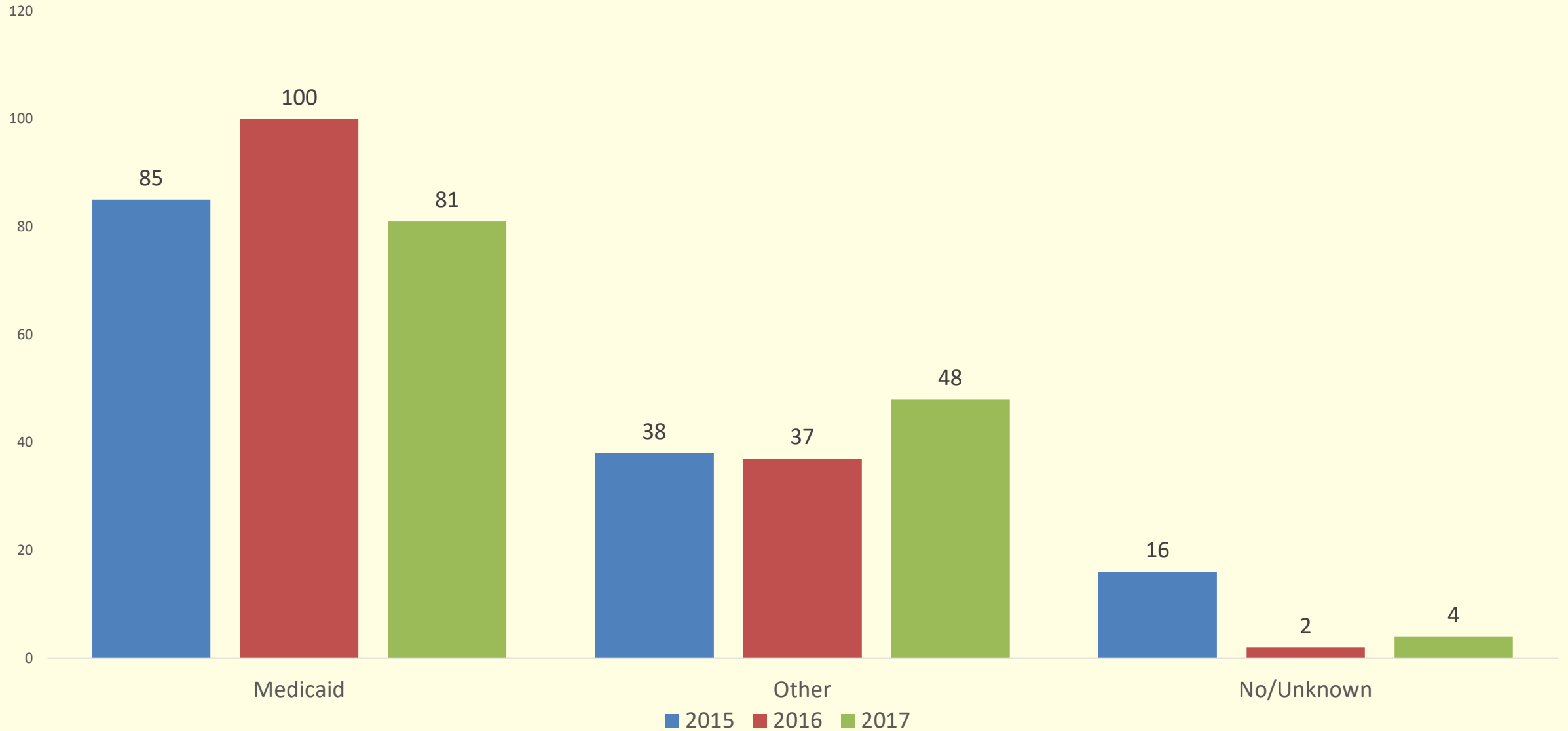
Infant Age at Death (days)



Maternal Prenatal Care



Insurance Coverage



Preventability by Manner 2015

Could the death have been prevented?

Manner	No, Probably Not	Yes, Probably	Could Not Determine	Unknown	Total
Natural	74	2	3	3	82
Accident	3	8	0	0	11
Suicide	0	0	0	0	0
Homicide	0	2	0	0	2
Undetermined	1	17	2	2	22
Pending	0	0	0	0	0
Unknown	16	1	5	0	22
Total	94	30	10	5	139

Preventability by Manner 2016

Could the death have been prevented?

Manner	No, Probably Not	Yes, Probably	Could Not Determine	Unknown	Total
Natural	77	8	4	0	89
Accident	2	3	0	0	5
Suicide	0	0	0	0	0
Homicide	0	1	0	0	1
Undetermined	0	27	3	0	30
Pending	0	0	0	0	0
Unknown	7	1	6	0	14
Total	86	40	13	0	139

Preventability by Manner 2017

Could the death have been prevented?

Manner	No, Probably Not	Yes, Probably	Could Not Determine	Unknown	Total
Natural	67	2	19	0	88
Accident	0	5	1	0	6
Suicide	0	0	0	0	0
Homicide	0	3	0	0	3
Undetermined	1	32	3	0	36
Pending	0	0	0	0	0
Unknown	0	0	0	0	0
Total	68	42	23	0	133

What Does A Safe Sleep Environment Look Like?

The image below shows a safe infant sleep environment.



Baby's sleep area is in the same room, next to where parents sleep.

Use a firm and flat sleep surface, such as a mattress in a safety-approved crib*, covered by a fitted sheet.

Baby should not sleep in an adult bed, on a couch, or on a chair alone, with you, or with anyone else.

Do not smoke or let anyone else smoke around your baby.

Do not put pillows, blankets, sheepskins, or crib bumpers anywhere in your baby's sleep area.

Keep soft objects, toys, and loose bedding out of your baby's sleep area. Make sure nothing covers the baby's head.

Dress your baby in sleep clothing, such as a wearable blanket. Do not use a loose blanket, and do not overbundle.

Always place your baby on his or her back to sleep, for naps and at night.



* A crib, bassinet, portable crib, or play yard that follows the safety standards of the Consumer Product Safety Commission (CPSC) is recommended. For information on crib safety, contact the CPSC at 1-800-638-2772 or <http://www.cpsc.gov>.

Sleep Related Deaths

The screenshot shows a web browser window with the URL <https://data.ncfrp.org/SectionTCIRSleep/Edit/262472>. The browser's address bar and tabs are visible at the top. On the left side, there is a vertical navigation menu with a list of sections: # - Case Definition, A - Child Information, A1 - All Ages, A3 - Infants Under 1 Year, A4 - FIMR Detail, A5 - Caregiver Interview, B - Biological Parents, C - Primary Caregivers, E - Incident, F - Investigation, G - Cause of Death, H8 - Medical Condition, I - Circumstances, I2 - Sleep Related, I3 - Consumer Product, I4 - Another Crime, I5 - CAN/Supervision/Hazard, I7 - Life Stressors, I8 - Deaths During COVID-19 Pandemic, J - Person Responsible, K - Services, L - Findings, M - Review, O1 - Narrative, O2 - FIMR Issues Summary, P - Form Completion, and Save and Exit. The 'I2 - Sleep Related' section is highlighted in orange. Below the menu is the slogan 'Saving Lives Together' with a small image of a child.

The main content area displays 'Section I2: Death Related to Sleeping or Sleep Environment'. It contains two questions:

- ★ 1. Was death related to sleeping or the sleep environment? [Deselect answer](#)
 - Yes
 - No
 - Unknown
- t. Scene re-creation photo available for upload?
 - Upload Image**
 - If scene re-creation image is available for upload, select one photo that demonstrates position and location of child's body and airway (nose, mouth, neck and chest).**
 - Please remember to **blur or crop** any **facial image(s)** contained in the photo to **preserve confidentiality** of any **individual** depicted.
 - Instructions: click on Browse button to find image and then click on Upload Image to save picture.
 - No file selected.

The Windows taskbar is visible at the bottom of the screen, showing the search bar, taskbar icons, and system tray with the date and time: 3:54 PM, 9/27/2022, 64°F, Partly sunny.

FIMR Sleep Related Deaths Variables

- Incident sleep place
- How child was placed to sleep
- How child was found
- Usual sleep positions
- Presence/absence of a safe sleep space
- Whether the child overheated
- Exposure to second-hand smoke
- Position of the child's airway
- Presence of and type of any airway obstruction
- Whether the child was sharing the sleep surface with others

Sleep related deaths - demographics

Sex: Male 50 (59%)

Female 35 (41%)

Race: White 72 (85%)

Black 5 (6%)

Multi-race 8 (9%)

Age: 0-1 month 30 (35%)

2-3 months 22 (26%)

4-5 months 27 (32%)

6-7 months 4

8-11 months 2

Insurance: Medicaid 68 (80%)

Private 14 (16%)

Unknown 3

Sleep related deaths – history

Open CPS case at time of death: 15 (18%)

13 were Medicaid

Infant ever placed outside of home prior to death: 3

Maternal smoking 3 months before pregnancy: 62 (73%)

Maternal smoking during pregnancy: 57 (67%)

Maternal use of any medications, drugs or substances during pregnancy: 77 (91%)

includes OTC, antibiotics, preterm meds, meds at delivery, marijuana, opioids, MAT, antidepressants, diabetes meds, among others

Sleep related deaths – exposure

Infant drug exposed: 27 (32%)

NAS: 22 (26%)

81% of exposed infants had NAS

Infant exposed to second-hand smoke: 51 (60%)

Sleep related deaths with NAS reported (22)

- **19 list Medicaid as insurance coverage**
- **8 had open CPS case at time of death**
- **All were less than 6 months of age at time of death**
- **13 had NICU stays of greater than 1 day**
- **14 were co-sleeping at time of death**

Sleep related deaths – contributing factors

Not in crib, bassinette: 64 (75%)

Not sleeping on back: 54 (64%)

Soft bedding/toys in sleep environment: 60 (71%)

Co-sleeping: 49 (58%)

Adult was alcohol impaired: 2 (2%)

Adult was drug impaired: 7 (8%)

Takeaways

Insurance: Medicaid 68 (80%)

Not in crib, bassinette: 64 (75%)

Soft bedding/toys in sleep environment: 60 (71%)

Not sleeping on back: 54 (64%)

Infant exposed to second-hand smoke: 51 (60%)

Co-sleeping: 49 (58%)

Infant drug exposed: 27 (32%)

Open CPS case at time of death: 15 (18%)

Strengths of the FIMR Data System

Captures:

- Every WV resident infant death
- Charts abstracted by Nurse Reviewers
- Web-based surveillance system
- Cost-effective (no charge to participate)
- Section for discussion and recommendations

Challenges



Timeliness of
data



Access to out-
of-state charts

Challenges

- Balancing the need to use the data in a variety ways and maintain appropriate confidentiality.
- Using the data to facilitate quality improvement opportunities in facilities.

Next Steps

- Address additional access options.
- Assess quality improvement cycle.
- Identify possible training needs.
- Continued collaboration with key informants.

PRAMS Demographics

Race of Mother 2016-2020	Percentage% (weighted)	n (weighted)
White	92.84	73268
Black	3.41	2691
Mixed Race	2.00	1580
Other	1.64	1292
Unknown	0.11	89

Medicaid 2016-2020	Percentage% (weighted)	n (weighted)
Yes	50.66	39979
No	48.89	38580
Unknown	0.46	361

PRAMS Back (supine) Placement

Race of Mother 2016-2020	Percentage% (weighted)	n (weighted)
White	86.95	61764
Black	70.16	1836
Mixed Race	84.33	1295
Other	81.79	1024
Unknown	81.04	30

Medicaid 2016-2020	Percentage% (weighted)	n (weighted)
Yes	84.08	32242
No	88.31	33362
Unknown	97.57	344

PRAMS-Provider Recommended Sleep

Race of Mother 2016-2020	Place infant on back	Place infant in crib/bassinet/pack and play	Place infant bed/crib in my room	Items that should and should not go in bed with infant
White	95.65% (n=67714)	93.05% (n=65753)	60.70% (n=42562)	91.71% (n=64777)
Black	96.33% (n=2489)	92.28% (n=2412)	62.42% (n=1610)	93.74% (n=2454)
Mixed Race	89.18% (n=1368)	86.87% (n=1333)	69.47% (n=1042)	89.33% (n=1327)
Other	95.39% (n=1194)	90.29% (n=1099)	63.54% (795)	89.30% (n=1090)
Unknown	100% (n=37)	100% (n=37)	80.92% (n=30)	100% (n=37)

Medicaid 2016-2020	Place infant on back	Place infant in crib/bassinet/pack and play	Place infant bed/crib in my room	Items that should and should not go in bed with infant
Yes	94.82% (n=36182)	93.93% (n=35739)	62.23% (n=23525)	92.58% (n=35194)
No	96.22% (n=36268)	91.70% (n=34541)	59.56% (n=22240)	90.84% (n=34180)
Unknown	100% (n=353)	100% (n=353)	78% (n=275)	88.41% (n=312)

PRAMS- Sleep environment

Race of Mother 2016-2020	Baby slept in crib/bassinet/pack and play	Baby slept with blanket	Baby slept with toys, cushions, or pillows	Baby slept with bumper pads (mesh or non mesh)
White	92.64% (n=65662)	54.34% (n=38115)	9.61% (n=6747)	19.56% (n=13724)
Black	80.91% (n=2118)	64.99% (n=1627)	22.44% (n=552)	23.24% (n=572)
Mixed Race	84.64% (n=1299)	70.67% (n=1082)	16.69% (n=255)	18.81% (n=289)
Other	86.44% (n=1055)	46.42% (n=548)	17.92% (n=205)	18.14% (n=208)
Unknown	100% (n=37)	74.54% (n=28)	23.9% (n=9)	7.29% (n=3)

Medicaid 2016-2020	Baby slept in crib/bassinet/pack and play	Baby slept with blanket	Baby slept with toys, cushions, or pillows	Baby slept with bumper pads (mesh or non mesh)
Yes	92.41% (n=35018)	64.33% (n=24398)	12.90% (n=4882)	22.74% (n=8587)
No	92.50% (n=34806)	45.21% (n=16779)	7.75% (n=2882)	16.47% (n=6130)
Unknown	98.44% (n=347)	62.95% (n=222)	1.14% (n=4)	21.86% (n=77)

PRAMS- Infant Sleeps Alone in Own Crib or Bed

Race of Mother 2016-2020	Always	Often/Almost Always	Sometimes	Rarely	Never
White	66.53% (n=47170)	15.98% (n=11327)	6.99% (n=4953)	4.44% (n=3150)	6.06% (n=4299)
Black	50.61% (n=1325)	17.38% (n=455)	11.54% (n=302)	2.01% (n=53)	18.46% (n=483)
Mixed Race	44.67% (n=686)	28.87% (n=443)	8.99% (n=138)	7.23% (n=111)	10.24% (n=157)
Other	56.26% (n=704)	20.69% (n=259)	6.70% (n=84)	2.67% (n=33)	13.68% (n=171)
Unknown	85.24% (n=32)	14.76% (n=6)	0	0	0

Medicaid 2016-2020	Always	Often/Almost Always	Sometimes	Rarely	Never
Yes	63.21% (n=24212)	15.98% (n=6121)	9.17% (n=3513)	4.85% (n=1858)	6.8% (n=2603)
No	67.41% (n=25403)	16.80% (n=6332)	5.19% (n=1956)	3.95% (n=1489)	6.64% (n=2502)
Unknown	85.47% (n=302)	10.54% (n=37)	2.43% (n=9)	0	1.56% (n=6)



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