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Background

Three babies die in unsafe sleep environments every week in Ohio. During 2012-2016, 714 infant deaths were sleep-related. If all sleep-related deaths were prevented, the overall Ohio infant mortality rate for 2016 would have been reduced from 7.4 to 6.6 deaths per 1,000 live births. The reduction is larger when observing the difference in infant mortality rates among black babies with and without sleep-related deaths (15.2 to 13.0) (Figure 1).

Figure 1: Ohio Black Infant Mortality Rates, Actual and with Sleep-Related Deaths Eliminated, 2012-2016

Mothers that practiced the A B C’s of safe sleep: **Alone, Back, and Crib**

The Ohio Department of Health has followed the American Academy of Pediatrics (AAP) safe sleep recommendations and updates since they were released in 1992: **A is for Alone, B is on the Back, and C is for in a Crib.** In 2016 (Figure 2):

- 64.0 percent of Ohio mothers always put their baby to sleep alone, below the State Health Improvement Plan (SHIP) target of 84.1 percent.
- 82.8 percent of Ohio mothers most often put their baby to bed on their backs, above the Healthy People 2020 (HP2020) target of 75.8 percent.
- 91.6 percent of Ohio mothers report usually putting their baby to bed in a crib.

**Figure 2.**
Percent of Ohio mothers Who Placed Her Infant to Bed **Alone, On His or Her Back, or In a Crib**, 2016

Source: Ohio Pregnancy Assessment Survey, 2016
Mothers that placed their baby to sleep *Alone*

In 2016, the proportion of mothers who put their baby to bed alone varied by race and ethnicity from 46 percent to 74 percent (Figure 3). Fewer black mothers compared to other races, put their baby to sleep alone. 74.2 percent of Hispanic mothers and 68.7 percent of white mothers reported putting their baby to sleep alone compared to only 45.8 percent of black mothers.

**Figure 3.**
Racial differences among Ohio mothers always putting their baby to sleep alone, Ohio 2016

![Bar chart showing racial differences in putting baby to sleep alone](image)

Source: Ohio Pregnancy Assessment Survey, 2016
The percentage of mothers that reported always putting their baby to sleep alone were also highest among women 35 years of age and older, college educated, had not received WIC benefits, and had private paid prenatal care (Figure 4).

**Figure 4:** Maternal Characteristics of Ohio mothers who reported always putting baby to sleep alone, Ohio 2016

*Source: Ohio Pregnancy Assessment Survey, 2016*
Mothers that placed their baby to sleep on their Back

Since the national Safe to Sleep® media campaign (formerly known as Back to Sleep campaign) launched in 1994, the percent of babies placed on their back to sleep has increased. In 2016, the majority of Ohio mothers put their baby on his or her back to sleep (82.8 percent) rather than on his or her side or stomach (Figure 5). This is the safest position in which the baby should sleep.

From 2004 to 2016, there has been an overall significant increase in the percent of Ohio mothers who are placing their infants on the back to sleep, from 54.3 percent in 2004 to 82.8 percent in 2016 (Figure 5). This translates to an average of 2.1 percent increase per year, and an absolute increase of 28.4 percent for all mothers in Ohio. Additionally, there has been increases among each race-ethnicity group in mothers placing their infants on their back to sleep:

- White mothers improved from 70.9 percent in 2004 to 83.4 percent in 2016.
- Black mothers improved from 41.7 percent in 2004 to 77.4 percent in 2016.
- Other race mothers improved from 63.8 percent in 2004 to 82.8 percent in 2016.
- Hispanic mothers improved from 54.1 percent in 2004 to 89.4 percent in 2016.

There has been significant progress in reducing the disparity between other, black and white mothers in placing the baby on his or her back. In 2004, the percent of black mothers who placed their infants on the back to sleep was 58.8 percent lower than white mothers (41.7 percent vs 70.9 percent, respectively). In 2016, the percent of black mothers who placed their infants on the back to sleep was 7.8 percent lower than white mothers (77.4 percent vs 83.4 percent, respectively). However, there continues to be fewer black mothers than other races, placing their infants on the back to sleep (Figure 5).
Improvements were also seen for those women who had Medicaid insurance coverage during prenatal care (28.5 percent in 2004 to 78.5 percent in 2016). Although improvements have been made, in 2016, the prevalence of women who reported putting their baby to sleep on his or her back with Medicaid insurance coverage during prenatal care was lower compared to mothers with private paid insurance (78.5 percent vs. 86.3 percent, respectively) (Figure 6).
Figure 6: Maternal Characteristics of Ohio mothers who reported always putting baby to sleep on his/her back, Ohio 2016

Source: Ohio Pregnancy Assessment Survey, 2016
Mothers that placed their baby to sleep in a Crib

In 2016, the percentage of mothers placing their baby to sleep in a crib was 91.6 percent. This percentage varied by race and ethnicity (Figure 7), with Hispanic mothers having the highest percentage at 96.1 percent and other mothers having the lowest percentage at 89.0 percent. The percentage of mothers reporting always placing their baby to sleep in a crib was similar for white (91.7 percent) and black (91.0 percent) mothers.

Figure 7.
Racial differences among Ohio mothers always putting their baby to sleep in a crib, Ohio 2016

Maternal Characteristics other than race are associated with the percentage of mothers reporting always putting their baby to sleep in a crib such as prenatal care insurance (Figure 8). The highest percentage was observed among mothers who had private paid health insurance for prenatal care (92.4 percent), followed by women who had Medicaid insurance coverage during prenatal care (90.8 percent). Women who were uninsured during prenatal coverage reported the lowest percentage of putting their baby to sleep in a crib (88.6 percent).
Other safe sleep recommendations

The American Academy of Pediatrics advises against mothers smoking, using alcohol, and using illicit drugs during and after pregnancy; all of which increases the risk of sudden infant death syndrome (SIDS) and sleep-related deaths. The use and exposure of these substances, in addition to not practicing the recommendations of baby sleeping alone, on his/her back, and in a crib, provide even more dangerous situations and reduce the safety of sleep environments. The overall use of these substances as reported by Ohio mothers on the 2016 OPAS: smoking* 46.7 percent, alcohol use+ 9.3 percent, and illicit drug use^ 2.3 percent.

In 2016, fewer mothers that smoked, drank alcohol, or used illicit drugs (61.9 percent, 61.0 percent, 60.4 percent, respectively) reported putting their baby to sleep alone compared to those that didn’t report smoking, drinking alcohol, or using illicit drugs (64.6 percent, 64.1 percent, and 64.5 percent, respectively) and all Ohio mothers (64.0 percent) (Figure 9). In 2013-2017, the Ohio Child Fatality Review (CFR) indicated that of the 361 cases of bed-sharing with an adult or adult and another child, 11 percent of the supervisors were impaired by alcohol or drugs. The CFR report also found that 35 percent (242 infant deaths) of all infant sleep-related deaths reported secondhand smoke exposure.

Over 80 percent of Ohio mothers reported putting their babies to sleep on his/her back (82.8 percent). The percentage of mothers who smoked and reported putting their baby on his/her back to sleep was lower than the percentage of mothers who reported not smoking (75.8 percent vs 88.8 percent)(Figure 9).

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Source: Ohio Pregnancy Assessment Survey, 2016
Also, fewer mothers who smoked during pregnancy (87.3 percent) reported placing their baby to sleep in a crib compared to mothers who didn’t smoke (94.8 percent) (Figure 9).

**Figure 9.**
Percent of Ohio mothers who reported use of cigarettes, alcohol, or illicit drugs by safe sleep practices (Alone, On His or Her Back, or In a Crib), 2016

*Among those who stated they had an alcoholic drink within the past 2 years, percentage that drank alcohol within last 3 months of pregnancy
*Among those who stated they smoked cigarettes within the past 2 years, percentage that smoked within last 3 months of pregnancy
^ Among those who stated they used an illicit drug (heroin, cocaine, amphetamines, hallucinogens) one month before pregnancy

Data Interpretation Example: Overall 64.0 percent of Ohio mothers reported putting their baby to sleep alone. 61.9 percent of mothers that drank alcohol reported putting their baby to sleep alone, 61.0 percent of mothers that smoked cigarettes reported putting their baby to sleep alone, and 60.4 percent of mothers that used illicit drugs reported putting their baby to sleep alone.
Receiving prenatal care and breastfeeding have also been identified by the American Academy of Pediatrics as protective practices to prevent sleep-related deaths (Figure 10). Among all Ohio mothers, 86 percent reported receiving first trimester prenatal care and 84.5 percent reported ever breastfeeding.

**Figure 10.**
Percent of Ohio mothers who reported receiving prenatal care and breastfeeding by safe sleep practices (Alone, On His or Her Back, or In a Crib), 2016

Data Interpretation Example: Overall 64.0 percent of Ohio mothers reported putting their baby to sleep alone. 64.2 percent of mothers that received first trimester prenatal care reported putting their baby to sleep alone and 61.5 percent of mothers that ever breastfed reported putting their baby to sleep alone.
Other safe sleep practices by Ohio mothers, OPAS 2016

In 2016, Ohio mothers said they practiced the following safe sleep practices:

<table>
<thead>
<tr>
<th>Practice</th>
<th>White Mothers</th>
<th>Black Mothers</th>
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<tr>
<td>My baby slept without a blanket</td>
<td>51%</td>
<td>46%</td>
</tr>
<tr>
<td>My baby slept without crib bumper pads</td>
<td>81%</td>
<td>84%</td>
</tr>
<tr>
<td>My baby slept without toys, cushions or pillows</td>
<td>92%</td>
<td>92%</td>
</tr>
<tr>
<td>My baby slept in a crib, bassinet, or pack and play</td>
<td>92%</td>
<td>91%</td>
</tr>
<tr>
<td>My baby’s crib was in the same room with mother</td>
<td>56%</td>
<td>81%</td>
</tr>
<tr>
<td>My baby did not sleep on a couch, sofa, or armchair</td>
<td>93%</td>
<td>86%</td>
</tr>
<tr>
<td>Baby did not sleep in a car seat</td>
<td>52%</td>
<td>58%</td>
</tr>
<tr>
<td>Baby slept on a mattress smaller than a twin or larger bed or mattress</td>
<td>52%</td>
<td>58%</td>
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In 2013-2017, Ohio’s CFR identified blankets in 72 percent of the infant sleep-related deaths where an object was found in the crib or bassinet. The American Academy of Pediatrics indicates crib bumpers pose a risk of suffocation, entrapment, and strangulation and therefore recommend keeping these items out of the baby’s crib.

During 2013-2017, Ohio’s CFR identified objects in 83 percent of infant sleep-related deaths in which a crib was indicated as the incident location.

Ohio’s CFR identified bed sharing in 52 percent of infants sleep-related deaths (2013-2017). It is important for babies to have their own firm sleeping surface.

The American Academy of Pediatrics advises against placing babies to sleep on surfaces other than the infant’s crib as it presents the risk for sudden death.

During 2013-2017, Ohio’s Child Fatality Review identified 43 percent of infant sleep-related deaths occurred on an adult bed.

Other safe sleep practices occurred from 37 percent to 92 percent of the time.
ODH Infant Safe Sleep Program

Since 2014, ODH has supported the distribution of free Cribs for Kids® survival kits that include Graco® Pack ‘n Plays or Cribettes to Ohio families who may otherwise be unable to afford safe cribs. A network of Cribs for Kids® partners providing cribs and safe sleep education was established in Ohio through these efforts. During 2016, Ohio strengthened the screening and referral process for the Cribs for Kids® program.

The safe sleep spaces provided are available to parents and caregivers in need of a safe sleep environment and education for their infant. ODH funded agencies collaborate with hospitals and other organizations to provide education and distribute the cribs. These programs help to support the Ohio Infant Safe Sleep Law (Ohio Revised Code 3701.67 enacted by Am. Sub. S. B. 276 of the 130th Ohio General Assembly) established May 2015. As part of this law, birthing centers and hospitals, excluding critical access hospitals, are required to screen new parents and caregivers prior to discharge to determine if the infant has a safe sleep environment at their residence. If the infant is determined not to have a safe sleep environment per this screening, the facility assists the family in obtaining a safe crib at no charge.

The Ohio Infant Safe Sleep Law (Ohio Revised Code 3701.66 and 3701.67) also established the Safe Sleep Education Program, which includes the development and distribution of infant safe sleep educational materials by ODH. These materials are developed based on the AAP recommendations for a safe infant sleeping environment and are available at no cost for various facilities and locations throughout Ohio including child birth educators, physician offices, birthing centers and hospitals for distribution to expectant parents, parents/caregivers of infants and employees.

A public health awareness campaign first launched in 2014 by ODH also promotes infant safe sleep practices to reduce the number of Ohio babies who die in unsafe sleep environments. The campaign targets parents, grandparents and others with educational messages about the ABCs of infant safe sleep practices based on the AAP recommendations. Campaign messages were developed based on input from a series of Ohio focus groups with parents.

ODH works with a number of partners on its various initiatives related to safe sleep, including the Ohio Injury Prevention Partnership Community Injury Action Group, the Ohio Hospital Association, and the Ohio Chapter of the American Academy of Pediatrics, among many others. ODH is committed to reducing rates of infant mortality, sleep-related infant deaths and related disparities in Ohio.
Crib Safety Messaging for Ohio moms

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

Do not use 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.

- 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 smoke around your baby.

Data Sources and Methods

This report contains data from the 2016 Ohio Pregnancy Assessment Survey and 2004-2015 Ohio Pregnancy Risk Assessment Monitoring System data sets. The Pregnancy Risk Assessment Monitoring System (PRAMS) is a population-based survey designed by the Centers for Disease Control and Prevention’s (CDC’s) to examine maternal behaviors and experiences before, during and after a woman’s pregnancy, and during the early infancy of her child. The Ohio Pregnancy Assessment Survey (OPAS) is the Ohio-specific continuation of the Pregnancy Risk Assessment Monitoring System (PRAMS), also designed to examine maternal behaviors and experiences before, during and after a woman’s pregnancy, and during the early infancy of her child. The datasets only include Ohio mothers with a live birth. Access more information regarding OPAS and PRAMS at Ohio Department of Health’s website (www.odh.ohio.gov).

Trend analyses were conducted using Joinpoint software, which tests for significant trends over time and identifies time points where changes in trends occur.

Ohio’s State Health Improvement Plan (SHIP) provides specific goals and strategies designed to achieve measurable improvements on key health priorities. These priorities were developed with input from many state and local-level stakeholders, the 2017-2019 SHIP serves as a strategic menu of priorities, objectives and evidence-based strategies to be implemented by state agencies, local health departments, hospitals, community partners, and other sectors beyond health including housing, education, and regional planning.

Definitions
Race: infants and mothers identified as black, white, and other race, excludes those of Hispanic ethnicity.

References

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