MARYLAND TITLE V MATERNAL AND CHILD HEALTH 5-YEAR NEEDS ASSESSMENT

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EXECUTIVE SUMMARY

The Title V Maternal and Child Health Services Block Grant Program is funded by the U.S. Department of Health & Human Services, Health Resources and Services Administration (HRSA). The grant helps Maryland fund programs that promote and improve the health and well-being of mothers, children, including children and youth with special health care needs, and their families.

Grant activities focus on the needs of five populations, although many programs address the needs of several of the following groups:

1. Women, Pregnant Women, and Mothers
2. Infants
3. Children
4. Adolescents
5. Children and Youth with Special Health Care Needs

The purpose of this assessment is to: 1) assess the health status and needs of MCH population groups and the State's capacity to provide needed MCH services; 2) determine priority needs; as well as objectives and strategies to address priority needs; 3) select a set of national performance priorities and measures; and 4) lay out a five-year Action Plan (2021-2025) for the Title V Agency.

This document outlines the research and reporting activities associated with the 2020 Needs Assessment and development of the five-year plan that will include program activities for years 2021 to 2025.

Women's and Maternal Health

Women's and maternal health are important predictors of an overall population's health, not only because it affects a large portion of the population, but also because of its effects on the health of future generations. The needs presented reflect the broader general priority areas which are most important for women and maternal health include: access to women's and maternal health care, mental health, substance use, intimate partner violence, cesarean deliveries and maternal mortality and morbidity.

Insurance Coverage

Maryland is a Medicaid Expansion state and over the past four years, Maryland residents have enjoyed significantly higher rates of health care coverage, including private health insurance, prepaid plans such as HMOs, and government plans such as Medicare and Indian Health Service, as compared to other states and national averages. Women have had slightly higher rates of coverage than men both within Maryland and nationally. Currently, about 95% of Maryland women have some type of healthcare coverage, compared with 91% nationally.

Maryland women are more likely to have visited a doctor for a routine checkup within the past year, a gap that is increasing as the national rate declines. Additionally, a higher percentage of Maryland women had a mammogram as compared with the national average (80% and 74.7%, respectively).

Maryland is ranked number 5 out of 51 (including Washington D.C.) for providing access to mental health services.

Substance Use

In 2018, females were less likely to die of drug- and alcohol-related intoxication death than their male counterparts (640 vs. 1,766, respectively). However, both genders are seeing an increasing trend.

Since 2015, roughly half of Maryland women reported having an alcoholic drink in the past 30 days. Consistent with the national trend, approximately 5% of Maryland women reported having had more than seven drinks per week.

According to the CDC, smoking is the leading cause of preventable death. In 2018, women in Maryland reported smoking less frequently than the national trend (69.1% and 64.0 respectively). Approximately 30% of Maryland women reported smoking at least some days.

Although a smaller percentage of women used e-cigarettes or vaping products in 2016 as compared to the nation overall, in 2018 a slightly higher percentage of Maryland women reported that they currently use e-cigarettes or vaping products (7.0% vs. 6.7%, respectively.)

Intimate Partner Violence

In Maryland in 2017, 3.3% of women experienced interpersonal violence during the 12 months before pregnancy by a husband or partner and/or an ex-husband or partner compared with 3.0% nationally. This is an increase from 2.9% in 2016. 2.9% of Maryland women experienced interpersonal violence during pregnancy by a husband or partner and/or an ex-husband or partner, up from 2.2% in 2016, although this difference is within the margin of error.

Maternal Mortality and Morbidity

As part of the state priority need of optimizing the health and wellbeing of girls and women across the life span using preventive strategies, reducing maternal mortality was a goal of the previous Title V planning cycle.

The MMR rates for 2012-2017 show that the Maryland MMR is 23.0 deaths per 100,000 live births. This is significantly less than the national rate of 28.4. Between the two 5-year periods, the U.S. MMR increased by 37.2 percent whereas the Maryland rate decreased by 7.6 percent. Both, however, remain above the Healthy People 2020 Objective of 11.4 maternal deaths per 100,000 live births.

Considerable racial disparities persist in maternal mortality. Nationally, Black women have an MMR that is 2.4 times higher than that of White women, a disparity that has persisted since the 1940s. In Maryland, the MMR for white women decreased by 6.4% in the period since 2007-2011, whereas the MMR for Black women increased by 7.6%, exacerbating the racial disparity. The 2012-2016 Black MMR is 3.7 times the White MMR. Given this racial disparity, it appears that the recent decrease in the Maryland's MMR is attributable solely to the decrease in the White MMR.

Perinatal and Infant Health

The priorities and concerns for this population include prenatal care, preterm birth, low birthweight and very low birthweight, infant mortality, risk-appropriate perinatal care, breastfeeding, smoking in pregnancy and safe sleep.

Prenatal Care

Prenatal care is defined as the health care received while pregnant and includes checkups and prenatal testing. Babies of mothers who do not receive prenatal care are three times more likely to have a low birth weight and five times more likely to die than babies born to mothers who do receive care. Early and regular care reduces the risk of pregnancy complications and optimizes the likelihood of healthy outcomes.

In 2017, Maryland women began prenatal care in the first trimester more often than the national percentage (86.9% and 84.4%, respectively). Women in Maryland also received a flu shot in the 12 months before birth more frequently than the national percentage (63.4% and 58.9% respectively). These two measures represented statistically significant differences. Consistent with the national trend, most women in Maryland (90.2%) had a maternal postpartum checkup and about two-thirds (65.1%) received a health care visit in the 12 months before pregnancy.

Preterm Birth

Preterm is defined as babies born alive before 37 weeks of pregnancy are completed. There are additional sub-categories of preterm birth, based on gestational age. These include Extremely Preterm (less than 28 weeks), Very Preterm (28 to 32 weeks) and Moderate to Late Preterm (32 to 37 weeks).

Over the last decade, Maryland has consistently remained at approximately 10% for preterm birth rates. While the national trend is more downward than that of Maryland, it remains higher. In 2018, Maryland reported 1.4% less preterm births than the national average.

When looking at preterm birth rates by race and ethnicity, Black babies have the highest rate of preterm birth (12.9%). Hispanic babies have the second highest rate of preterm birth (9.3%), with Asian/Pacific Islander and White babies closely behind (8.9% and 8.8%, respectively). Maryland's racial and ethnic disparity is consistent with what is seen nationwide, where in 2018 Black women had a 50% higher rate of preterm birth than White women.

Low Birthweight and Very Low Birthweight

Low birthweight is when a baby is born weighing less than 5 pounds, 8 ounces (2,500 grams), while very low birthweight is when a baby is born weighing less than 3 pounds, 5 ounces (1,500 grams). In 2018, nationally, 8.3% of live births resulted in low birthweight infants, while 1.4% of live births resulted in very low birthweight infants.

The incidence of low birth weight infants was 8.9% in 2018, which represented no change from the 2017 rate. Maryland's percentage of low birth weight infants has remained consistent over the last decade, with a slightly higher percentage than the national average. Reducing low birthweight to 7.8% of live births is a Healthy People 2020 objective.

When looking at low birth weight and very low birthweight by race and ethnicity, non-Hispanic Black infants represented the largest percentage (12.5% and 2.9%, respectively), while Hispanic infants and non-Hispanic White infants were comparable at 6.9% and 6.8%, respectively for low birth weight, and 1.2% and 1.1% respectively for very low birth weight. Maryland's racial and ethnic disparity is consistent with the national averages for all three groups.

Infant Mortality

Infant mortality, or the death of a baby before its first birthday, is an important indicator of the general health status of a population and can be seen as a broad proxy measure of socioeconomic status and the availability and quality of healthcare services within a community. Infant mortality is broken into two sub-categories: Neonatal mortality rate, the death of a baby in the first 28 days, and post neonatal mortality, the death of a baby between 28 and 364 days of age.

The total number of infant deaths declined between 2017 and 2018, from 462 to 432, along with the number of births. In 2018, Maryland's infant mortality rate was 6.1% per 1,000 live births, a 6% decline compared with 2017, which represents the lowest rate ever recorded in Maryland. The neonatal mortality rate and post neonatal mortality rates both declined slightly between 2017 and 2018 as well. The neonatal mortality rate was 4.2 per 1,000 live births compared to a rate of 4.4, while the post neonatal mortality rate was 1.9 per 1,000 live births compared to a rate of 2.0.

Although the average infant mortality rate has fallen by 4% in Maryland over the last decade, with an 8% decline for Non-Hispanic Black infants and a 2% decline for Non-Hispanic White infants, the Hispanic infant mortality rate has unfortunately increased by 15%.

There were 231 (10.2%) deaths among infants born to non-Hispanic Black women, 123 (4.1%) deaths among infants born to non-Hispanic White women, 47 (3.8%) deaths among infants born to Hispanic women, and 25 deaths among infants born to non-Hispanic Asian women.

Safe Sleep

According to the CDC, unsafe sleep practices in babies are common in the US. In 2015, 22% of babies were not placed on their backs to sleep, 61% of babies shared beds and 39% of babies were placed to sleep with soft bedding. In each of these three cases, teen and young mothers had higher rates of unsafe sleep practices. Furthermore, there was a discrepancy by race and ethnicity as well. Not placing babies on their backs was more common with non-Hispanic Black babies (38%). Bed sharing was more common with American Indian or Alaska Native, non-Hispanic Black, and Asian or Pacific Islander babies (84%, 77% and 77%, respectively).

In 2017, Maryland reported an increase in the percentage of infants placed to sleep on their backs (78.2%), which is slightly less than the national average. Maryland reported an increase in the percentage of infants placed to sleep on a separate approved sleep surface (29%), which was approximately 4% lower than the national average. With regard to the percentage of infants placed to sleep without soft objects or loose bedding, Maryland reported an increase of 51.6%, which is higher than the national average.

Child Health

Child's health includes physical, mental and social well-being. A child should get enough sleep, exercise and eat nutritious healthy foods, as well as receive regular checkups with their healthcare provider.

The priorities for child health include immunizations, developmental screenings, well-child/preventive visits for young adults, medical home and injury hospitalization.

Immunizations

Immunization of young children is a positive predictor of avoidance of illness, death, disability, or developmental delays associated with immunization-preventable diseases. Maryland's immunization rates are higher than the national average for children aged 19 through 35 months. For 2019, Maryland's immunization rate was 75.2%, well above the national rate of 70.4%. The Healthy People 2020 Goal for Immunizations is 90%. During the COVID-19 pandemic, childhood immunizations have decreased compared to the year before. In April 2020, there was a 46% decrease in immunizations compared to April 2019[1].

Developmental Screening

Developmental screenings provide a close look at how a child is developing through a test or a parent completed questionnaire. In 2017-18, 34.7% of Maryland parents completed the developmental screening questionnaire, as compared with 33.5% nationally. In 2018 nationally, 35.1% of Hispanic parents completed the questionnaire, 37.4% of white non-Hispanic parents, 24.3% of Black parents. African American families are less likely to complete developmental screenings. Breakdowns by racial groups and ethnicities are not available for the state of Maryland.

Medical Home

The Medical Home, also known as Patient or Family Centered Medical Home, is an approach to providing comprehensive primary care that facilitates partnerships between patients, clinicians, medical staff, and families. The medical home is "patient-centered, comprehensive, team-based, coordinated, accessible and focused on quality and safety."

In 2018, Maryland saw a reduction in the percentage of children with and without special health care needs, ages 0 through 17, who met the criteria for having a medical home. With both populations, Maryland's percentage was higher than the national average (50.6% vs. 42.7% and 49.7% vs. 49.4%, respectively).
Among children with special health care needs, Black children were more likely to meet the criteria for a medical home than other races, at 55.8%. Among children without special health care needs, Non-Hispanic White children were more likely to meet the criteria for a medical home than other races, at 60.5%.

Adolescent Health

The needs which reflect the broader general priority areas which are most important for adolescent and young adult health include: teen pregnancy and reproductive/sexual health, substance use, mental health, overweight/obesity and physical activity, bullying and adolescent preventive visits.

Overweight/Obesity and Physical Activity

In 2017, Maryland's obesity rate for 10-17-year-olds was 14.5%, a decrease from 15.7% in 2016. This was slightly below the national obesity rate of 15.3%. Maryland was below the US average with obesity, overweight and adolescents describing themselves as either slightly or very overweight. Among

[1] Maryland Immunet

Maryland high school students, 27.1% described themselves as overweight, as compared with 31.5% nationally and 12.6% had obesity, as compared with 14.8% nationally. A similar percentage were overweight (15.2% vs. 15.6%, respectively.)

Non-Hispanic Black and Hispanic adolescents were more likely to be either overweight or obese, followed by non-Hispanic White adolescents and lastly Asian adolescents. Interestingly, when asked if they describe themselves as slightly or very overweight, roughly one in four agreed across the board, with the exception of Hispanic adolescents who were slightly higher at 32.8%.

In 2017, 21.6% of Maryland high school students reported not being physically active (any kind that increased their heart rate and made them breathe hard some of the time) for a total of at least 60 minutes on at least one day during the last seven days, higher than the national average of 15.4%. Similarly, 64.8% reported not being physically active at least 60 minutes on five or more days, higher than the average of 53.5%. 82.1% reported not being physically active at least 60 minutes on all 7 days, higher than the national average of 73.9%. 84.7% of Maryland high school students reported not going to PE classes on all 5 days, almost 15% higher than the national average.

When looking at high school physical activity by race and ethnicity, non-Hispanic Black and Hispanic adolescents reported not being physically active for at least 60 minutes at least one day the most (27.4% and 26.6%, respectively). This was followed by Asian adolescents (22.4%) and non-Hispanic White adolescents (15.7%).

Mental Health

Depression is a leading risk factor for suicide among high school students residing in Maryland. According to the 2017 YRBSS, 29.9% of Maryland high school students felt so sad or hopeless for two or more weeks in a row that they stopped doing usual activities. While slightly lower than the national average, this is an increase since 2007. Females were more likely to report feeling sad or hopeless than their male counterparts (38.7% and 21.0%, respectively). Hispanic adolescents were more likely to report feeling sad or hopeless than other races and ethnicities (37.2%).

Almost one in five Maryland high school students (17.3%) seriously considered attempting suicide in the last 12 months, consistent with the national average at 17.2%. Again, the rate was higher for females than their male counterparts (21.8% and 12.4%, respectively). Hispanic adolescents were slightly more likely to seriously consider attempting suicide than other races and ethnicities (19.6%).

Among Maryland youth age 15-24, the suicide rate increased between 2018 and 2019, from 8.5 to 10 per 100,000. This is less than the national rate, which also increased during this time period, from 13.1 to 14.4 per 100,000.

Substance Use

According to the 2017 YRBSS, 8.2% of Maryland high school students reported currently smoking cigarettes, compared with 8.8% nationally. Males were more likely than their female counterparts to report smoking cigarettes (9.3% and 6.3%, respectively).

13.3% of Maryland high school students reported currently using electronic vapor products, compared with 13.2% nationally. Again, males were more likely than their female counterparts to report smoking electronic vapor products (14.0% and 12.1%, respectively).

Among Maryland middle school students, 7.9% said they had tried cigarette smoking (even one or two puffs) and 1.3% had smoked cigarettes on at least one day during the 30 days before the survey. Of those students who had smoke in the past 30 days, 12.3% smoked more than 10 cigarettes per day on the days they smoked. Almost one in five Maryland middle school students (18.4%) have used an electronic vapor product (including e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens).

According to the 2017 YRBSS, 25.5% of Maryland high school students reported currently drinking alcohol, compared with 29.8% nationally. Females were more likely than their male counterparts to report drinking alcohol (28.6% and 22.2%, respectively).

Teen Pregnancy and Reproductive/Sexual Health

Many high school students are engaged in sexual risk behaviors that relate to unintended pregnancies and STIs, including HIV infection. The birth rate for women aged 15-19 in the United States in 2016 was 20.3 births per 1,000 women, down 9% from 2015 at 22.3. Since 2009, the teen birth rate has fallen to a new low each year. Maryland ranked 38 out of 51 (50 states and D.C.) on final 2016 teen birth rates among females ages 15-19 (with one representing the highest rate).

According to the 2017 YRBSS, 22.1% of Maryland high school students reported currently being sexually active, compared with 28.7% nationally. Females were slightly more likely to be sexually active than their male counterparts (22.2% and 21.8%, respectively).

43.1% of Maryland high school students reported not using a condom during their last sexual intercourse, compared with 46.2% nationally. Almost half of females reported not using condoms, while roughly one third of males reported not using a condom (49.3% and 35.8%, respectively).

21.2% of Maryland high school students reported drinking alcohol or using drugs before their last sexual intercourse, compared with 18.8% nationally. Males reported higher rates than their female counterparts (22.6% and 19.7%, respectively).

Children and Youth with Special Health Care Needs

Children and Youth with Special Health Care Needs (CYSHCN) are defined by the U.S. Department of Health and Human Services, Maternal and Child Health Bureau, and Health Resources and Services Administration as the children who are at increased risk for a chronic condition including behavioral, developmental, emotional or physical and have an increased requirement of health and related services as compared to children generally. The CYSHCN is a more vulnerable population requiring specialty care and an organized healthcare delivery system providing comprehensive care and facilitating ease of access.

The broad categories under which most of the priorities for children and youth with special health care needs include racial and ethnic disparities, quality of care, developmental screening for special health care needs, medical home and services needed for transition to adulthood.

According to the 2017-2018 National Survey of Children's Health, Maryland reported that 19.2% of children ages 0 through 17 are CYSHCN, compared with 18.5% nationally. Among Maryland children 0-5 years of age, 5.4% have been identified as having special health care needs, as compared to 10.3% nationally, almost double the Maryland percentage. For children 6-11 years of age, 20.8% have been identified as having special health care needs, consistent with the national average of 20.6%. For adolescents ages 12-17 years, 29.8% have been identified as having special health care needs, which is higher than the national average at 24.2%.

Racial and Ethnic Disparities

The social determinants of health, including poverty, racial and ethnic disparities and geographic disparities continues to have an impact on the health care of CYSHCN.

About 20% of non-Hispanic White children have been identified as having special health care needs in Maryland and nationally. However, 16.2% of non-Hispanic Black children have been identified as special needs, compared to 24.9% of non-Hispanic Black children nationally. In contrast, Maryland has identified an estimated 23.5% of Hispanic and 20.8% of "other" children as special needs, as compared with national rates of 15.5% and 15.7%, respectively.

Among children in Maryland, an estimated 7.6% of those who speak a language other than English have been identified as children with special healthcare needs, as compared with 21.0% of English-speaking children.

According to the 2018 National Survey of Children's Health, 6.5% of non-Hispanic White CYSHCN were reported to currently be receiving services to meet developmental needs, whereas Hispanic and non-Hispanic Black CYSHCN was roughly half of that (3.5% and 3.0%, respectively). "Other" CYSHCN were reported to be currently receiving services the most at 9.3%.

Quality of Care

According to the 2018 National Survey of Children's Health, almost half (44.7%) of CYSHCN start receiving services to meet their developmental needs at 6-11 years old. 28.5% of CYSHCN start receiving services at 0-5 years old. One in four children with special health care needs (26.8%) start receiving services at 12-17 years old.

According to the 2018 National Survey of Children's Health, 4.3% of Maryland CYSHCN ages 0-5 years old are receiving services to meet developmental needs. Similarly, 9.2% of CYSHCN ages 6-11 years old and 2.5% of CYSHCN ages 12-17 years old are receiving services to meet developmental needs.

According to the 2017-2018 Child and Adolescent Health Measurement, 8.3% of Maryland children with special health care needs were reported to be receiving care in a well-functioning system, significantly below the national percentage of 13.9%.

Developmental Screening for Special Health Care Needs

In 2018, according to the National Survey of Children's Health, 39.3% of Maryland children, ages 9-35 months, received a developmental screening using a parent-completed screening tool during the last year, higher than the national percentage of 35.2%. While the national trend is increasing, Maryland saw a peak in 2016 (43.0%), however Maryland's trend has increased from 2017 at 29.8%.

Medical Home

According to the National Survey of Children, 44.9% of CYSHCN in Maryland received coordinated, ongoing, comprehensive care within a medical home, compared to 42.1% nationally. The national trend has remained relatively consistent since 2016, whereas Maryland has seen a decrease since both 2016 and 2017 (57.8% and 54.9%, respectively).

In 2018, 83.0% of Maryland children with more complex special health care needs reported having at least one personal doctor or nurse, while 79.5% of Maryland children with less complex special health care needs reported having at least one personal doctor or nurse. Both percentages reflect a rate higher than for children with no complex special health care needs at 71.9%.

Services Needed for Transition to Adulthood

Successfully transitioning children and youth with special health care needs (CYSHCN) to adult health care services is becoming a key area of interest as more people with disabilities are living well into their adult years. One of the six core outcomes for CYSHCN identified by the Maternal and Child Health Bureau was that "youth with special health care needs receive the services necessary to make transitions to all aspects of adult life, including adult health care, work, and independence. "The most common recommendations among transition experts are that transition should start early (at the minimum age of 13) and should involve the youth, their pediatrician and a primary care doctor, so that everyone is included in the discussion of the expectations and goals for this process.

In 2018, according to the National Survey of Children's Health, 21.6% of adolescents with special health care needs received services to transition to adult health care. This percentage is higher than the national average of 18.9% and reflects an increase from 2017 (16.2%).

Cross-Cutting or Life Course

The umbrella health themes which are crosscutting include adequate insurance coverage, oral health care and smoking in households.

Adequate Insurance Coverage

According to the National Survey of Children's Health, 73.2% of parents reported that children, ages 0 through 17 years, were adequately insured in 2017-2018, which is consistent with 2016-2017. Maryland remains higher than the national average at 67.5%. A child was said to be adequately insured based on three criteria: whether their children's insurance covers needed services and providers and reasonable covers cost. A child was considered to have adequate insurance coverage if a parent answered "always" or "usually" to all three.

When looking at children who are adequately insured by race and ethnicity, there was virtually no discrepancy. In fact, non-Hispanic Black children were reported to be adequately insured the most at 75.1%, compared with non-Hispanic White children who were reported as the least adequately insured at 71.9%.

Oral Health Care

According to the Pregnancy Risk Assessment Monitoring System (PRAMS), 52.6% of pregnant women received a preventive dental visit during pregnancy in 2017, higher than the national average of 46.3%. The rate of pregnant women receiving preventive dental visits has remained somewhat consistent, despite the peak rate in 2014, and has increased slightly since 2015.

Likewise, during the 2017-2018 year, 81.5% of children ages 1 through 17 were reported to have had a preventive dental visit in the last year, compared with 79.7% nationally. This percentage represents a slight drop since 2016-2017, where Maryland reported 83.1%.

Smoking in Households

According to the CDC, the home is the number one place where children are most exposed to secondhand smoke. Children who live in households with a member who smokes have higher levels of cotinine, a biological marker of secondhand smoke exposure, than children who do not live in households where smoking is allowed. While children are more likely to be exposed to secondhand smoke than adults, the home is still a major place for secondhand smoke exposure for adults as well.

According to the National Survey of Children's Health, in 2017-2018, 12.1% of children were reported to live in households where a member smokes, compared with 14.9% nationally. Maryland has remained almost consistent since 2016-2017, where the percentage was slightly more at 12.9%.

INTRODUCTION AND BACKGROUND

The Title V Maternal and Child Health Services Block Grant Program is funded by the U.S. Department of Health & Human Services, Health Resources and Services Administration (HRSA). The grant helps Maryland fund programs that promote and improve the health and well-being of mothers, children, including children and youth with special health care needs, and their families.

The mission of Maryland's Title V Maternal and Child Health (MCH) Block Grant Agency, the Maternal and Child Health Bureau (MCHB) is to provide State leadership to improve the health and well-being of Maryland women, men, infants, children and adolescents. MCHB is housed in the Prevention and Health Promotion Administration (PHPA) within the Maryland Department of Health - -(MDH) and it is the State's recipient of federal Title V MCH Block Grants Funds. The Title V Program seeks to strengthen the MCH infrastructure and to assure the availability, accessibility and quality of primary and specialty care services for women, children and adolescents.

Grant activities focus on the needs of five populations, although many programs address the needs of several of the following groups:

1. Women, Pregnant Women, and Mothers
2. Infants
3. Children
4. Adolescents
5. Children and Youth with Special Health Care Needs

Maryland receives approximately $11.7 million annually to address ongoing and emerging health care needs for these populations. Maryland's grant supports Title V staff at the State and local health departments and supports a broad range of maternal and child health services and activities. Funds are jointly managed by the Maternal and Child Health Bureau and the Office of Genetics and People with Special Health Care Needs (OGPSHCN).

Every five years, the Title V Maternal & Child Health (MCH) Block Grant requires each state to complete a comprehensive assessment of the health of children, mothers, and families in their state. The purpose of this assessment is to: 1) assess the health status and needs of MCH population groups and the State's capacity to provide needed MCH services; 2) determine priority needs; as well as objectives and strategies to address priority needs; 3) select a set of national performance priorities and measures; and 4) lay out a five-year Action Plan (2021-2025) for the Title V Agency.

This document outlines the research and reporting activities associated with the 2020 Needs Assessment and development of the five-year plan that will include program activities for years 2021 to 2025. The project includes a mixed-methods approach that relies on established, national datasets such as the Behavioral Risk Factor Surveillance System (BRFSS) and Pregnancy Risk Assessment Monitoring System (PRAMS), as well as key informant interviews, public comment and stakeholder planning sessions. The methods outlined in this plan are designed to include feedback from a variety of stakeholders and the public in order to engage those who are most impacted by Title V funded programs.

A Steering Committee was established by the Maryland Maternal and Child Health Bureau (MCHB) to oversee the project. The Steering Committee included representatives of the three offices within

MCHB, Office of Family and Community Health Services (OFCHS), Office of Quality Initiatives and the Office of Genetics and People with Special Healthcare Needs (OGPSHCN), as well as representatives from the Office of Oral Health, Maryland Medicaid, Office of Minority Health and Health Disparities, Center for Tobacco Control and Prevention, and the Maternal, Infant and Early Childhood Home Visiting Program

SINCE THE LAST MCH NEEDS ASSESSMENT AND 2020 FINDINGS

Maryland completed its last MCH Needs Assessment in 2015. The 2015 assessment yielded seven priority needs and the selection of eight national performance priority focus areas. Measures were selected to ensure coverage of the six population groups. The table below shows the seven priority needs and the indicators used to measure them.

Maryland Priority Needs, 2016-2020	National Performance Measure(s)	Population Domains
1. Women's Wellness, Healthy Pregnancies: Optimize the health and well-being of girls and women across the life course using preventive strategies.	**Low-risk cesarean deliveries:** Percent of low-risk cesarean deliveries (Data Source: Vital Statistics). Baseline: 35% in 2013.	Women's and Maternal Health
2. Healthy Pregnancy Outcomes and Infants: Improve perinatal and infant health in Maryland by reducing disparities.	**Safe sleep:** Percent of infants placed on back to sleep (Data Source: PRAMS Survey). Baseline: 74% in 2009-2011	Perinatal and Infant Health
3. Access to Health Care for Children: Improve access to preventive, primary, specialty and behavioral health services as well as medical homes for Maryland Children including those with special health care needs.	**Developmental Screening:** Percent of children, ages 9-71 months, receiving a developmental screening using a parent completed screening tool (Data Source: National Survey of Children's Health). Baseline: 31.7% in 2011-2012	Children
4. Healthy Adolescents: Improve the health and well-being of adolescents and young adults in Maryland including those with special health care needs by addressing risky behaviors.	**Adolescent well visits:** Percent of adolescents with a preventive service within the past year (Data Source: National Survey of Children's Health). Baseline: 85%	Adolescents
5. Healthy Children with Special Needs: Improve the health of children and youth with special health care needs.	**Medical Home:** Percent of children with and without special health care needs having a medical home. (Data Source: National Survey of Children's Health).	Children with Special Health Care Needs

Maryland Priority Needs, 2016-2020	National Performance Measure(s)	Population Domains
	Baseline: MD Children (0-17) 57.2% in 2011-2012 Baseline: MD CYSHCN 48% in 2011-2012 **Transition:** Percent of children with and without special health care needs who received services necessary to make transitions to adult health care. (Data Source: National Survey of Children's Health). Baseline: MD CYSHCN 36.8%	
6. Oral Health: Improve the oral health status of MCH populations across the life span.	**Oral Health:** Percent of women who had a dental visit during pregnancy and % of infants and children who had a preventive visit in the last year. (Data Sources: PRAMS Survey and National Survey of Children's Health). Baseline: Pregnant woman – 56% of women had a visit within the past year Baseline: Children (ages 6-11) – 87.8% in 2011-2012	Cross-Cutting
7. Substance Use: Reduce substance use/abuse (including tobacco, alcohol, prescription drugs and opioids) across the life span for MCH populations.	**Smoking:** Percent of women who smoke during pregnancy and percent of children who live in households where someone smokes (Data Sources: PRAMS Survey and the National Survey of Children's Health). Baseline: Pregnant women – 8% in 2009-2011 Baseline: Children and household smoking – 20%	Cross-Cutting

OVERVIEW OF THE STATE

Maryland is comprised of 24 political jurisdictions – 23 counties and the City of Baltimore. With a population of roughly 6 million in 2019, the U.S. Statistical Abstract ranks Maryland as the nation's 19th most populous and in the bottom 10 of states according to land mass. Although a small state in size and population, Maryland has great geographic diversity. The State is characterized by mountainous rural areas in the western part of the State, densely populated urban and suburban areas in the central and southern regions along the I-95 corridor between Baltimore and Washington D.C., and flat rural areas in the eastern region. The "Eastern Shore" borders Delaware, the Atlantic Ocean and the Chesapeake Bay, the largest estuary in the U.S. The Bay is a treasured geographic asset but the fact that it bisects the State presents special challenges (e.g., transportation, access to specialty care services) for Eastern Shore residents.

The State's Maternal and Child Health (MCH) populations include an estimated 1.2 million women of childbearing age (ages 15-44) and 1.5 million children and adolescents (ages 0-19) in 2019, 19.2% of whom have special health care needs.

Maryland has been identified as the nation's seventh most diverse State. Maryland has one of the nation's lowest poverty rates, with American Community Survey (ACS) estimating that in 2017 9.3% of Marylanders were poor, as compared with 13.4% of Americans nationwide. Maryland's female residents are 24% more likely to live in poverty than males. African American Maryland residents have a poverty rate of 14.1%, below the national rate for Blacks of 25.2% but significantly higher than that of white Marylanders, 6.6%.

HISTORY OF THE MATERNAL AND CHILD HEALTH BUREAU

This section aims to briefly discuss the Maternal and Child Health Bureau (MCHB), -MDH priorities, MCHB priorities and State statutes and regulations of relevance to Title V.

Maternal and Child Health Bureau (MCHB)

Maryland's lead public health agency is the Maryland Department of Health - (MDH). MDH houses Maryland's Title V program, the Maternal and Child Health Bureau (MCHB) within the Prevention and Health Promotion Administration (PHPA). MCHB's mission is to provide State leadership to improve the health and well-being of Maryland women, men, infants, children and adolescents. MCHB focuses on prevention across the lifespan of children and women of childbearing age and serves as DHMH's primary prevention unit for unintended and adolescent pregnancy; infant mortality and low birth weight reduction, breastfeeding promotion, preventive and primary care for children and adolescents and systems development for children with special health care needs. MCHB also leads efforts to reduce racial disparities and inequities in health outcomes for women and children.

The goals of MCHB include improving pregnancy and birth outcomes, children and adolescent health, including those with special health care needs, eliminating health disparities and strengthening the MCH infrastructure. MCHB programs and services are provided by the three levels of the MCH pyramid to protect and promote the health for all women and children.

Title V funds support three offices within the Bureau: The Office of Family and Community Health Services (OFCHS); the Office of Quality Initiatives and the Office for Genetics and People with Special Health Care Needs (OGPSCHN). These three offices employ a staff of approximately 26 full-time equivalents (FTEs) with the support of Title V funding.

MCHB collaborates with other units within MDH and state agencies to address access to prenatal care, breastfeeding promotion, childhood obesity prevention, cervical and breast cancer screening, access to family planning, screening and treatment of sexually transmitted diseases, immunizations, child abuse and neglect, early childhood mental health, postpartum depression, suicide, school health, substance abuse and intimate partner violence. A leading strategy includes systems building through partnerships with Medicaid and Behavioral Health (also housed within MDH; other State agencies; local health departments; academic medical centers; professional organizations, private non-profits; federally qualified health centers; and advocacy groups (e.g., March of Dimes). Maryland's Title V Program works with State and local agencies to ensure coordination of services for all women and children, but particularly those with limited access to care and children and youth with special health care needs.

In addition to Title V, MCHB manages a budget and programs drawn from several different federal grants including the Special Supplemental Nutrition Program for Women, Infants and Children (WIC); Maternal, Infant and Early Childhood Home Visiting Program (MIECHV); Abstinence Education; and the Personal Responsibility Education Program (PREP), and one State general fund initiative, Babies Born Healthy (BBH). MCHB's multidisciplinary staff includes physicians, nurses, social workers, epidemiologists, educators, community outreach specialist, administrators and administrative support staff. MCHB serves a professional development and learning unit for several public health and social work interns and preventive medicine residents.

MDH Priorities

Maryland health priorities are determined by the Governor, the Maryland Legislature, the Health Secretary or other MDH leadership and/or data that demonstrate a new or emerging health need. In Maryland Governor Larry Hogan identified reducing drug related deaths as one of his top priorities and in 2017 signed Executive Order 01.01.2017.02 declaring a State of Emergency in response to heroin, opioid and fentanyl crisis ravaging communities in Maryland[2].

Maryland health priorities are identified in Maryland's State Health Improvement Process (SHIP). SHIP provides a framework to support improvements in the health of Marylanders and their communities and includes 39 measurable objectives and targets in key areas of health with a special focus on health equity. Objectives critical to maternal and infant health include preventing unintended pregnancy, increasing rates of early prenatal care, reducing domestic violence and reducing low birth weight and infant death rates. Child health improvement objectives focus on reducing child maltreatment, improving school readiness rates, increasing immunization rates, reducing obesity, improving access to dental care and eliminating childhood lead poisoning. Adolescent health measures address reducing tobacco use, preventing HIV, increasing rates of high school graduation and promoting wellness checkups. Cross-cutting areas of focus include reducing hospitalizations due to asthma and injuries,

[2] https://bha.health.maryland.gov/OVERDOSE_PREVENTION/Pages/Index.aspx

adequacy of health insurance coverage and improving access to behavioral health services. Many of the priorities identified through the 2020 needs assessment align with the SHIP objectives.

Eliminating health disparities and inequities continue as an MDH priority. The prevalence and impact of health disparities continue to be significant nationally and in Maryland. Racial and ethnic minority disparities exist for many of the leading causes of death in Maryland. Areas of significant disparity include infant mortality, maternal mortality, child deaths, cardiovascular disease, cancer, diabetes, HIV/AIDS, kidney disease, asthma, health insurance coverage, ability to afford health care and utilization of mental health services.

In 2004, the Office of Minority Health and Health Disparities (OMHHD) was established by statute by the General Assembly through enactment of House Bill 86. OMHHD serves as a resource for training and consultation on minority health issues and cultural competency throughout MDH for local health departments and for community-based organizations. In 2012, the Maryland Legislature passed the Maryland Health Improvement and Disparities Act, which includes funding to support health enterprise zones (HEZ) to reduce health disparities and improve access to care in underserved communities.

Access to oral health care remains an MDH priority for Maryland children and families. Maryland's efforts to create an oral health safety net have increased significantly as a result of the tragic 2007 death of Deamonte Driver, a 12-year-old Prince George's County resident, from an untreated dental abscess. The Maryland General Assembly subsequently approved funding to increase Medicaid dental rates to enhance access to dental public health services for low-income children. However, access to dental services remains as a challenge for Maryland residents specifically pregnant women, adults and children and youth with special health care needs. Oral health remains an identified national performance measure for Maryland.

MCHB Priorities

Infant mortality reduction remains a MCHB priority. While Maryland has made progress in reducing overall rates of infant deaths, racial and ethnic disparities remain a focus of Title V activities. Maryland has had FIMR programs since 1998 in all 24 jurisdictions and these activities are currently supported by Title V funding. FIMRs not only provide important insight into opportunities for system improvement, they also serve as a mechanism for local and regional communication, coordination and collaboration on other MCH issues.

In 2007, the Maryland legislature allocated funding for the Maryland Babies Born Healthy (BBH) Program to reduce infant mortality, improve birth outcomes and reduce racial disparities. BBH currently directs funds to the seven jurisdictions in Maryland with the highest infant mortality rates and highest racial disparities in infant mortality. Jurisdictions focus their resources on enhancing screening and referral for substance abuse, intimate partner violence, depression, tobacco cessation, preconception health care and linking women to prenatal care and other services.

Reducing unintended pregnancy by assuring access to family planning services is also viewed as a key strategy for reducing infant mortality. MCHB administers the Family Planning Program. Family Planning staff work closely with Title V to address such issues as pregnancy intendedness, adolescent pregnancy prevention and women's health. Family planning services are offered through a network of providers statewide. The Program serves approximately 62,000 women and men each year. Title V continues to supplement funding to local health departments for clinical family planning services.

In 2016, the OFCHS piloted a bidirectional family planning and mental health and substance abuse treatment integration project. Four subgrantees (delegates) were given additional funding to integrate routine mental health and substance abuse screening and linkage based on the SBIRT (Screening, Brief Intervention, Referral to Treatment) model. Delegates also developed formal relationships with mental health and substance abuse treatment facilities to create a direct pathway for clients to receive family planning services while in treatment.

Through multiple Substance Abuse and Mental Health Services Administration (SAMHSA) grants, the Maryland Behavioral Health Administration has implemented SBIRT into many healthcare settings across the state including over 34 emergency departments, 10 hospital mother-baby units, 22 OB/GYN practices, 7 detention centers, 20 public schools, 4 colleges and 172 primary care practices. The program has resulted in over 1.3 million screenings, 100,000 brief interventions and 20,000 referrals to treatment[3].

Men are also a focus of family planning and Title V activities. The OFCHS in collaboration with Johns Hopkins University developed a Men's Health Report Card in 2015. OFCHS also developed a document to assist state funded family planning sites with enhancing and improving male clients' experience within traditional women-centered family planning clinics. The OFCHS Men's Family Planning Toolkit was released in 2015 to all directly funded Maryland Title X Family Planning Clinics.

Promoting healthy mothers, babies and children through home visiting is central to work being done in the Maryland's Maternal Infant and Early Childhood Home Visiting (MIECHV) and Early Childhood Comprehensive Systems (ECCS) Grant Programs. MCHB administers the MIECHV agencies to support and fully integrate systems of care aimed at improving outcomes for families. Maryland MIECHV receives both formula and competitive funding totaling $41 million since 2010[4]. Home visiting programs have been expanded to ten jurisdictions and completed a total of 29,236 home visits in 2019[5]. Competitive funds support program evaluation, project expansion, a training institute for home visitors and a statewide home visiting database. Maryland was one of the first states to enact a Home Visiting Accountability Act. MIECHV staff work closely with the Governor's Office for Children and statewide partners to collect data on home visiting measures for all state funded evidence-based programs statewide.

Another MCHB priority includes preventing child and adolescent deaths through Child Fatality Review (CFR), established in Maryland by statute in 1999. Title V supports a 25-member State CFR Team that meets quarterly. The CFR Team's purpose is to prevent child deaths by: 1) understanding the causes and incidences of child deaths; 2) implementing changes within the agencies represented on the State CFR Team to prevent child deaths; and 3) advising the State leadership on child death preventing. The State CFR Team also sponsors an all-day training for local CFR team members on select topics related to child fatality issues.

The State CFR Team oversees the efforts of local CFR teams that operate in each jurisdiction. Each month the local CFR teams receive notice from the Office of the Chief Medical Examiner (OCME) of unexpected resident child (under age 18) deaths and are required to review each of these deaths. Local

[3] https://bha.health.maryland.gov/Pages/SBIRT.aspx

[4] https://phpa.health.maryland.gov/mch/Pages/home_visiting.aspx).

[5] https://mchb.hrsa.gov/sites/default/files/mchb/MaternalChildHealthInitiatives/HomeVisiting/pdf/md.pdf

teams meet at least quarterly to review cases and make recommendations for local level systems changes in statute, policy or practices to prevent future child deaths and work to implement these recommendations.

In 2017, the OCME referred 208 child deaths to the local CFR teams for review. Sudden Unexplained Infant Deaths (SUID) was the leading cause of unexpected child death in 2017[6]. Safe sleep will continue as a priority focus for Title V action planning under perinatal health over the next five years.

Injury and homicide were reported as the second and third leading causes of death, respectively, in the 2017 report. The Maryland Child Abuse Medical Providers' (CHAMP) Network is a group of medical professionals (physicians and nurses) who are experts in child maltreatment. The goal of CHAMP is to help develop medical expertise related to child maltreatment in every Maryland jurisdiction.[7]

In 2013, the Parents' Place of Maryland, in partnership with the Office for Genetics and People with Special Health Care Needs, was awarded a three-year "State Implementation Grant for Improving Services for Maryland Children and Youth with Autism Spectrum Disorders and Other Developmental Disabilities" from the federal Maternal and Child Health Bureau. This award was based on a strategic plan developed in partnership with many families, providers, physicians, local and state agency personnel, and many other stakeholders across the state of Maryland. The Parents' Place of Maryland, in partnership with the Office for Genetics and People with Special Health Care Needs, was also awarded a three-year "Access Improvement Grant for Maryland Children and Youth with Epilepsy" from the federal Maternal and Child Health Bureau.

With lead support from the OGPSHCN and in collaboration with the OFCHS, youth transition to adult health care has been a priority focus area. In 2014, Maryland was one of five states selected to participate in the nation Got Transition Initiative. Transition is being expanded to address the needs of all teens and young adults, including those with special health care needs. Quality improvement for medical homes is another priority for OGPSHCN. Improving the infrastructure to support pediatric primary care providers will improve care for all children through better access, care coordination and family involvement.

Adolescent health systems development is both a current and emerging priority for MCHB offices. The Child and Adolescent Health Program was created under the OFCHS and was responsible for overseeing development of an adolescent health strategy to advance children and adolescent (ages 0-21) health in Maryland. Maryland has continued to identify improving adolescent health by promoting positive youth development as its priority for the adolescent domain. The national performance measure chosen will continue to address improving adolescent wellness visit rates.

Teen pregnancy prevention has been a focus area for MCHB for several years. OFCHS oversees the Title X Family Planning Program which includes a Healthy Teen and Young Adult clinical component. The Maryland Family Planning Health Program provides family planning, preconception health and teen pregnancy prevention services to over 70,000 clients at over 80 sites statewide. This program funds Healthy Teen and Young Adult (HTYA) sites in Baltimore City, Prince George's County and Anne Arundel

[6] https://phpa.health.maryland.gov/documents/Health-General-Article-5-704(b)(12)-Maryland-State-Child-Fatality-Review-Team-2018-Annual-Legislative-Report.pdf).

[7] https://phpa.health.maryland.gov/mch/Pages/MDChamp.aspx

County and is designed to reach and serve young people at risk for unintended pregnancy, sexually transmitted infections and high-risk behaviors.

The Sexual Risk Avoidance Education (SRAE) grant program funding is administered by the OFCHS and uses a multi-dimensional approach to promote sexual risk avoidance based on the promotion of abstinence as the best risk reduction strategy for adolescents. In addition, the Personal Responsibility and Education Program (PREP) program funds made available under the Affordable Care Act are also administered under the OFCHS. Both SRAE and PREP provide support to local community agencies and health departments to implement evidence-based programming to prevent teen pregnancy and promote positive youth development.[8]

Violence, including intimate partner violence (IPV), has been an ongoing priority for DHMH and MCHB. A Maryland IPV Task Force was convened in 2012. A year later, Maryland was selected as one of six states awarded funding for Project Connect, a three-year public health grant to integrate IPV assessment into the Title X Family Planning Program[9].

Behavioral health issues were identified as a cross-cutting issue during the Title V needs assessment. Local health departments reported seeing increasing numbers of women of childbearing age, as well as pregnant women, with mental health issues, substance abuse or comorbidities.

State Statutes and Regulations of Relevance to Title V

In addition to Federal Title V mandates, Maryland is responsible for addressing several State mandates for improving the health of women and children. These include:

- Health-General Article, SS18-107, Annotated Code of Maryland requires the Secretary of Health to devise and institute measures to prevent and address diseases of pregnancy, infancy and early childhood.
- Family Law Article, SS2-405, Annotated Cost of Maryland requires MDH to provide a family planning brochure for distribution to all marriage license applicants by county clerks.
- Health-General Article, SSSS 12-1201 et seq., Annotated Code of Maryland reviews MDH in partnership with the State Medical Society to conduct maternal mortality review.
- Health-General Article SSSS 5-701 et seq., Annotated Code of Maryland mandates establishment of Child Fatality Review teams for the purpose of preventing child deaths.
- Health-General Article, SS18-107, Annotated Code of Maryland (COMAR 10.11.06 Morbidity, Mortality and Quality Review Committee – Pregnancy and Childhood) establishes the Morbidity, Mortality and Quality Review Committee.
- "Voluntary" Perinatal Systems Standards are incorporated regulations concerning acute hospital inpatient obstetric services, neonatal intensive care services and the designation of trauma and specialty referral centers.
- Health-General Article SSSS13-101 et seq., Annotated Code of Maryland establishes an Advisory Council and programs to address hereditary and congenital disorders.

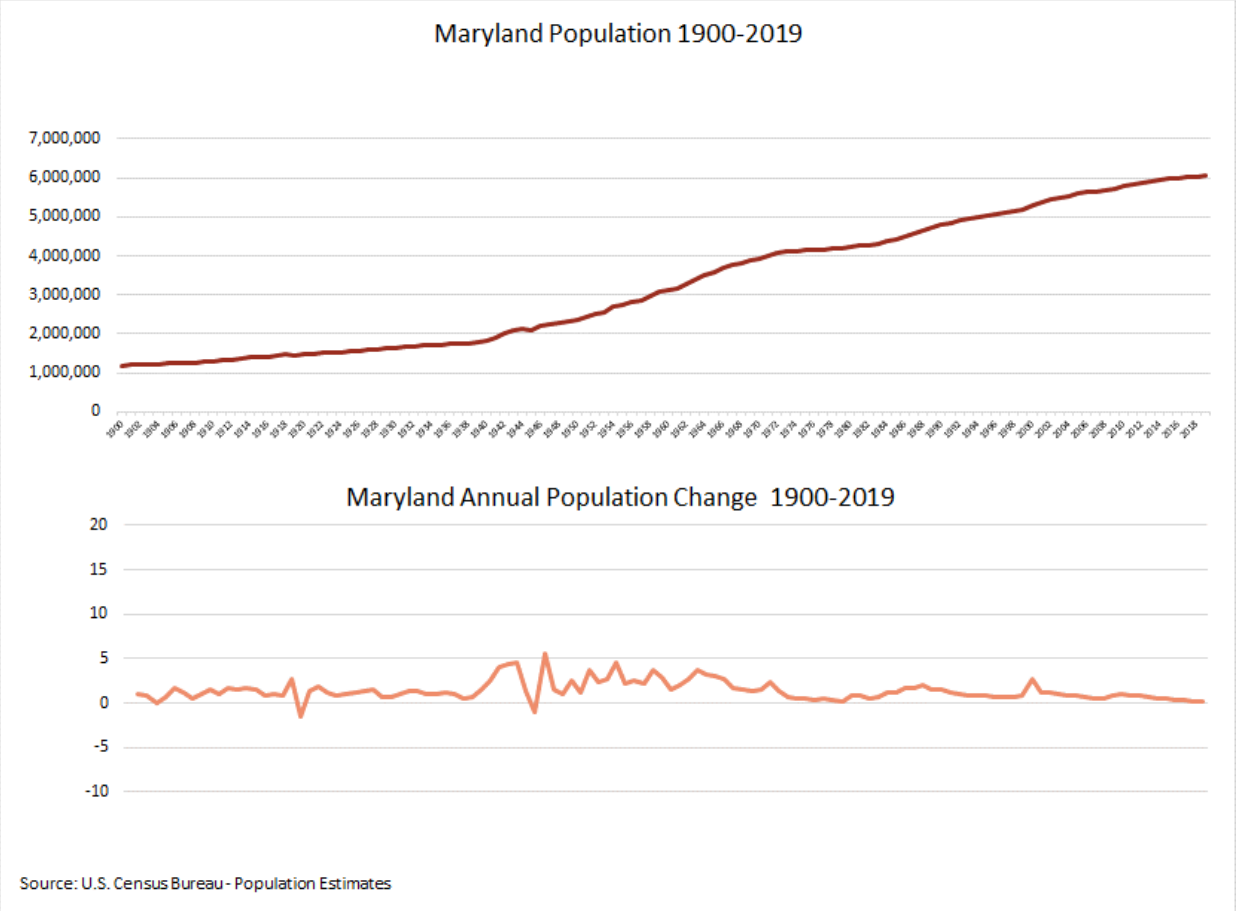
[8] https://phpa.health.maryland.gov/mch/Pages/teenpreg.aspx

[9] https://phpa.health.maryland.gov/mch/Pages/IPV_Projects.aspx

- Health-General Article, SS13-111, Annotated Code of Maryland mandates a statewide system for newborn screening Critical Congenital Heart Disease (CCHD).
- Health-General Article, SSSS18-501 et seq., Annotated Code of Maryland establishes a program for screening newborns for sickle cell anemia.
- Health-General Article, SSSS13-601 et seq., Annotated Code of Maryland establishes a program for universal hearing screening of newborns and early identification and follow-up of infants at risk.
- Health-General Article, SS18-206, Annotated Code of Maryland requires hospitals to report birth defects to the Secretary and for the Secretary to monitor birth defects trends.
- Health-General Article, SS15-125 and COMAR 10.11.03 establishes a program to provide medical and other services to children with special health care needs.

POPULATION TRENDS

The population of the state of Maryland is projected to be 6,339,290 in the year 2020. The state's population has increased about 10% since 2010 and doubled since 1960. Although the rate of increase has slowed, the state population continues to grow.



POPULATION GROWTH BY COUNTY

The largest population increases over the past ten years were in Montgomery, Prince George's and Frederick Counties (highlighted in red.) The counties border on Washington, D.C.

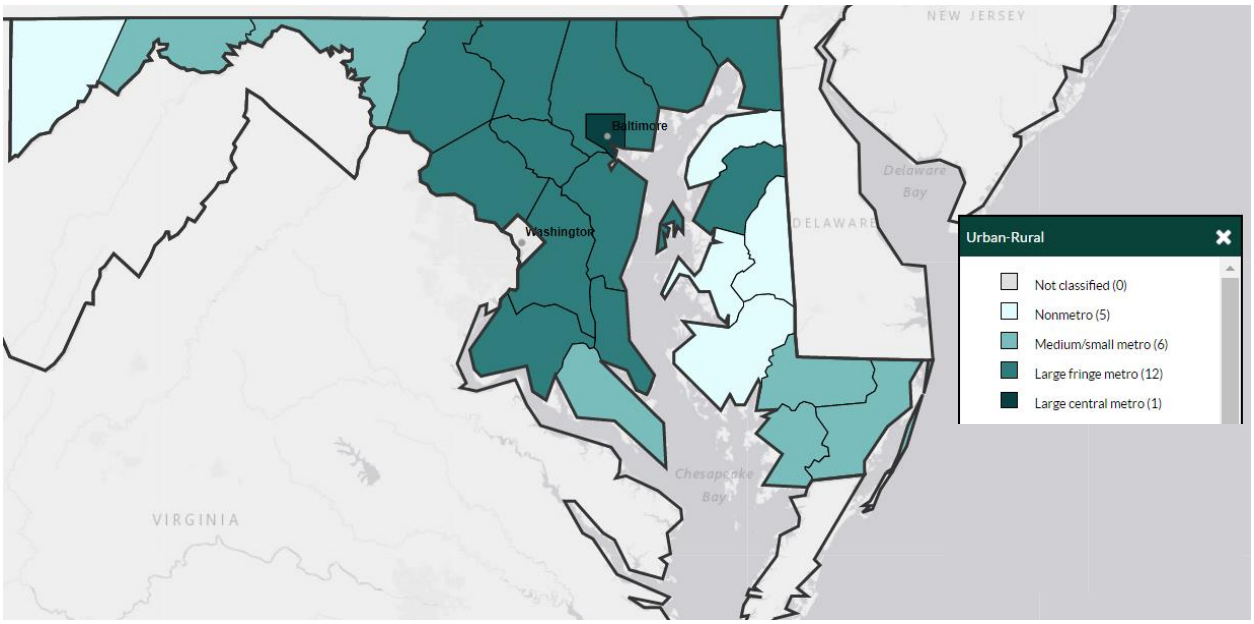
Allegany County had the smallest population increase during this period. None of the Maryland counties decreased in population.

County	1990 census	2000 census	2010 census	2020 projected*	2030 projected*		Change 2010-2020
Allegany County	74,946	74,930	75,087	75,300	75,900		213
Anne Arundel Co.	427,239	489,656	537,656	556,100	572,800		18,444
Baltimore County	692,134	754,292	805,029	842,600	849,000		37,571
Calvert County	51,372	74,563	88,737	100,450	105,100		11,713
Caroline County	27,035	29,772	33,066	40,300	46,000		7,234
Carroll County	123,372	150,897	167,134	197,400	210,700		30,266
Cecil County	71,347	85,951	101,108	130,350	155,000		29,242
Charles County	101,154	120,546	146,551	177,200	204,200		30,649
Dorchester County	30,236	30,674	32,618	36,300	38,850		3,682
Frederick County	150,208	195,277	233,385	287,900	331,700		54,515
Garrett County	28,138	29,846	30,097	31,600	32,250		1,503
Harford County	182,132	218,590	244,826	276,500	283,600		31,674
Howard County	187,328	247,842	287,085	312,900	324,100		25,815
Kent County	17,842	19,197	20,197	22,200	23,410		2,003
Montgomery County	757,027	873,341	971,777	1,075,000	1,141,000		103,223
Prince George's Co.	728,553	801,515	863,420	921,900	960,800		58,480
Queen Anne's Co.	33,953	40,563	47,798	55,650	61,900		7,852
St. Mary's County	75,974	86,211	105,151	130,100	151,500		24,949
Somerset County	23,440	24,747	26,470	28,300	29,350		1,830
Talbot County	30,549	33,812	37,782	40,050	42,100		2,268
Washington County	121,393	131,923	147,430	170,950	189,750		23,520
Wicomico County	74,339	84,644	98,733	107,450	117,550		8,717
Worcester County	35,028	46,543	51,454	56,250	60,000		4,796

STATE GEOGRAPHY

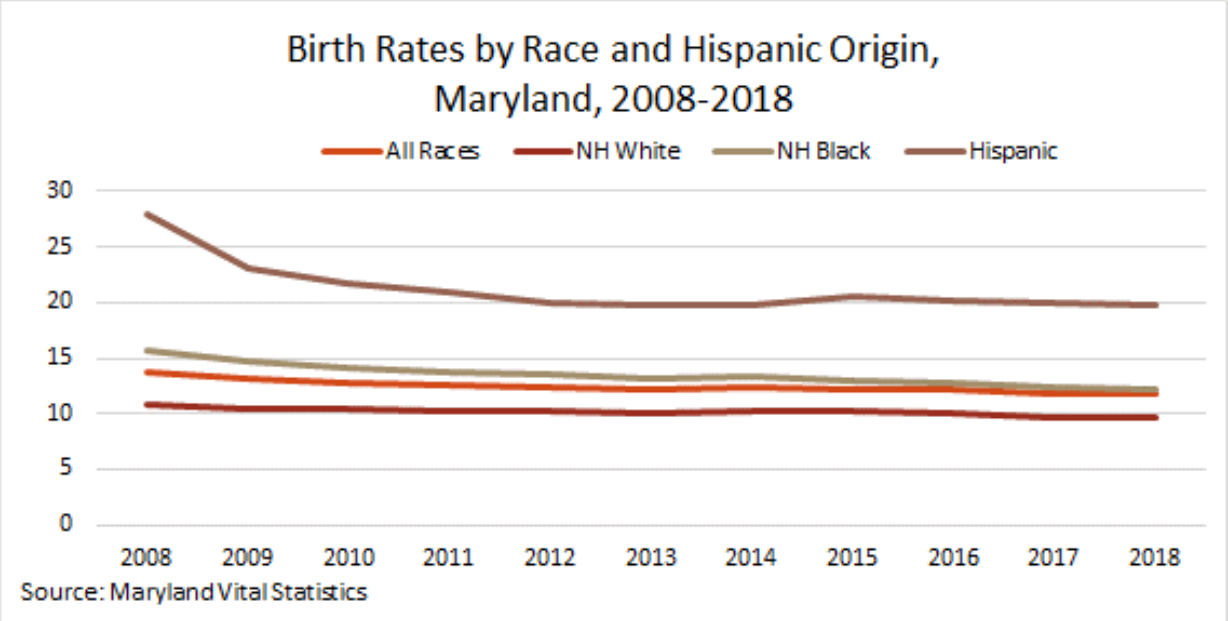
The State of Maryland encompasses 12,407 square miles. Sixteen of Maryland's twenty-three counties border the tidal waters of the Chesapeake Bay estuary and its tributaries, with a combined total of more than 4,000 miles of shoreline. Maryland is the 9th smallest state, closest in size to Hawaii. Despite its small size, Maryland's wide variety of climates, topographical features and cultural milieus have earned the state nicknames of "America in Miniature" and "Little America."

Although much of the state is considered large fringe metropolitan, several counties are classified as nonmetro, or rural counties. These include Caroline, Dorchester, Kent, Somerset, Talbot and Garrett Counties.



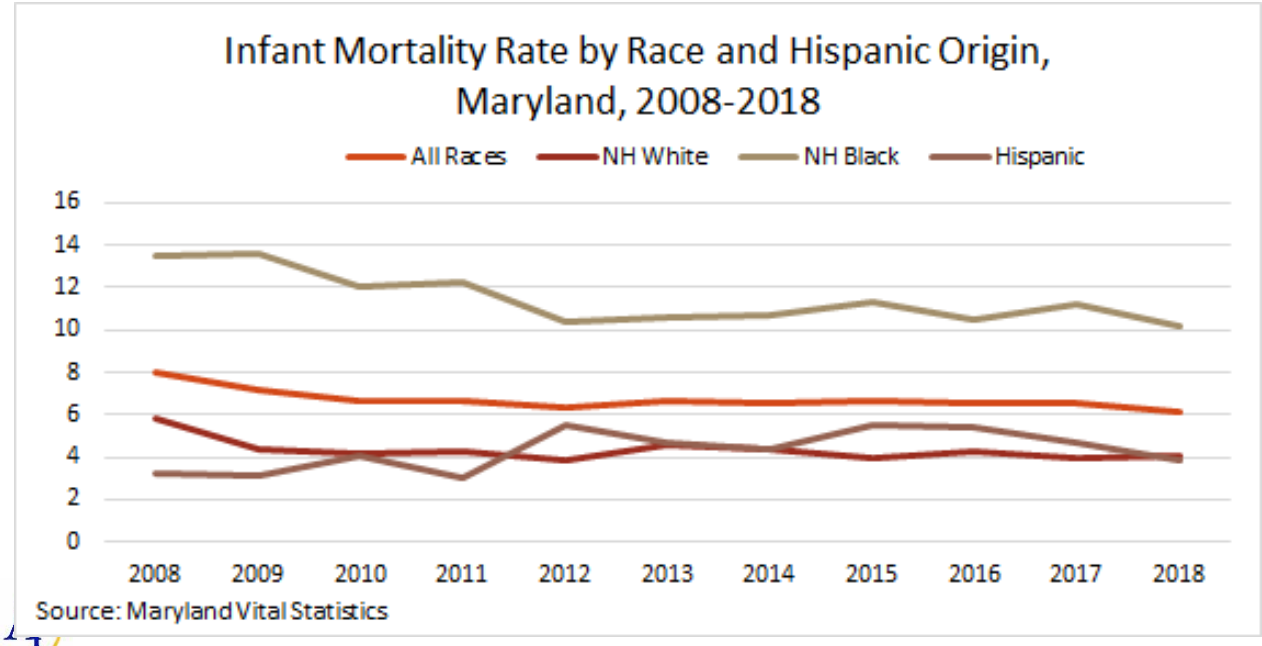
Birth Rates

The birth rate for Maryland residents has declined since 2008, from 13.7 in 2008 to 11.8 in 2018. This decline was consistent across racial and ethnic groups.



Infant mortality has decreased for Maryland residents. Racial and ethnic disparities in infant mortality have decreased somewhat from a difference between Black and white mortality rates of 9.2% in 2009 to a difference of 6.1% in 2018. These disparities remain substantial.

There have been several years in which the rate of infant mortality among Maryland residents of Hispanic origin surpassed that of white residents. In 2003, 2015, 2016 and 2017 Hispanic infant mortality rates exceeded the rate of non-Hispanic, White infant mortality.



RACE AND ETHNICITY

In the table below, the racial diversity of the state and the diversity in the composition of Maryland's counties is evident. In Baltimore City/County and Prince George's County, over half of residents are African American. In Montgomery County, about one in five residents are Hispanic. In contrast, in Garrett and Carroll Counties, roughly nine out of ten residents are white. The counties with a boxed result are among the highest 10 percent of all counties for that characteristic.

Area	Population	White	Black	Native	Asian	Islander	Hispanic
State of Maryland	6,003,435	51.39%	29.31%	0.18%	6.20%	0.04%	9.81%
Allegany County	71,977	87.10%	8.23%	0.11%	0.87%	0.02%	1.75%
Anne Arundel County	567,696	68.98%	16.12%	0.14%	3.69%	0.06%	7.51%
Baltimore County	827,625	58.06%	27.95%	0.22%	5.93%	0.04%	5.25%
Baltimore City	614,700	27.54%	61.92%	0.22%	2.58%	0.03%	5.12%
Calvert County	91,082	78.45%	11.51%	0.13%	1.81%	0.04%	3.76%
Caroline County	32,875	75.97%	13.72%	0.24%	0.66%	0.03%	7.01%
Carroll County	167,522	89.45%	3.32%	0.21%	1.79%	0.02%	3.36%
Cecil County	102,517	85.43%	6.40%	0.15%	1.44%	0.01%	4.28%
Charles County	157,671	41.65%	44.06%	0.51%	3.08%	0.04%	5.55%
Dorchester County	32,261	63.35%	26.78%	0.10%	1.04%	0.00%	5.32%
Frederick County	248,472	74.27%	9.13%	0.20%	4.37%	0.08%	9.20%
Garrett County	29,376	96.50%	0.78%	0.06%	0.39%	0.03%	1.13%
Harford County	251,025	76.46%	13.22%	0.17%	2.65%	0.00%	4.41%
Howard County	315,327	53.06%	18.24%	0.18%	17.70%	0.02%	6.72%
Kent County	19,593	77.82%	14.31%	0.13%	1.27%	0.00%	4.33%
Montgomery County	1,040,133	44.46%	17.69%	0.13%	14.60%	0.04%	19.26%
Prince George's County	906,202	12.97%	62.02%	0.20%	4.14%	0.03%	17.92%
Queen Anne's County	49,355	86.57%	6.75%	0.04%	0.94%	0.00%	3.79%
Somerset County	25,737	51.49%	41.94%	0.29%	1.03%	0.02%	3.49%
St. Mary's County	111,531	74.60%	14.30%	0.11%	2.75%	0.01%	4.95%
Talbot County	37,211	77.76%	10.77%	0.06%	1.38%	0.05%	6.48%
Washington County	149,811	79.66%	10.32%	0.12%	1.76%	0.07%	4.78%
Wicomico County	102,172	63.40%	25.64%	0.14%	3.17%	0.04%	5.09%
Worcester County	51,564	80.08%	12.98%	0.19%	1.27%	0.06%	3.42%

EDUCATION

Maryland has more than 1,400 public schools in 24 public school systems serving all of the State's 23 counties and Baltimore City. Enrollment in the State's public schools reached 896,837 in 2018-2019, with an attendance rate of 93.5% and graduation rate of 86.9%.

The table below shows the population of the state by county, with the percentage of the adult population age 25 and older in each category of the highest educational level achieved. The counties with the highest 10 percent within each category are marked in red. Caroline and Somerset counties have the highest percentage of residents without a diploma and Allegany and Garrett counties have the highest percentage of residents with a high school diploma as their highest level of education.

Area	Population 25 Years and Over	No Diploma	High School	Some College	Bachelor's Degree	Graduate Degree
State of Maryland	4,114,858	10.0%	24.8%	25.5%	21.3%	18.3%
Allegany County	50,190	10.1%	41.9%	29.9%	9.8%	8.4%
Anne Arundel County	390,445	7.8%	23.8%	27.4%	24.0%	16.9%
Baltimore County	574,109	8.9%	26.2%	26.3%	22.3%	16.4%
Baltimore city/county	424,578	15.1%	29.9%	23.9%	16.3%	14.9%
Calvert County	61,710	6.1%	30.3%	32.4%	17.7%	13.5%
Caroline County	22,389	16.1%	40.7%	26.3%	9.5%	7.4%
Carroll County	115,982	7.8%	29.9%	26.7%	22.4%	13.1%
Cecil County	70,507	11.1%	37.7%	28.4%	13.8%	8.9%
Charles County	105,078	6.9%	31.4%	32.8%	17.3%	11.6%
Dorchester County	23,253	13.1%	39.4%	26.7%	12.9%	7.8%
Frederick County	168,435	7.6%	24.3%	27.5%	23.1%	17.5%
Garrett County	21,372	10.7%	43.8%	25.4%	10.8%	9.2%
Harford County	173,422	7.2%	26.6%	30.4%	21.1%	14.6%
Howard County	212,511	4.4%	14.0%	20.2%	30.3%	31.1%
Kent County	13,929	12.0%	28.6%	25.3%	19.8%	14.4%
Montgomery County	714,495	8.7%	13.3%	19.0%	27.1%	31.9%
Prince George's County	611,092	13.4%	25.7%	28.3%	18.6%	14.1%
Queen Anne's County	34,843	7.9%	29.6%	27.7%	21.0%	13.8%
Somerset County	17,058	18.0%	40.3%	25.9%	10.6%	5.1%
St. Mary's County	73,604	10.2%	30.0%	28.4%	18.2%	13.2%
Talbot County	28,080	9.4%	25.6%	26.3%	20.1%	18.5%
Washington County	104,471	13.1%	36.4%	29.0%	12.9%	8.5%
Wicomico County	64,156	11.9%	32.5%	28.8%	15.6%	11.2%
Worcester County	39,149	9.2%	31.6%	28.8%	19.4%	11.0%

POVERTY

Counties that are in the 10% of counties with the highest rates of poverty, unemployment and the highest median value of owner-occupied units are shown in red.

Geography	Family Households	Family Poverty (%)	Civilian labor force - 16 years +	Unemployment Rate (%)	Median Value of Owner-occupied Units
Maryland	1,466,554	6.4%	3,232,422	5.6%	$305,500
Allegany County	17,108	10.7%	31,505	8.5%	$119,200
Anne Arundel County	144,902	4.0%	306,259	4.6%	$355,200
Baltimore County	204,006	6.0%	442,139	5.2%	$255,400
Baltimore City	121,958	16.6%	306,997	9.1%	$156,400
Calvert County	23,947	3.0%	49,309	6.4%	$349,200
Caroline County	8,755	10.4%	16,923	5.2%	$199,600
Carroll County	45,150	3.4%	91,196	3.5%	$333,500
Cecil County	26,001	6.5%	53,450	5.6%	$237,300
Charles County	41,332	4.7%	82,499	4.0%	$302,800
Dorchester County	8,778	11.9%	16,516	7.9%	$179,300
Frederick County	65,287	4.4%	137,863	4.6%	$323,600
Garrett County	8,173	6.2%	14,304	4.0%	$169,700
Harford County	67,286	5.3%	135,662	4.8%	$286,700
Howard County	83,037	3.9%	175,807	3.8%	$448,000
Kent County	4,832	7.7%	9,664	4.4%	$244,200
Montgomery County	258,811	4.6%	585,038	4.9%	$476,500
Prince George's County	203,228	6.2%	515,391	6.7%	$287,800
Queen Anne's County	13,354	3.1%	26,404	2.9%	$348,000
Somerset County	5,514	15.9%	9,560	8.9%	$140,300
St. Mary's County	28,405	6.0%	56,852	3.6%	$295,000
Talbot County	11,106	6.7%	18,520	3.3%	$331,500
Washington County	37,402	9.5%	71,882	6.5%	$208,200
Wicomico County	24,546	9.3%	53,291	7.6%	$171,700
Worcester County	13,636	6.4%	25,391	5.3%	$255,400

PROCESS / METHODOLOGY

The Needs Assessment was structured into six stages:

- Stage 1 was the Planning Stage and included the initial meeting with the Steering Committee and a formal research plan.
- Stage 2 entailed gathering existing data from a variety of data sources to better understand the population needs, available services and disparities in access or health.
- Stage 3 consisted of data collection, including 31 key informant interviews and four public forums. AI also held a meeting with the Steering Committee to get their feedback on the data gathered to date.
- Stage 4 focused on identifying priorities through strategic planning sessions with key stakeholders across the state and continuing to gather feedback from the public. AI held six strategic planning sessions which covered Children and Youth with Special Health Care Needs (CYSHCN), where three NPMs were discussed: Bullying, Medical Home and Transition.
- Stage 5 is reserved for public comment and will include an online survey, accessible through the Internet and optimized for access using any mobile device.
- Stage 6 is for report development.

SECONDARY DATA ANALYSIS

This study assessed the data used to measure outcomes for the NPMs and SPMs by other states and evaluate the applicability of those indicators to the activities, policies and populations under study in Maryland. We track health outcomes from the previous five-year needs assessment in order to measure change as a result of actions that were developed as part of those plans, comparisons between Maryland and similar states and, where possible, key differences between regions and subgroups within Maryland. This report uses several national datasets, including:

- National Survey of Children's Health (NSCH), conducted by the United States Census Bureau, Associate Director for Demographic Programs on behalf of the United States Department of Health and Human Services (HHS), Health Resources and Services Administration's (HRSA) Maternal and Child Health Bureau (MCHB).
- The Behavioral Risk Factor Surveillance System (BRFSS) is conducted by the Centers for Disease Control and Prevention (CDC). The survey covers health-related risk behaviors, chronic health conditions, and use of preventive services.
- The Youth Risk Behavior Surveillance System (YRBSS) YRBSS is a national school-based survey conducted by CDC and state, territorial, and local education and health agencies and tribal governments. It monitors six categories of health-related behaviors that contribute to the leading causes of death and disability among youth and adults including behaviors that contribute to unintentional injuries and violence, sexual behaviors, alcohol, tobacco and other drug use, dietary behaviors and physical activity, as well as the prevalence of obesity and asthma and other health-related behaviors.
- The National Vital Statistics System (NVSS) provides data on the vital statistics of the population of the United States. It is produced in a coordinated effort of state health departments and the

National Center for Health Statistics, a division of the Centers for Disease Control and Prevention.

SELECTION OF NATIONAL PERFORMANCE MEASURES

The project team held a meeting with the Steering Committee to discuss each of the National Performance Measures (NPMs) and select those committee members believed were priority areas. NPMs were selected to address known needs of the target populations, incorporate current priorities of the programs and ensure coverage of each population domain, including Women/Maternal Health, Perinatal/Infant Health, Child Health, Adolescent Health, Children and Youth with Special Health Care Needs and areas that incorporate two or more population areas (Cross-Cutting/Life Course).

Ten NPM priority areas were selected among those most prioritized by the greatest number of members. During subsequent investigation and deliberation, NPM 9 on bullying was eliminated to avoid duplication of efforts conducted by Maryland's Department of Education. NPM 2, Low-Risk Cesarean Delivery was also eliminated to avoid conflagration with non-Title V efforts.

The following selection of NPMs were reviewed and approved by the Title V Program Manager.

National Performance Measure		Population Area*
NPM 3	Risk-Appropriate Perinatal Care	PIH
NPM 4	Breastfeeding	PIH
NPM 5	Safe Sleep	PIH
NPM 6	Developmental Screening	CH
NPM 10	Adolescent Well-Visit	AH
NPM 11	Medical Home	CSHCN, CH
NPM 12	Transition	CSHCN, AH
NPM 13.1	Preventive Dental Visit - Pregnancy	W
NPM 14.1	Smoking - Pregnancy	W

* W=Women/Maternal Health, PIH=Perinatal/Infant Health, CH=Child Health, AH=Adolescent Health, CSHCN=Children with Special Health Care Needs.

KEY INFORMANT INTERVIEWS

The Maryland Department of Health and Maternal and Child Health Bureau identified 75 stakeholders of interest to complete key informant interviews. Interview invitations were distributed by email in mid-December, with follow-ups in mid-January and early February. Follow-ups for those who had not responded to emails began in March, however the COVID-19 emergency may have impeded our ability to interview all stakeholders. Analytic Insight (AI) completed 31 stakeholder interviews with service providers, staff at community organizations, local health departments and other state agencies. Interviews included representatives from each region of the state, as well as representatives who work with each of the Title V populations.

These interviews focused on identifying key priorities for the next five years and included funding initiatives that improve the availability, accessibility and quality of primary and specialty care services for women, infants, children and adolescents, as well as children and youth with special health care needs, particularly those who are low-income, at-risk pregnant women and/or people of color. AI

consulted with the Needs Assessment Steering Committee to develop the key informant interview guide.

The key informant interview guides are provided as Appendix A.

PUBLIC FORUMS

Four public forums were held between November 18 and November 22 of 2019 to collect early public feedback regarding the Maryland residents maternal and child-health related needs. The locations for these forums included: Baltimore, Allegany County, Prince George's County and Salisbury.

The forums gave Maryland residents the opportunity to have their voices heard and share their opinions and suggestions directly with Maryland representatives, services providers and organizations, health departments and other state agencies and policymakers.

The goal of the public forums was to inform the public about the Title V needs assessment taking place and to gauge the public's understanding of the needs and priorities for the next five years. To ensure that residents were made aware of the forums, AI provided the MCHB with a flyer to be published on their website, through email, and for distributing invitation flyers to the selected cities.

The public forums were live-streamed to maximize the participation opportunities for those unable to attend in-person. Information about tuning in to the stream was also provided in the advertising materials.

Unfortunately, due to COVID-19 concerns and social distancing protocol, four additional public forums scheduled to take place in April 2020 were canceled. Attendees were offered an opportunity to provide input through phone calls directly with AI.

STRATEGIC PLANNING SESSIONS REGARDING CHILDREN AND YOUTH WITH SPECIAL HEALTH CARE NEEDS

AI facilitated six strategic planning sessions with service providers to assess the health needs of children and youth with special health care needs and identify and prioritize key findings from the data collection stage, particularly regarding the selected NPMs (Bullying, Medical Home and Transition) with a special emphasis on health equity in underrepresented and underserved populations. Sessions were held from November 18 through 22, 2019.

For the larger planning sessions, following an introduction to the assessment and planning process, participants broke into small groups and discussed actions the community and specific organizations can take to address each NPM goal for about 10-15 minutes. Each group completed action cards detailing the ESM they believe would best address each need.

Once each small group completed their action cards, we discussed the results as a larger group to determine consensus and feasibility of the selected ESMs. The rationale for the selections, needed resources, timeline and additional details were discussed. The moderator and note taker reviewed and documented each proposed action on a white board or large post-it note paper as they are discussed with the larger group. This exercise was repeated for each identified goal.

On each action card, we asked participants to provide the specific actions that need to be taken to address the goal, the rationale behind their selection, resources that will be needed to complete the proposed action, a potential timeline to complete the proposed action and any additional information.

For the smaller planning sessions, we followed the same protocol using the same action card. However, the small group exercise was replaced as an individual exercise.

Due to COVID-19 concerns and social distancing protocol, AI had to cancel all Maternal and Infant Health and Children and Adolescent Health strategic planning sessions that were scheduled to take place in March 2020.

PRESENTATION AND WORKSHOP: KEY FINDINGS TO DATE

AI facilitated an in-person presentation of the key findings to date, with a special emphasis on children and youth with special health care needs, for the Steering Committee. Following this presentation, AI also facilitated a workshop with the project team to establish goals for the next phase of the research. This meeting was held in December 2019.

PRESENTATION AND WORKSHOP: PRIORITIES

In April 2020, AI conducted an online meeting with members of the Title V Steering Committee to discuss the selection of evidence-based strategies to be included in the Five-Year Action Plan.

PUBLIC COMMENT PERIOD

The public comment period began June 16 and remained open for 32 days. An online survey was available for public feedback during the public comment period. The online survey was also distributed to key informants.

MATERNAL AND CHILD HEALTH POPULATION NEEDS

This section aims to provide a comprehensive needs assessment for each MCH population, to include women's and maternal health, perinatal and infant health, child health, adolescent health and children and youth with special health care needs, as well as a section that covers cross-cutting populations.

WOMEN'S AND MATERNAL HEALTH

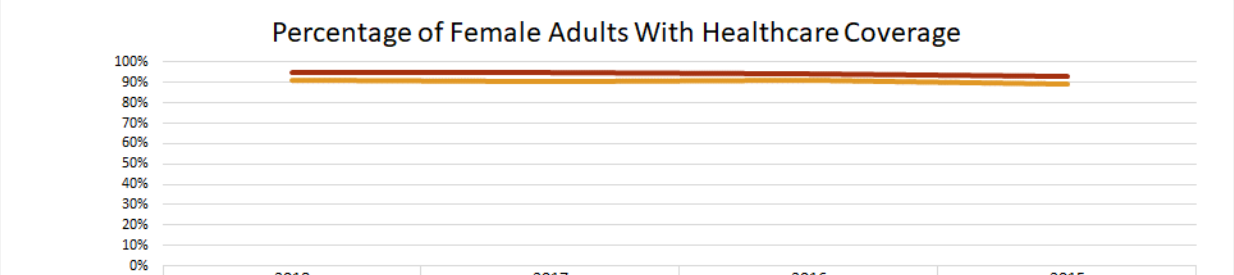
Women's and maternal health are important predictors of an overall population's health, not only because it affects a large portion of the population, but also because of its effects on the health of future generations.

The needs presented reflect the broader general priority areas which are most important for women and maternal health including: access to women's and maternal health care, mental health, substance use, intimate partner violence, cesarean deliveries and maternal mortality and morbidity.

Access to Women's and Maternal Health Care

A well-woman or preconception visit provides an opportunity to receive recommended clinical preventive services, including screening, counseling and immunizations, which can lead to appropriate identification, treatment and prevention of diseases. These visits improve the health of women before, between and after potential pregnancies. The importance of annual preventive visits is outlined by HRSA as National Performance Measure (NPM) Number 1. Additionally, the annual well-woman visit has been endorsed by the American College of Obstetrics and Gynecologists (ACOG) and was identified as a women's preventive service required by the Affordable Care Act (ACA) to be covered by private insurance plans without cost-sharing[10].

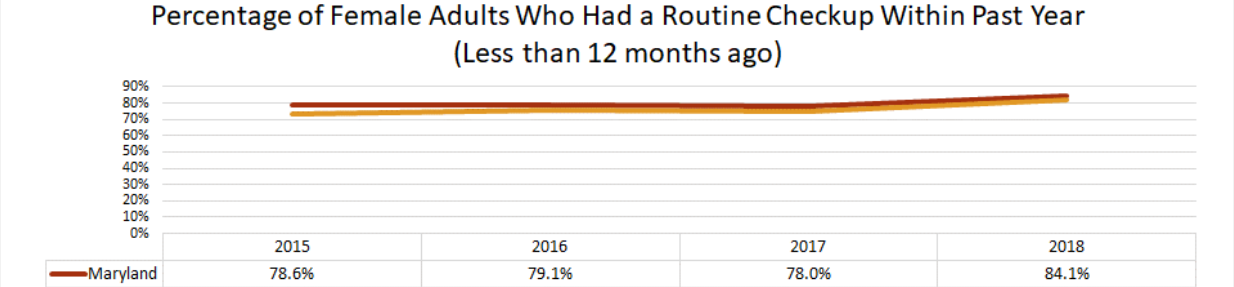
Maryland is a Medicaid Expansion state which has dramatically increased the proportion of insured to uninsured residents. Over the past four years, Maryland residents have enjoyed significantly higher rates of health care coverage, including private health insurance, prepaid plans such as HMOs, and government plans such as Medicare and Indian Health Service. Women have had slightly higher rates of coverage than men both within Maryland and nationally. Currently, about 95% of Maryland women have some type of healthcare coverage, compared with 91% nationally.



	2018	2017	2016	2015
Maryland	94.7%	94.7%	94.2%	92.9%
US	90.8%	90.6%	91.0%	89.0%

Source: BRFSS 2015-2018

Maryland women are more likely to have visited a doctor for a routine checkup within the past year, a gap that is increasing as the national rate declines. Additionally, a higher percentage of Maryland women had a mammogram as compared with the national average (80% and 74.7%, respectively).



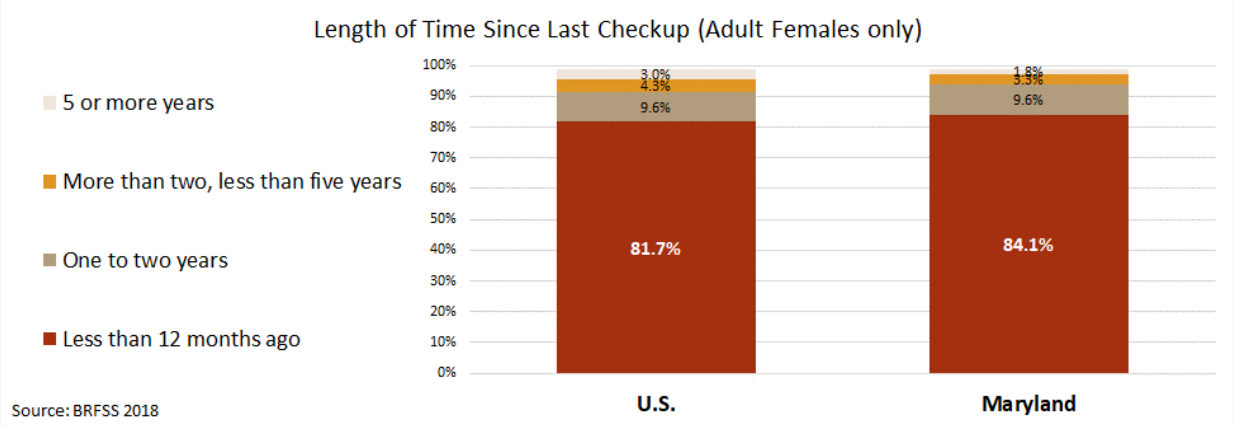
	2015	2016	2017	2018
Maryland	78.6%	79.1%	78.0%	84.1%
US	73.3%	76.1%	75.3%	81.7%

Source: BRFSS 2015-2018

[10] https://www.ncemch.org/evidence/NPM-1-well-woman.php

Recency of the Well-Woman Visit

Consistent with the national data, in 2018 the majority of Maryland women reported receiving their last checkup within the past year The rate of Maryland women who had a gap of 5 or more years since their last checkup was roughly half of the national rate (1.8% and 3.0%, respectively).



Mental Health

Mental health includes emotional, psychological and social well-being. A person's mental health affects how the individual thinks, feels and acts, as well as impacts their ability to handle stress, relate to others and make decisions.

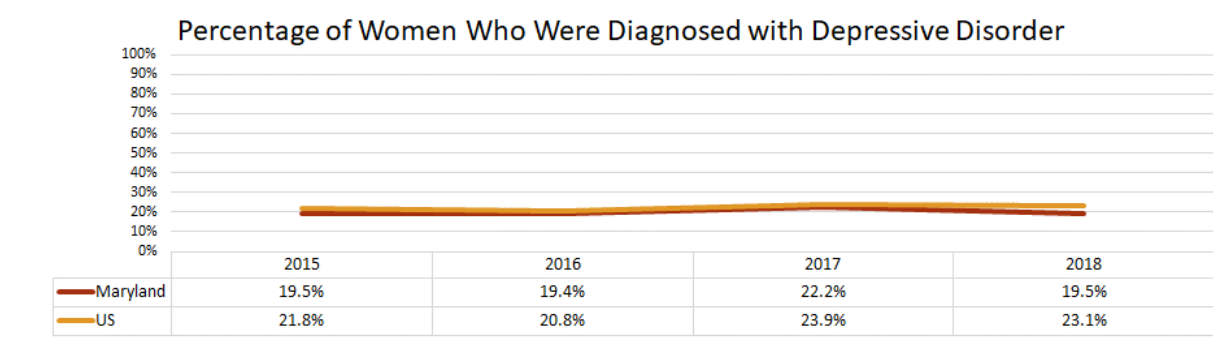
Mental illness includes many different conditions that vary in degree of severity, ranging from middle to moderate to severe. However, mental illness is often divided into two broad categories, Any Mental Illness (AMI) and Serious Mental Illness (SMI). AMI is defined as "a mental, behavioral or emotional disorder. AMI can vary in impact, ranging from no impairment to mild, moderate and even severe impairment." SMI is defined as "a mental, behavioral or emotional disorder resulting in serious functional impairment, which substantially interfered with or limits one or more major life activities."

In 2019, the U.S. spent over $200 billion on mental health services, an increasing trend since at least 1986 when mental health expenditures were roughly $32 billion[11]. A 2011 study estimated that societal costs of mental disorders exceed the costs of diabetes, respiratory disorders and cancer combined[12]. Furthermore, the National Alliance on Mental Health (NAMI) also estimates that untreated mental illness costs the country up to $300 billion every year due to losses in productivity[13].

Mental Health of Women in Maryland

Maryland is ranked number 5 out of 51 (including Washington D.C.) for providing access to mental health services[14].

Over the past four years, roughly 20% of Maryland women have been diagnosed with a depressive disorder, including depression, major depression, dysthymia or minor depression.



	2015	2016	2017	2018
Maryland	19.5%	19.4%	22.2%	19.5%
US	21.8%	20.8%	23.9%	23.1%

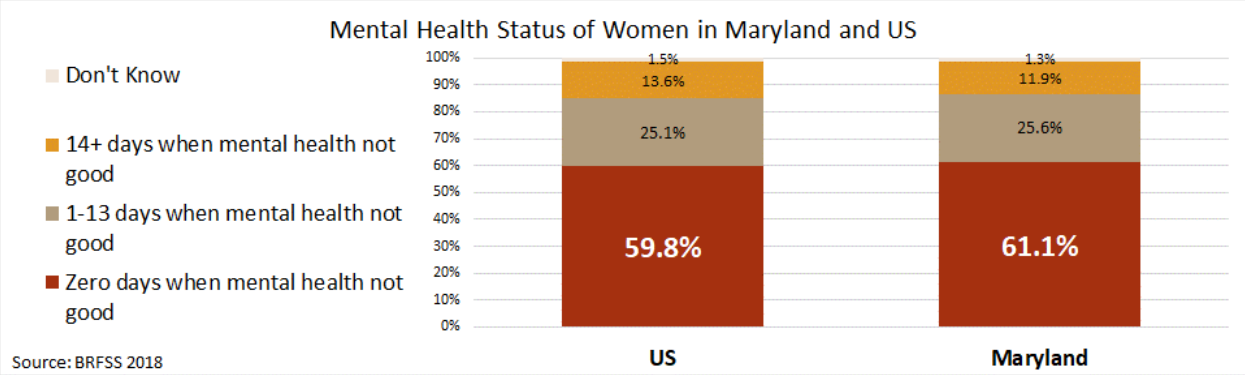
Source: BRFSS 2015-2018

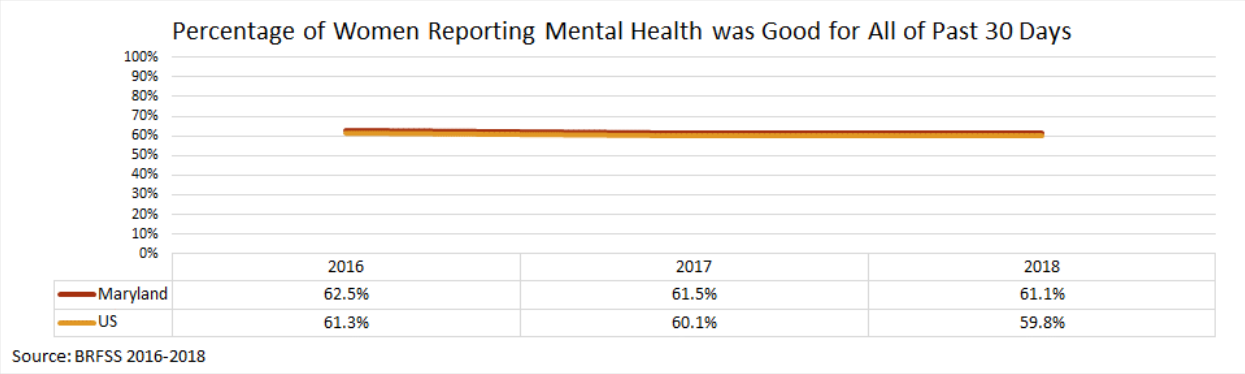
[11] https://www.statista.com/statistics/252393/total-us-expenditure-for-mental-health-services/
[12] https://www.hhs.gov/about/budget/fy2018/budget-in-brief/samhsa/index.html

[13] National Alliance on Mental Illness, "Health Reform & Mental Illness" https://www.nami.org/getattachment/Get-Involved/NAMI-National-Convention/Convention-Program-Schedule/Hill-Day-2017/FINAL-Hill-Day-17-Leave-Behind-all-(1).pdf

[14] https://www.mhanational.org/issues/ranking-states

The mental health of Maryland women was consistent with the national trend in 2018, with more than half reporting zero days of poor mental health over a 30-day period. Both nationally and in Maryland, there has been a slight decrease in mental health since 2016.





Organizations Addressing Mental Health in Maryland

The Maryland Association of Behavioral Health Authorities (MABHA) is a non-profit organization comprised of Maryland's Core Service Agencies, Local Addictions Authorities and Local Behavioral Health Authorities. MABHA partners with several organizations and services that aim to provide resources for mental health including the Mental Health Association of Maryland (MHAMD), On Our Own of Maryland and the National Alliance on Mental Illness of Maryland (NAMI Maryland). Furthermore, MABHA also partners with governmental organizations including MDH, BHA, SAMHSA and NACBHDD.

MHAMD is Maryland's only volunteer nonprofit citizens organization bringing together consumers, families, professionals, advocates, and concerned citizens for unified action in all aspects of behavioral health. MHAMD provides advocacy, outreach and education, training and services oversight.

On Our Own of Maryland is a statewide peer-operated behavioral health advocacy and education organization. They work with service providers, peers and professional and community organizations to ensure they are taking a trauma-informed approach, are culturally responsive and recovery-oriented.

NAMI Maryland is an advocacy organization for families and friends of people with serious mental illness, and for people who have mental illness. NAMI Maryland also operates a toll-free warmline to provide information and resources to callers who are seeking information about mental illness topics.

The Office of Adult and Specialized Behavioral Health Services, through the Maryland Department of Health Behavioral Health Administration (BHA), supports the comprehensive system of behavioral health services and supports and serves as the coordinator of four units: Adult Services, Treatment and Recovery Services, Specialized Behavioral Health Services and Women's Services. The Office is responsible for overseeing statewide planning, development, administration and monitoring of community and residential based health services and supports. The Public Behavioral Health Systems (PBHS) for Adults provides, based on eligibility and medical necessity, the following services[15]:

- Psychiatric Inpatient Care
- Psychiatric Partial Hospitalization Program (PHP)
- Respite
- Outpatient Mental Health Center or Individual Mental Health Practitioner
- Mobile Treatment
- Psychiatric Rehabilitation Program (PRP)
- Targeted Case Management (TCM)
- Supported Living
- Non-Evidence-Based Practice Supported Employment (SE)
- Residential Crisis

[15] https://bha.health.maryland.gov/Pages/Office-of-Adult-and-Specialized-Behavioral-Health-Services.aspx

Substance Use

Substance use continues to be a problem throughout the lifespan of women in Maryland. This section aims to cover a multitude of substance use including alcohol and binge drinking, tobacco, electronic cigarettes and vaping, and opioids.

The Maryland Association of Behavioral Health Authorities (MABHA) partners with several organizations and services that aim to provide resources for substance use, including the Maryland Addiction Recovery Center, the National Council on Alcoholism and Drug Dependence (NCADD-MD), Alcoholtreatment.net, the College Student's Guide to Avoiding Drug and Alcohol Abuse, Maryland Addictions Directors Council (MADC), Community Behavioral Health Association (CBH) and Maryland Association for Treatment of Opioid Dependence (MATOD). MABHA also partners with governmental organizations including MDH, BHA, SAMHSA and NACBHDD.

The Maryland Addiction Recovery Center provides a safe, caring and therapeutic environment for those suffering from drug and alcohol addiction. They provide a variety of services, which include a Community Living Treatment Program, Intensive Outpatient Treatment (IOP), Medication-Assisted Treatment, Family Programming and Drug Assessments and Evaluation.

The National Council on Alcoholism and Drug Dependence of Maryland (NCADD-MD) is a voluntary health organization dedicated to fighting alcoholism, drug addiction and the impacts of alcohol and other drugs on individuals, families and communities. The Maryland Addictions Directors Council (MADC) advocates for quality addictions services that promote healthy individuals, strong families and thriving communities.

The Maryland Association for Treatment of Opioid Dependence (MATOD) consists of organizations that have voluntarily joined in membership to achieve their mutual goals of providing treatment and services to those affected by opioid use disorders and related conditions in Maryland.

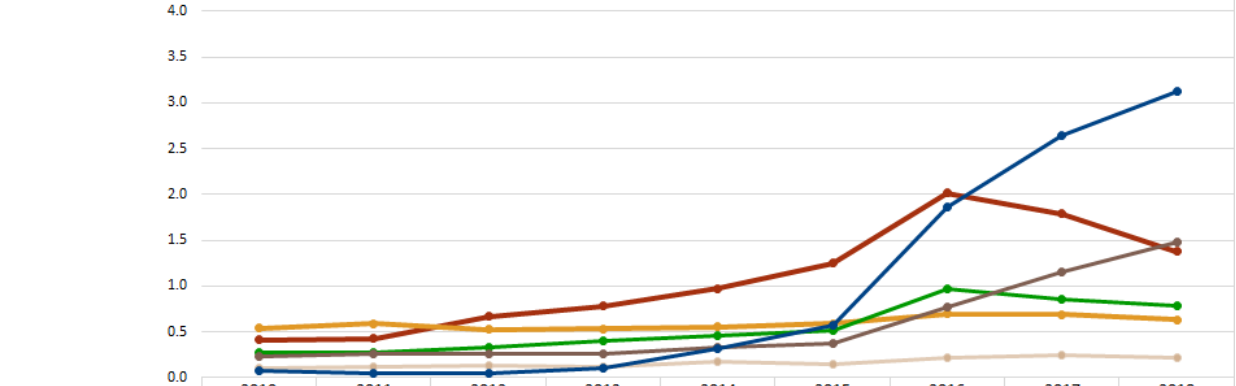
The Maryland Department of Health's Behavioral Health Administration (BHA) provides several programs targeted at substance use prevention and mitigation. BHA provides Gender-Specific Services for women and their families, which develops and coordinates comprehensive treatment and recovery substance-related disorders services. These programs include:

- Overdose Prevention Program
- Overdose Response Program
- Prescription Drug Monitoring Program
- Overdose Fatality Review
- Opioid Misuse Prevention Program
- Overdose Survivors Outreach Program

Maryland's Department of Budget and Management (DBM) partners with Maryland health plans to provide smoke cessation resources. DBM ensures that each of the health plans provides tools to help individuals quit smoking. These programs and resources include:

- CareFirst QuitNet Tobacco Cessation Program
- Kaiser Permanente Tobacco Cessation Program
- UnitedHealthcare Quit for Life Program
- The Maryland Tobacco Quitline
- www.smokingstopshere.com
- www.smokefree.gov
- www.becomeanex.org
- www.myquitkit.org
- www.cdc.gov/tobacco/quit_smoking

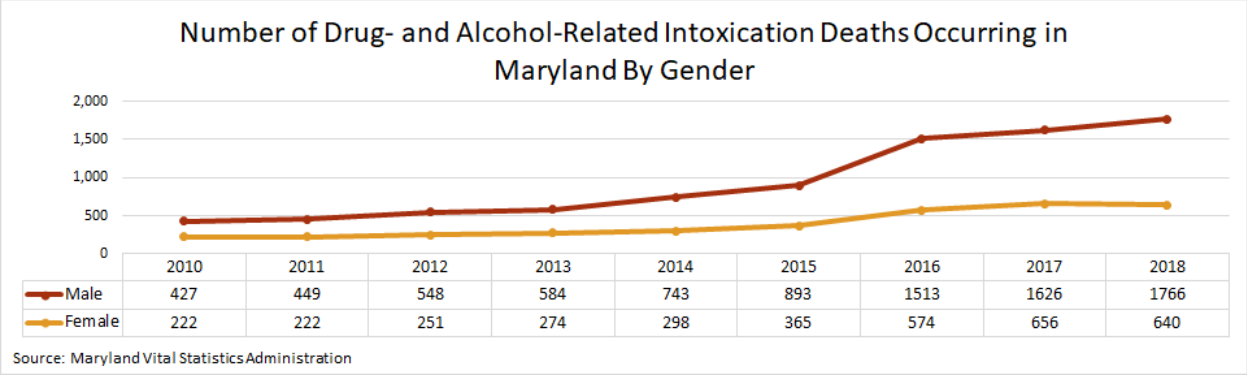
In 2018, the leading cause of drug- and alcohol-related deaths was from Fentanyl, while Cocaine and Heroin related deaths made up for roughly half of deaths related to Fentanyl. Alcohol and prescription opioids both followed the same slight downward trend since peaking in 2016. Of the selected substances, Benzodiazepines made up for the least amount of drug- and alcohol-related intoxication deaths, following the same trend as alcohol and prescription opioids.



	2010	2011	2012	2013	2014	2015	2016	2017	2018
Heroin	0.41	0.42	0.67	0.78	0.97	1.25	2.02	1.79	1.38
Prescription opioids	0.54	0.59	0.53	0.53	0.55	0.59	0.70	0.69	0.63
Alcohol	0.28	0.28	0.33	0.40	0.45	0.52	0.97	0.86	0.78
Benzodiazepines	0.10	0.12	0.12	0.12	0.17	0.15	0.21	0.24	0.21
Cocaine	0.23	0.25	0.26	0.26	0.33	0.37	0.77	1.15	1.48
Fentanyl	0.07	0.04	0.05	0.10	0.31	0.57	1.86	2.65	3.13

Source: Maryland Vital Statistics Administration

Females were dramatically less likely to die of drug- and alcohol-related intoxication death than their male counterparts (640 vs. 1,766, respectively). However, both genders are seeing an increasing trend. Non-Hispanic White individuals account for the greatest number of drug- and alcohol-related intoxication deaths, followed by Non-Hispanic Black individuals (1,479 vs. 823, respectively). Individuals 25-years and older made up the majority of drug- and alcohol-related intoxication deaths[16].



	2010	2011	2012	2013	2014	2015	2016	2017	2018
Male	427	449	548	584	743	893	1513	1626	1766
Female	222	222	251	274	298	365	574	656	640

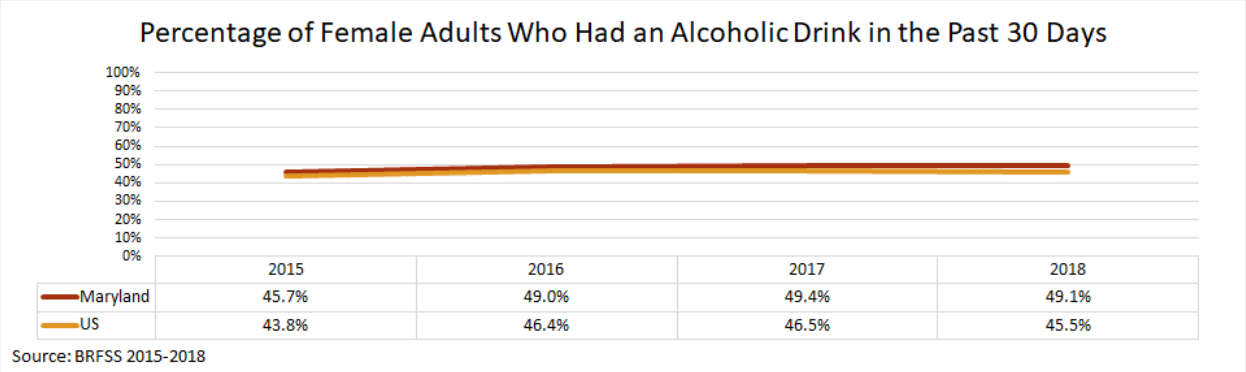
Source: Maryland Vital Statistics Administration

[16] Unintentional Drug- and Alcohol-Related Intoxication Deaths in Maryland, 2018, Maryland Department of Health https://bha.health.maryland.gov/Documents/Annual_2018_Drug_Intox_Report.pdf

Alcohol and Binge Drinking

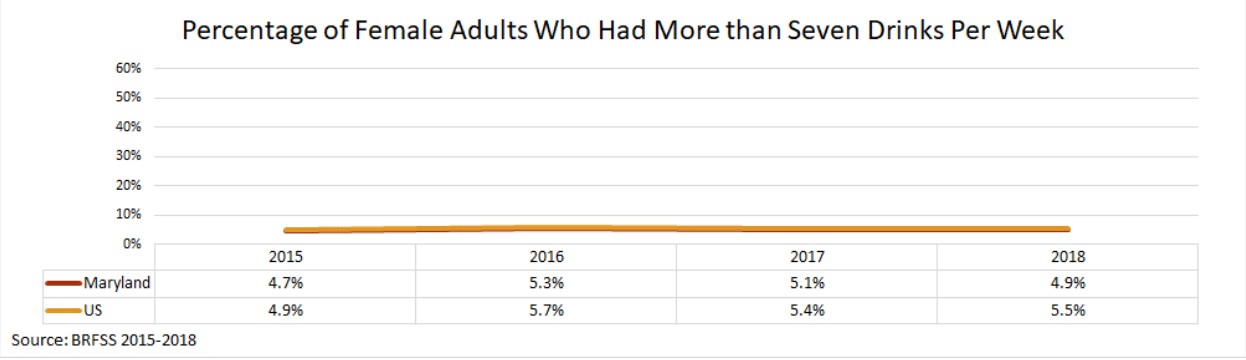
According to the CDC, binge drinking is the most common, costly and deadly pattern of excessive alcohol use in the United States. Binge drinking is defined as "a pattern of drinking that brings a person's blood alcohol concentration (BAC) to 0.08 g/dl or above. One in six US adults are said to binge drink about four times a month, consuming about seven drinks per binge. Binge drinking is most common among younger adults aged 18-24 years and is twice as common among men than among women[17].

Since 2015, roughly half of Maryland women reported having an alcoholic drink in the past 30 days. A compressed scale is shown in the second chart below to enhance the visibility of the small percentages shown. Consistent with the national trend, approximately 5% of Maryland women reported having had more than seven drinks per week.



	2015	2016	2017	2018
Maryland	45.7%	49.0%	49.4%	49.1%
US	43.8%	46.4%	46.5%	45.5%

Source: BRFSS 2015-2018



	2015	2016	2017	2018
Maryland	4.7%	5.3%	5.1%	4.9%
US	4.9%	5.7%	5.4%	5.5%

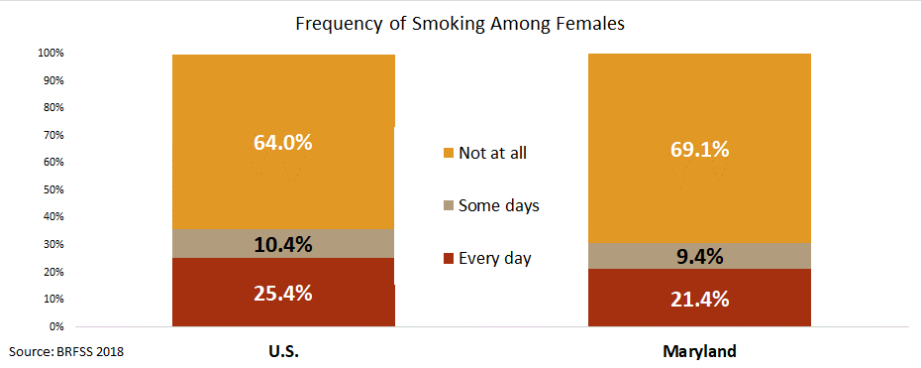
Source: BRFSS 2015-2018

[17] https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm

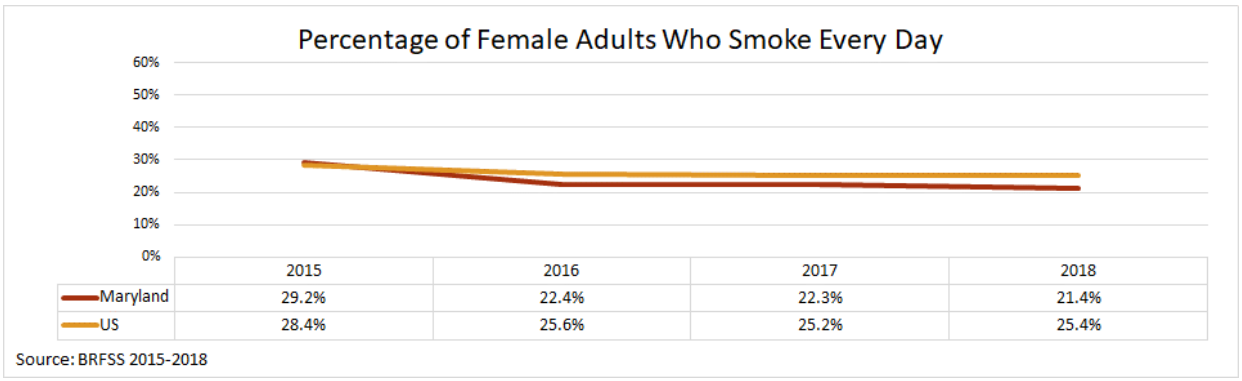
Tobacco

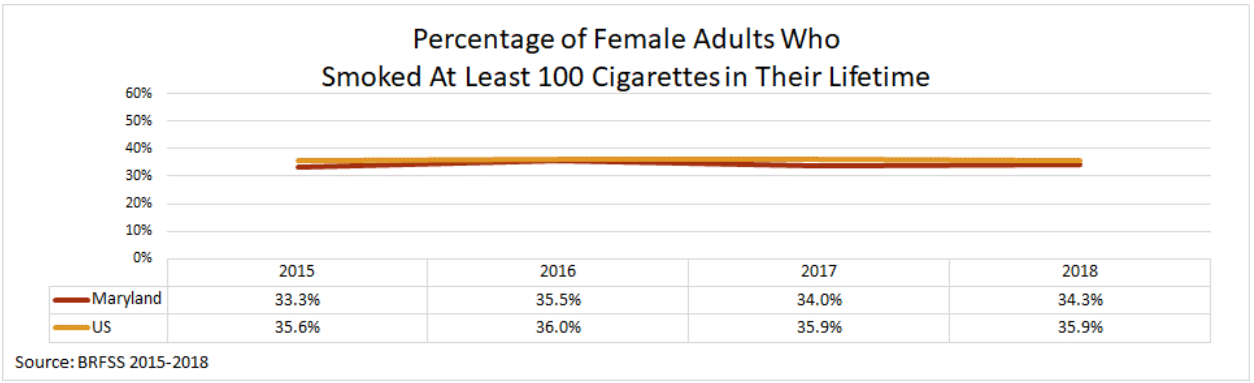
According to the CDC, smoking is the leading cause of preventable death. Smoking also leads to disease and disability that harms almost every organ of the body. In 2018, tobacco companies spent $9.06 billion marketing cigarettes and smokeless tobacco in the United States, which is roughly $25 million each day[18].

In 2018, women in Maryland reported smoking less frequently than the national trend (69.1% and 64.0 respectively). Approximately 30% of Maryland women reported smoking at least some days.



Since 2015, Maryland has had a slight decrease in the percentage of females who smoke every day. The percentage of Maryland women who have smoked at least 100 cigarettes in their lifetime remains at approximately 34%, consistent with the national trend.





[18] https://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm?s_cid=osh-stu-home-spotlight-001

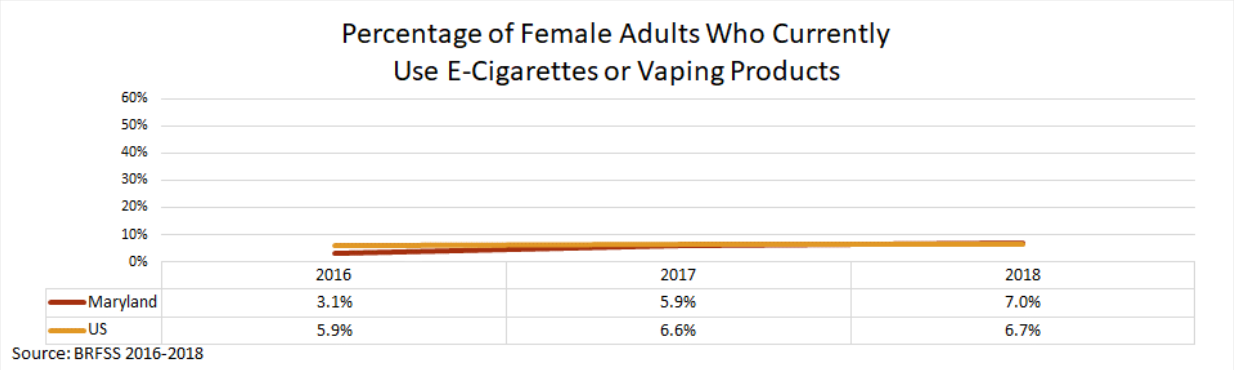
Electronic Cigarette Use and Vaping

Electronic cigarettes are sometimes called “e-cigs,” “vapes,” “e-hookahs,” “vape pens,” and “electronic nicotine delivery systems (ENDS).” Some electronic cigarettes look like regular cigarettes, cigars or pipes, while others may look like USB flash drives, pens or other everyday items.

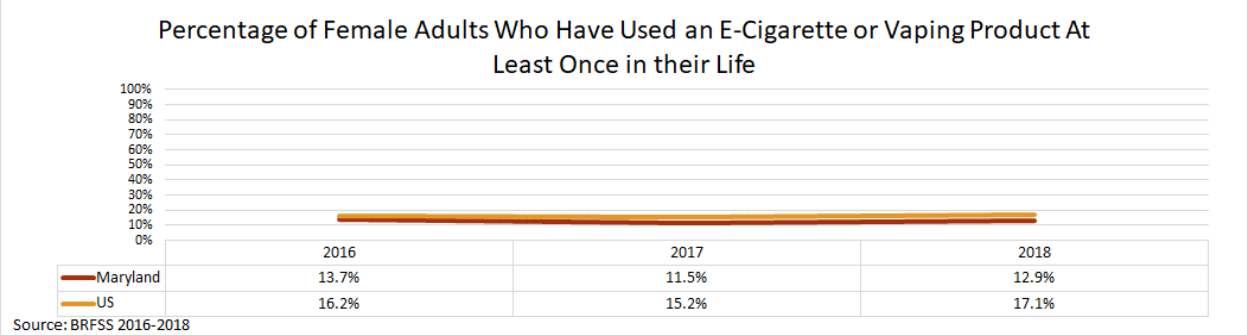
Electronic cigarettes produce an aerosol by heating a liquid that usually contains nicotine, the addictive drug in regular cigarettes, cigars and other tobacco products. Aerosol may also contain ultrafine particles that can be inhaled deep into the lungs, flavoring such as diacetyl, a chemical linked to a serious lung disease, volatile organic compounds, cancer-causing chemicals, and heavy metals such as nickel, tin and lead. Users inhale this aerosol into their lungs. Bystanders can also breath in this aerosol when the user exhales into the air[19].

Data regarding electronic cigarette use are shown for 2016-2018, since the BRFSS did not ask questions pertaining to electronic cigarettes until then.

Although a smaller percentage of women used e-cigarettes or vaping products in 2016 as compared to the nation overall, in 2018 a slightly higher percentage of Maryland women reported that they currently use e-cigarettes or vaping products (7.0% vs. 6.7%, respectively.) However, in 2018, as previously, a smaller percentage of Maryland women have ever used e-cigarettes, as compared with their national counterparts (12.9% vs. 17.1%, respectively.)



Source: BRFSS 2016-2018



Source: BRFSS 2016-2018

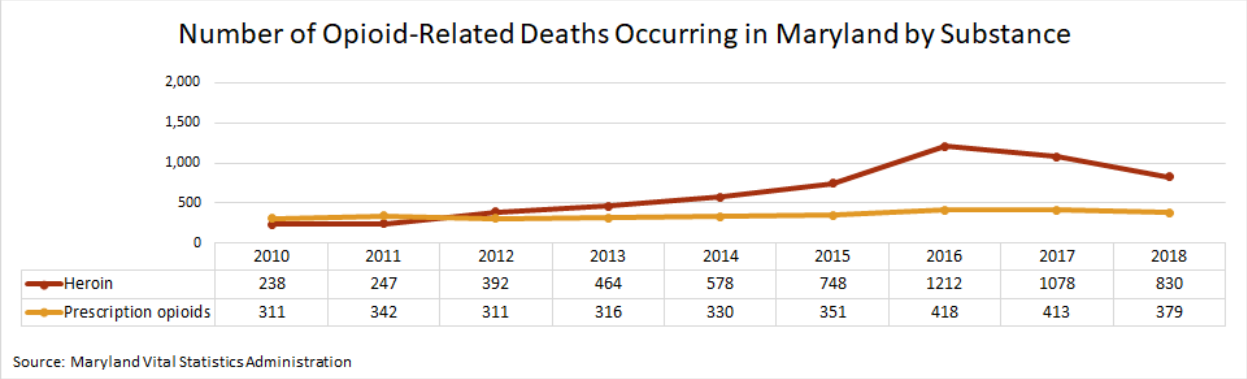
[19] https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html

Opioids

"Drug addiction is a complex brain disease. It is characterized by compulsive, at times uncontrollable, drug craving, seeking and use that persist even in the fact of extremely negative consequences. Drug Seeking becomes compulsive, in large part as a result of the effects of prolonged drug use ono brain functioning and, thus, on behavior. For many people, drug addiction becomes chronic, with relapses possible even after long periods of abstinence."

-U.S. Department of Health and Human Services,
Substance Abuse and Mental Health Services Administration,

Opioid deaths, which include heroin, prescription opioids and illicit forms of fentanyl, have been the leading cause of drug- and alcohol-related deaths in Maryland for over a decade. In 2017, Fentanyl related deaths spiked and surpassed Heroin as number one, making up approximately 61% of opioid-related deaths. Since 2017, Heroin-related deaths has had a downward trend, despite being the second related cause of death among opioids at approximately 27%. Prescription opioid related-deaths have remained consistent over the last decade and currently represent approximately 12% of opioid-related deaths.



	2010	2011	2012	2013	2014	2015	2016	2017	2018
Heroin	238	247	392	464	578	748	1212	1078	830
Prescription opioids	311	342	311	316	330	351	418	413	379

Source: Maryland Vital Statistics Administration

Intimate Partner Violence

MCHB collaborates with the Environmental Health Bureau (EHB) on several environmental issues impacting child and maternal health, including childhood lead poisoning, asthma, childhood injury prevention, intimate partner violence and child abuse and neglect.

During the COVID-19 pandemic, women and children experiencing violence in the home may face new hurdles related to the virus. Shelters may have closed, be full or are quarantining staff or clients. Those seeking help may be fearful of using shelters, hospitals, or courthouses to get help due to fear of contracting COVID-19. Public transportation and other transportation services may have been interrupted due to the virus.

The Maryland Governor's Family Violence Council established a workgroup to address intimate partner violence and pregnancy in 2020.

In 2017, 3.3% of Maryland women experienced interpersonal violence during the 12 months before pregnancy by a husband or partner and/or an ex-husband or partner compared with 3% nationally. This is an increase from 2.9% in 2016. Both differences are within the margin of error. 2.9% of Maryland women experienced interpersonal violence during pregnancy by a husband or partner and/or an ex-husband or partner, up from 2.2% in 2016, although this difference is also within the margin of error[20].

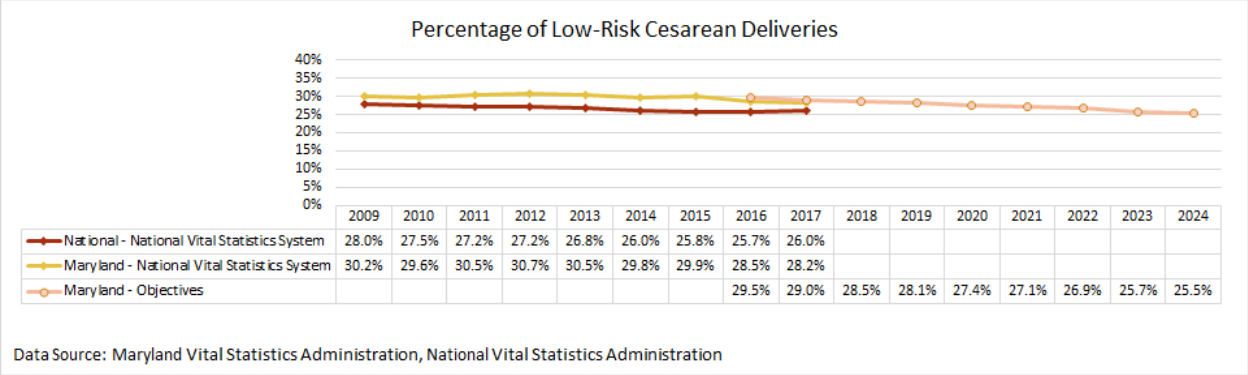
Maryland's certified Abuse Intervention Programs in 2019 included the following:

- Abused Persons Program, New Beginnings Abuser Intervention Program
- Alcohol & Drug Intervention (ADI)
- Calvert County Health Department Crisis Intervention, Center Abuser Intervention Program
- Catoctin Counseling Center
- Center for Abused Persons
- Citizens Assisting and Sheltering the Abused (CASA), Inc. Positive Choices Abuser Intervention Program
- Community Crisis Services, Inc. Abuser Intervention Program
- Dove Center, Abuser Intervention Program
- Family and Children's Services, Abuser Intervention Program
- Family Crisis Center of Baltimore County, New Behaviors Group Program
- Family Crisis Resource Center, Abuser Intervention Program
- Harbel Prevention and Recovery Center
- Heartly House, Abuse Intervention Program
- House of Ruth Maryland, Gateway Project
- Life Crisis Center, Inc.
- Mid-Shore Council on Family Violence, Abuser Intervention Program
- My Covenant Place, Alpha Project
- North Carroll Counseling Center, Abuser Intervention Program
- Relational Excellence, Engaging Men's Program
- A Renewed Mind Behavioral Health Center, Abuser Intervention Program
- Sexual Assault/Spouse Abuse Resource Center (SARC), Inc., Abuser Intervention Program
- Si Puedo, Abuser Intervention Program
- Synergy Family Services, Inc.
- Turn Around, Abuser Intervention Program
- YWCA of Annapolis and Anne Arundel County

[20] Prevalence of Selected Maternal and Child Health Indicators for Maryland, Pregnancy Risk Assessment Monitoring System (PRAMS), 2016-2017

Cesarean Deliveries

A cesarean delivery is considered low-risk if a single infant is delivered head-first at full term to a mother who has not given birth before[21].

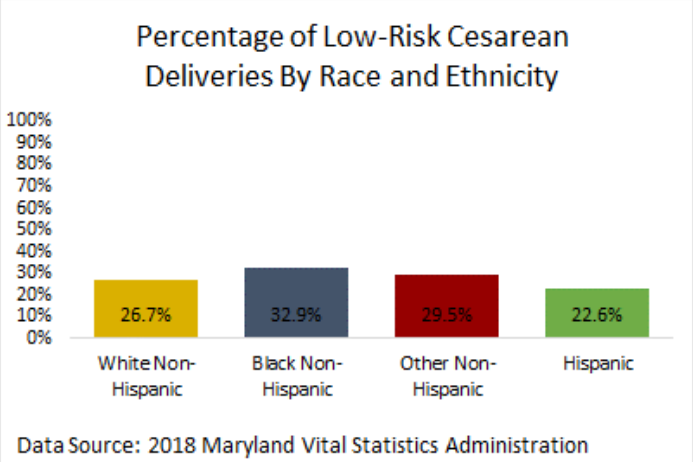


	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
National - National Vital Statistics System	28.0%	27.5%	27.2%	27.2%	26.8%	26.0%	25.8%	25.7%	26.0%							
Maryland - National Vital Statistics System	30.2%	29.6%	30.5%	30.7%	30.5%	29.8%	29.9%	28.5%	28.2%							
Maryland - Objectives								29.5%	29.0%	28.5%	28.1%	27.4%	27.1%	26.9%	25.7%	25.5%

Data Source: Maryland Vital Statistics Administration, National Vital Statistics Administration

Low-risk cesarean deliveries varied by counties in 2018, with a range from roughly 16% to roughly 33%. Baltimore County and Somerset County represented the highest percentage of low-risk cesarean deliveries, while Kent County and Talbot County represented the lowest.

Furthermore, low-risk cesarean deliveries also varied by race and ethnicity. In 2018, Black non-Hispanic women were most likely to receive a low-risk cesarean delivery, whereas Hispanic women were least likely.



County	Low-Risk Cesareans 2018
Allegany County	23.8%
Anne Arundel County	28.4%
Baltimore County	30.8%
Baltimore City	28.1%
Calvert County	29.9%
Caroline County	24.1%
Carroll County	27.1%
Cecil County	21.8%
Charles County	26.0%
Dorchester County	26.8%
Frederick County	25.5%
Garrett County	23.9%
Harford County	29.6%
Howard County	29.5%
Kent County	16.1%
Montgomery County	28.4%
Prince George's County	29.8%
Queen Anne's County	27.2%
Saint Mary's County	23.0%
Somerset County	32.9%
Talbot County	20.5%
Washington County	22.2%
Wicomico County	27.5%
Worcester County	19.6%

[21] https://www.healthsystemtracker.org/indicator/quality/low-risk-cesarean-section/

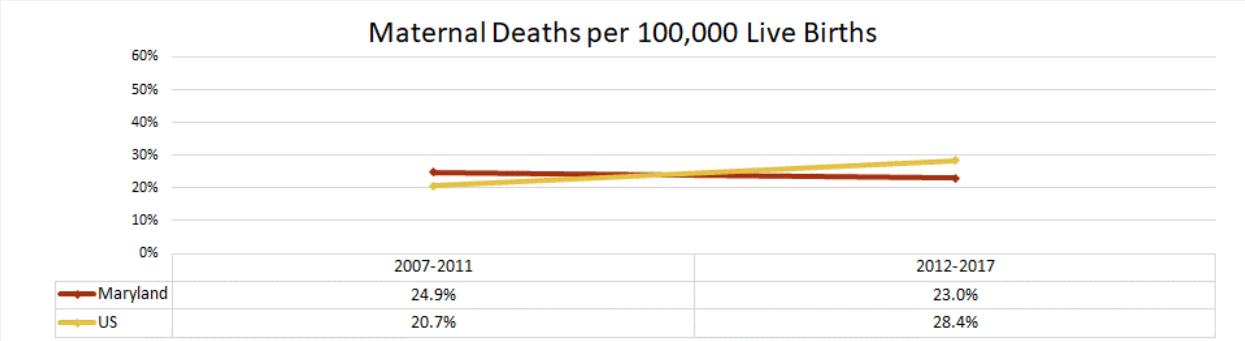
Maternal Mortality and Morbidity

A maternal death is defined by the World Health Organization's (WHO's) International Classification of Diseases Ninth and Tenth Revisions (ICD-9 and ICD-10) as "the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by pregnancy or its management but not from accidental or incidental causes." The maternal mortality ratio or rate (MMR) is the number of maternal deaths per 100,000 live births.

As part of the state priority need of optimizing the health and wellbeing of girls and women across the life span using preventive strategies, reducing maternal mortality was a goal of the previous Title V planning cycle. A subgroup of the Maternal Mortality Review Committee was formed in June 2015 to review recommendations for IPV, substance use and depression. The needs regarding each of these related topics are covered in their respective sections.

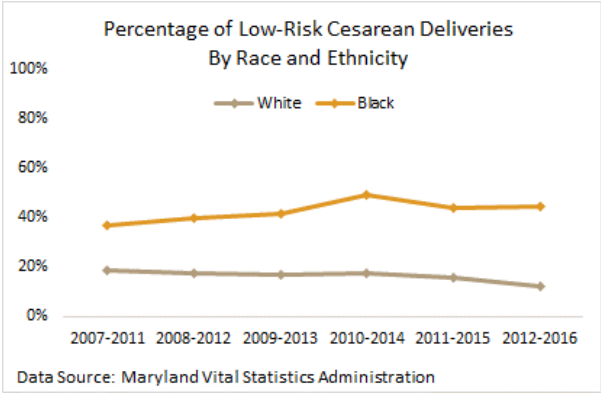
A five-year average is used to assess Maryland's MMR because there are a small number of maternal deaths and that number may vary widely from year to year, particularly in a small state like Maryland. Although the Maryland MMR has been higher than the national average historically, from 2011 to 2015 the Maryland MMR was slightly lower than the national rate for the first time.

The MMR rates for 2012-2017 show that the Maryland MMR is 23.0 deaths per 100,000 live births. This is significantly less than the national rate of 28.4. Between the two 5-year periods, the U.S. MMR increased by 37.2 percent whereas the Maryland rate decreased by 7.6 percent. Both, however, remain above the Healthy People 2020 Objective of 11.4 maternal deaths per 100,000 live births.



Source: CDC, NVSS; Maryland Department of Health, Vital Statistics Administration (VSA)

Considerable racial disparities persist. Nationally, Black women have an MMR that is 2.4 times higher than that of White women, a disparity that has persisted since the 1940s. In Maryland, the MMR for white women decreased by 6.4% in the period since 2007-2011, whereas the MMR for Black women increased by 7.6%, exacerbating the racial disparity. The 2012-2016 Black MMR is 3.7 times the White MMR. Given this racial disparity, it appears that the recent decrease in the Maryland's MMR is attributable solely to the decrease in the White MMR.



Data Source: Maryland Vital Statistics Administration

Findings from Key Informants

Key informants discussed various topics included in women's and maternal health, such as access to healthcare, preconception care, mental health, substance use and domestic violence.

Gaps and Barriers: Access to Healthcare for this Population

The most common stated barrier to women's and maternal health is access. Several key informants stated that access issues include access to OB's for their prenatal care, specifically high-risk OB, which is hindered by the number of providers, transportation and travel, insurance eligibility and immigration status among other things. Some key informants also alluded to a lot of unmet social needs, such as a lack of stable, safe, and affordable housing, food insecurity and a lack of education that include health and financial literacy.

Several key informants mentioned that among the immigrant population, there may be low literacy rates and limited English skills. A lack of interpretation presents challenges to receiving adequate prenatal care. Furthermore, one key informant reported that when immigrants come into the country pregnant, they often have no history of prenatal care. In some cases, these women come to the county during the late stages of their pregnancy. Additionally, cultural reasons were also given, such as a lack of trust in the provider and the role of the woman in the culture; some women may not be comfortable traveling to an appointment without their husbands. The lack of trust in the provider can stem from a lack of continuity from prenatal care to delivery as well as being afraid of signing any papers.

> "When low-income women or women of color visit, they feel they are treated differently. They feel like the people are rude, don't understand what's being told to them and sometimes, look down on them."
>
> -Key Informant

When asked if these barriers differ for families with low-income and for families of color, many key informants agreed that these barriers are increased for both groups. Many key informants reported that racism affects the healthcare received by women of color and that they are not treated equally due to the systematic biases. One key informant stated that it's clear there is provider bias that leads to fetal loss, saying "even when you de-segregate by race and control for poverty, you still see worse outcomes for African American women." A few key informants stated that, like the immigrant population, African American families express a lack of trust in health providers.

Several key informants stated that those with low-income especially struggle with transportation provided for medical appointments. One key informant stated that "if a woman has an appointment and three children, she cannot bring those three children with her on the bus." Women are hindered from receiving medical transportation if they have a vehicle registered in their name which makes them ineligible for this service. Additionally, childcare services are limited, especially for newborns and when a family has low-income. There is also a cost associated with most childbirth classes making it less accessible for low-income families.

Lastly, many key informants commented that there is a lack of knowledge of the importance of well-women visits. One key informant even stated that "women tend to use their well-woman visits in place of annual well-visits." Furthermore, a few key informants stressed that there is a lack of knowledge about the importance of prenatal vitamins, especially among younger mothers.

Gaps and Barriers: Preconception Care, Mental Health, Substance Use and Domestic Violence

The key informants who discussed preconception care agreed that there is a lack of family planning and contraceptive care. Rationale given for this included lack of insurance coverage and lack of providers time with patients. Another key informant stated that obesity and hypertension should both be examined as part of preconception care.

Many key informants alluded to mental health gaps in this population, especially regarding postpartum depression. One key informant reported "black women are not only four times more likely to die in childbirth, they are also less likely to receive mental health services." Several key informants talked about the stigma associated with seeking mental health care, especially in African American culture. One key informant noted that some women are afraid to discuss issues for fear that their children might get taken away. Furthermore, language barriers, insurance and transportation can add extra hindrances to accessing mental health care.

Key informants working in women's and maternal health reported that knowledge, access and income are the main gaps when referencing substance use. One key informant stated that the prevalence of substance use during pregnancy is higher in Baltimore City than in rural areas, while another key informant said there is a bias toward substance use disorders in Baltimore City. A different key informant stated that "accessing the services is always an issue" while another stated there are limited detox recovery programs.

> "Low-income populations are underserved and have limited knowledge of the resources available."
>
> -Key Informant

Some key informants also alluded to parent's not understanding the harm of substance use, including one key informant who commented there are parents that do not think marijuana is harmful to the development of a baby while breastfeeding, despite research suggesting otherwise. Another key informant stated that there is an "increase in substance use effects on newborn babies."

One key informant reported that many providers are not asking questions about domestic violence due to insufficient time, lack of knowledge of what resources are available and because "they don't want to open pandora's box."

Successful Programs and Services

Key informants noted several successful programs and services. The Mary's Center for Healthy Families was named by several key informants for both educating women on the importance of routine visits and for their smoking cessation program. Other smoking cessation programs offered through various health centers were mentioned, such as the quit line that offers help specifically for pregnant women.

Some key informants expressed that Medicaid covers a substantial package for this group, especially pregnant women. Additionally, key informants stated that Medicaid provides a hotline that connects to eligible services. Medicaid also offers coverage to all low-income and provides in-home choice. A few key informants regarded home visiting and home-based nursing as successes. One key informant reported that the Prenatal Risk Assessment System is successful in providing case coordination with a single point of entry. Another key informant mentioned that the Baltimore City Health Department is working hard to close gaps with substance use issues.

PERINATAL AND INFANT HEALTH

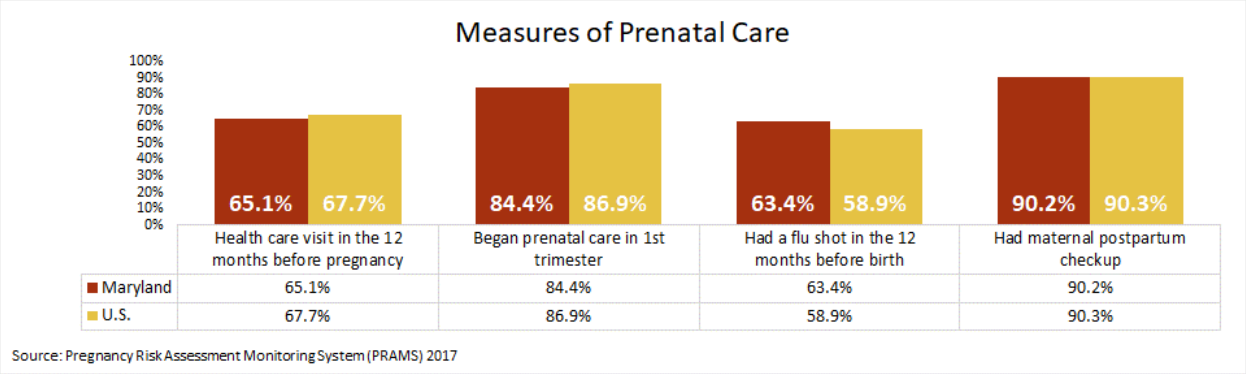
Perinatal and maternal health are closely linked. The perinatal period commences at 22 completed weeks (154 days) of gestation and ends seven completed days after birth. The infant period is from birth to 12 months of age.

The priorities and concerns for this population include prenatal care, preterm birth, low birthweight and very low birthweight, infant mortality, risk-appropriate perinatal care, breastfeeding, smoking in pregnancy and safe sleep.

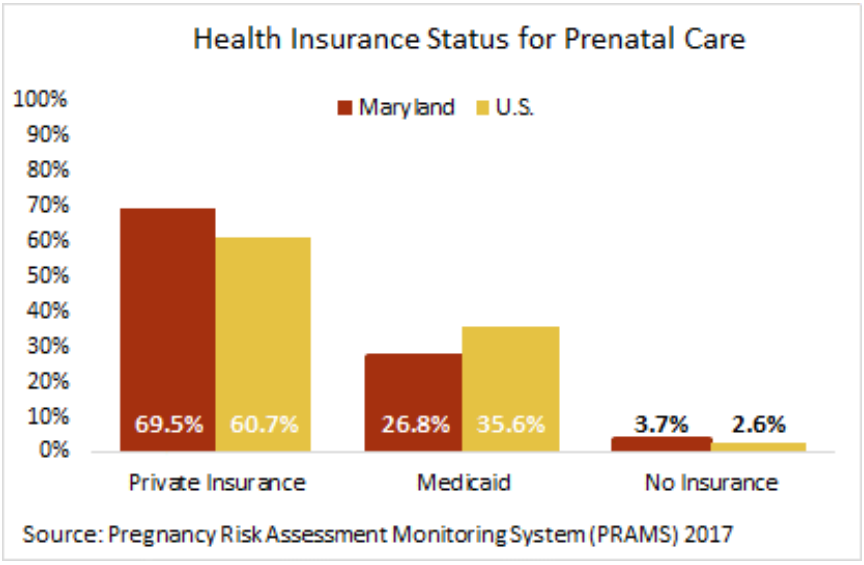
Prenatal Care

Prenatal care is defined as the health care received while pregnant and includes checkups and prenatal testing. Babies of mothers who do not receive prenatal care are three times more likely to have a low birth weight and five times more likely to die than babies born to mothers who do receive care. Early and regular care reduces the risk of pregnancy complications and optimizes the likelihood of healthy outcomes[22].

In 2017, Maryland women began prenatal care in the first trimester more often than the national percentage (86.9% and 84.4%, respectively). Women in Maryland also received a flu shot in the 12 months before birth more frequently than the national percentage (63.4% and 58.9% respectively). These two measures represented statistically significant differences. Consistent with the national trend, most women in Maryland (90.2%) had a maternal postpartum checkup and about two-thirds (65.1%) received a health care visit in the 12 months before pregnancy.



Maryland women are more likely to have private insurance for prenatal care as compared with women nationally and less likely to have Medicaid that covers their prenatal care. Maryland women are slightly more likely than the national average to have no insurance.



[22] https://www.womenshealth.gov/a-z-topics/prenatal-care

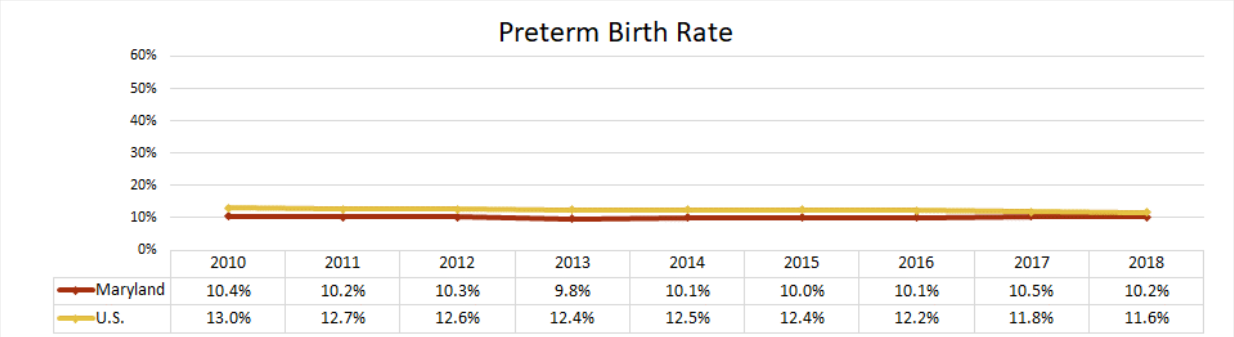
Preterm Birth

Preterm is defined as babies born alive before 37 weeks of pregnancy are completed. There are additional sub-categories of preterm birth, based on gestational age. These include Extremely Preterm (less than 28 weeks), Very Preterm (28 to 32 weeks) and Moderate to Late Preterm (32 to 37 weeks).

In 2018, 1 of every 10 infants born in the United States was premature. From 2007 to 2014, preterm birth rates decreased, in part due to declines in the number of births to teens and young mothers. However, preterm birth rates rose for the fourth straight year in 2018[23]. Globally, preterm birth complications are the leading cause of death among children under the age of 5 years[24].

Preterm births may also take an emotional toll and be a financial burden for families. According to the March of Dimes, the average societal cost of a preterm birth is $70,000. This includes medical care for premature children, maternal delivery costs, early intervention services, special education services and lost productivity[25].

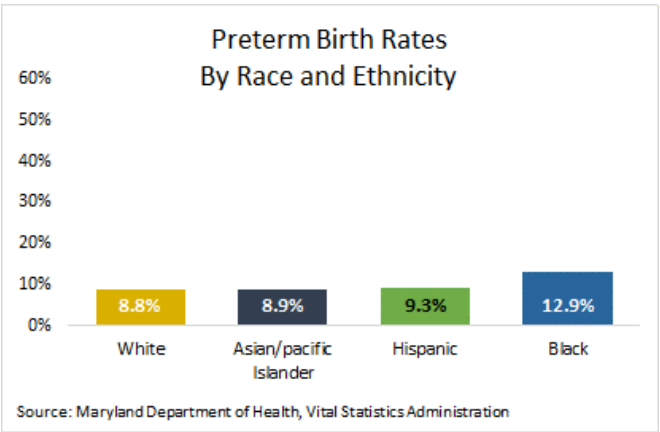
Over the last decade, Maryland has consistently remained at approximately 10% for preterm birth rates. While the national trend is more downward than that of Maryland, it remains higher. In 2018, Maryland reported 1.4% less preterm births than the national average.



	2010	2011	2012	2013	2014	2015	2016	2017	2018
Maryland	10.4%	10.2%	10.3%	9.8%	10.1%	10.0%	10.1%	10.5%	10.2%
U.S.	13.0%	12.7%	12.6%	12.4%	12.5%	12.4%	12.2%	11.8%	11.6%

Source: NVSS; Maryland Department of Health, Vital Statistics Administration

When looking at preterm birth rates by race and ethnicity, Maryland saw the largest percentage is Black babies (12.9%). Hispanic babies represented the second highest for preterm birth rates (9.3%), with Asian/Pacific Islander and White babies closely behind (8.9% and 8.8%, respectively). Maryland's racial and ethnic disparity is consistent with what is seen nationwide, where in 2018 Black Women had a 50% higher rate of preterm birth than White women[26].



Source: Maryland Department of Health, Vital Statistics Administration

[23] https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm
[24] https://www.who.int/news-room/fact-sheets/detail/preterm-birth
[25] https://www.marchofdimes.org/mission/the-economic-and-societal-costs.aspx
[26] https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm

Low Birthweight and Very Low Birthweight

Low birthweight is when a baby is born weighing less than 5 pounds, 8 ounces (2,500 grams), while very low birthweight is when a baby is born weighing less than 3 pounds, 5 ounces (1,500 grams). In 2018, nationally, 8.3% of live births resulted in low birthweight infants, while 1.4% of live births resulted in very low birthweight infants[27].

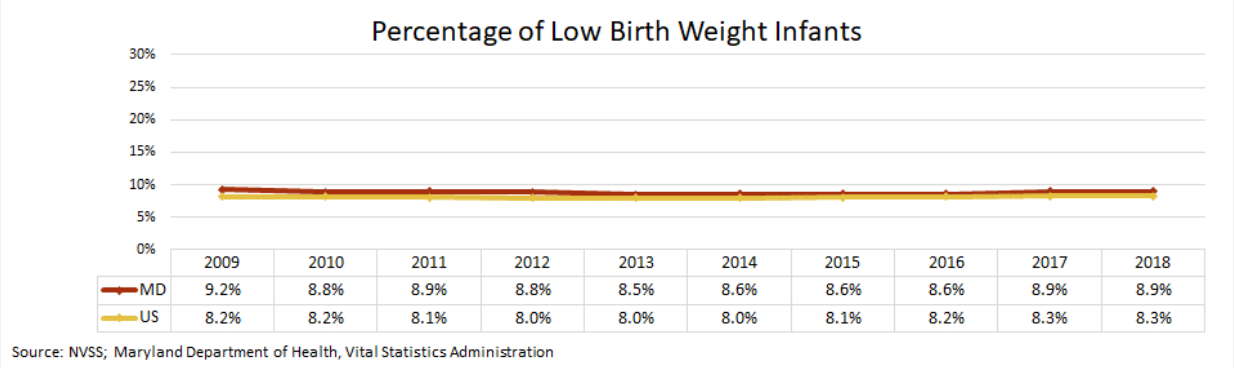
The two main reasons a baby may be born with a low birthweight are premature birth and fetal growth restriction (also called FGR, growth restricted, small for gestational age, SGA and small for date). Some low birthweight babies are born healthy, but others have serious health problems that need treatment. In 2017, low birth weight accounted for about 17% of infant deaths. Babies who survive may have:

- Breathing problems, like respiratory distress syndrome (RDS)
- Bleeding in the brain (intraventricular hemorrhage or IVH)
- Patent ductus arteriosus (PDA)
- Necrotizing enterocolitis (NEC)
- Cerebral Palsy
- Retinopathy of prematurity (ROP)
- Feeding difficulties
- Developmental Delay
- Vision Problem
- Hearing Problems
- Jaundice
- Infection

There are a myriad of risk factors for having a low- or very low-birthweight baby. Medical risk factors include preterm labor, chronic health conditions, taking certain medications, infections, problems with the placenta, not gaining enough weight during pregnancy, having a premature baby or a growth-restricted baby in the past and being pregnant with multiples. Everyday risk factors include smoking, drinking alcohol, using street drugs and abusing prescription drugs, exposure to air pollution or lead, low socioeconomic status (SES) and domestic violence. Being a teen mother, especially younger than 15, or being older than 35 can also increase the likelihood of a low-birthweight baby. Lastly, in the United States, black women are more likely than others to have a low-birthweight baby.

Reducing low birthweight to 7.8% of live births is a Healthy People 2020 objective.

The incidence of low birth weight infants was 8.9% in 2018, which represented no change from the 2017 rate. Maryland's percentage of low birth weight infants has remained consistent over the last decade, with a slightly higher percentage than the national average.

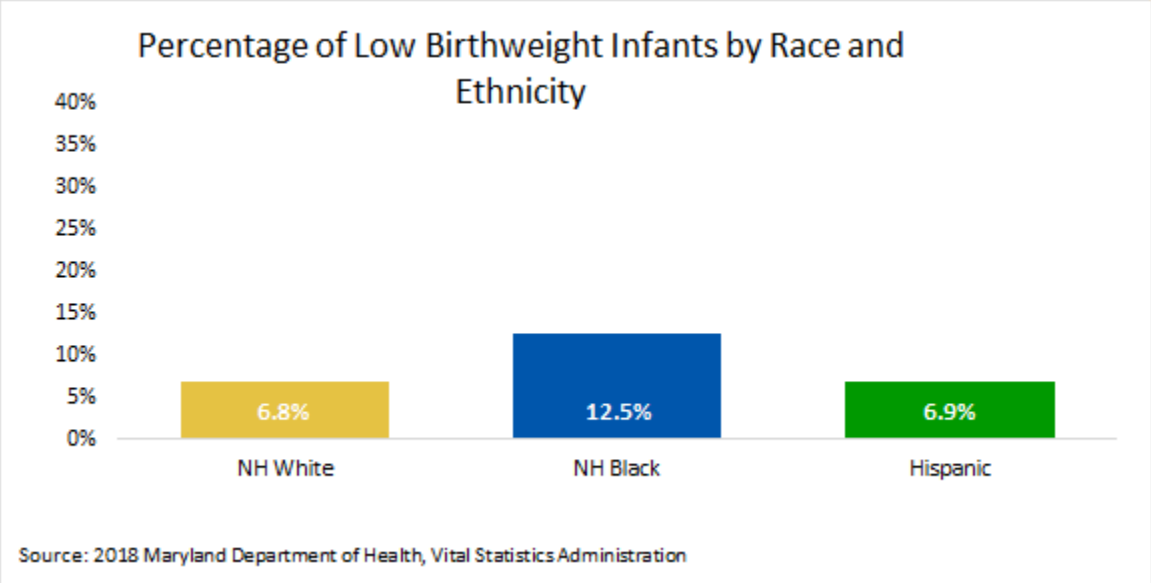


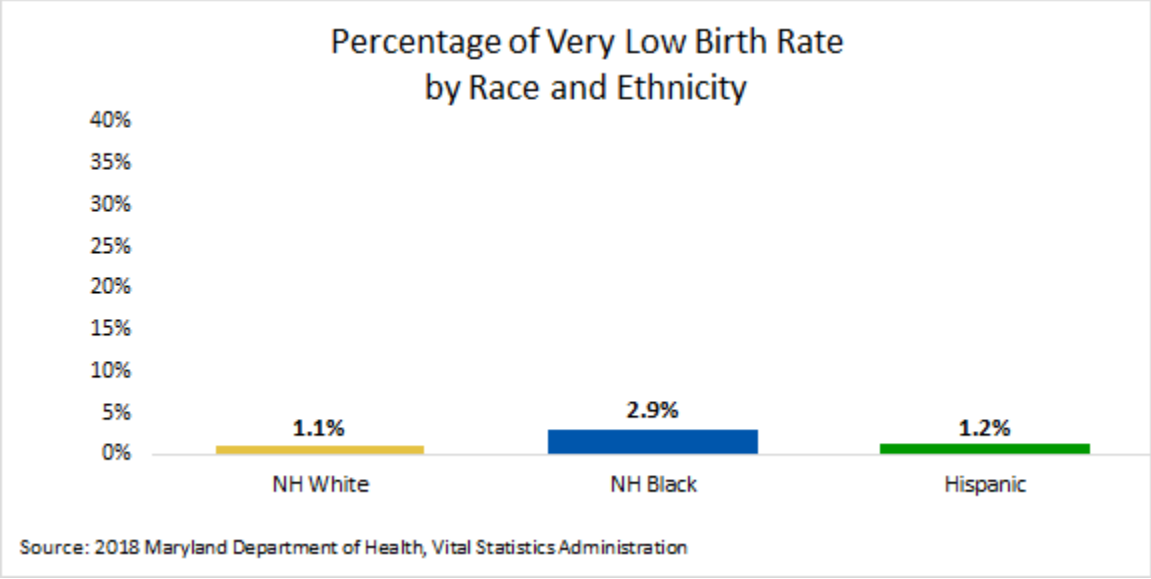
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
MD	9.2%	8.8%	8.9%	8.8%	8.5%	8.6%	8.6%	8.6%	8.9%	8.9%
US	8.2%	8.2%	8.1%	8.0%	8.0%	8.0%	8.1%	8.2%	8.3%	8.3%

Source: NVSS; Maryland Department of Health, Vital Statistics Administration

[27] https://www.cdc.gov/nchs/fastats/birthweight.htm

When looking at low birth weight and very low birthweight by race and ethnicity, non-Hispanic Black infants represented the largest percentage (12.5% and 2.9%, respectively), while Hispanic infants and non-Hispanic White infants were comparable at 6.9% and 6.8%, respectively for low birth weight, and 1.2% and 1.1% respectively for very low birth weight. Maryland's racial and ethnic disparity is consistent with the national averages for all three groups[28].



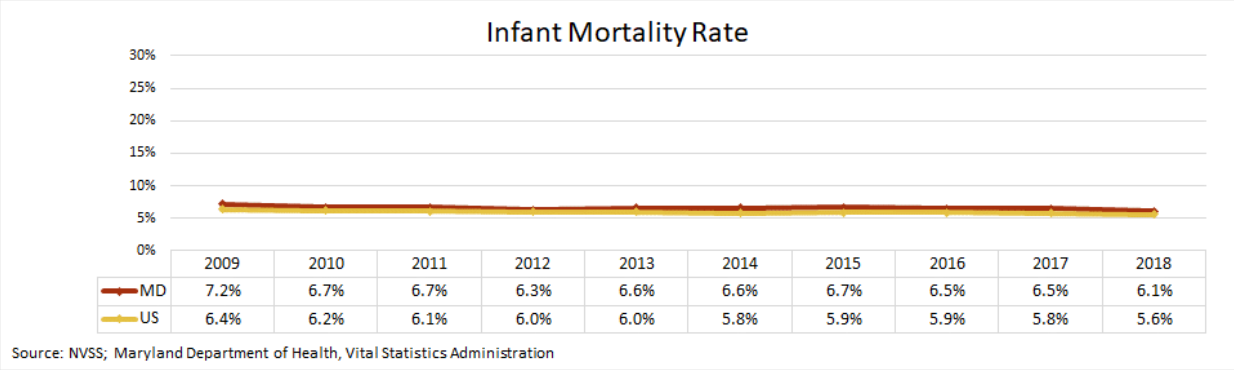


[28] https://www.marchofdimes.org/complications/low-birthweight.aspx

Infant Mortality

Infant mortality, or the death of a baby before its first birthday, is an important indicator of the general health status of a population and can be seen as a broad proxy measure of socioeconomic status and the availability and quality of healthcare services within a community. Infant mortality is broken into two sub-categories: Neonatal mortality rate, the death of a baby in the first 28 days, and post neonatal mortality, the death of a baby between 28 and 364 days of age.

The total number of infant deaths declined between 2017 and 2018, from 462 to 432, along with the number of births. In 2018, Maryland's infant mortality rate was 6.1% per 1,000 live births, a 6% decline compared with 2017, which represents the lowest rate ever recorded in Maryland. The neonatal mortality rate and post neonatal mortality rates both declined slightly between 2017 and 2018 as well. The neonatal mortality rate was 4.2 per 1,000 live births compared to a rate of 4.4, while the post neonatal mortality rate was 1.9 per 1,000 live births compared to a rate of 2.0. Despite the statewide decline in the infant mortality rate over the past decade, there are areas of the State where rates have been increasing. The leading causes of infant death in 2018 were low birth weight, congenital abnormalities, Sudden Infant Death Syndrome, maternal complications of pregnancy, and cardiovascular disorders.

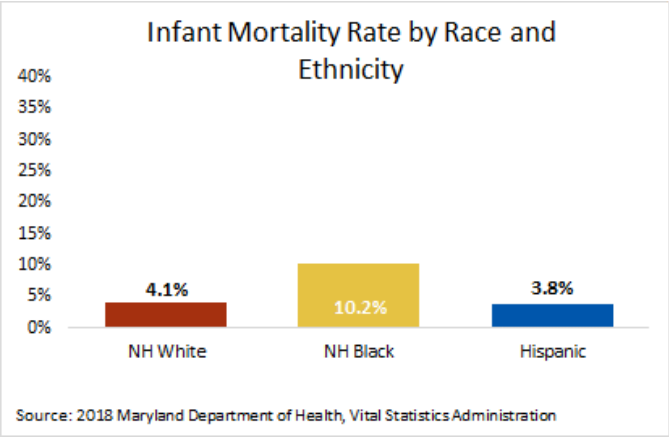


	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
MD	7.2%	6.7%	6.7%	6.3%	6.6%	6.6%	6.7%	6.5%	6.5%	6.1%
US	6.4%	6.2%	6.1%	6.0%	6.0%	5.8%	5.9%	5.9%	5.8%	5.6%

Source: NVSS; Maryland Department of Health, Vital Statistics Administration

Although the average infant mortality rate has fallen by 4% in Maryland over the last decade, with an 8% decline for Non-Hispanic Black infants and a 2% decline for Non-Hispanic White infants, the Hispanic infant mortality rate has unfortunately increased by 15%.

There were 231 (10.2%) deaths among infants born to non-Hispanic Black women, 123 (4.1%) deaths among infants born to non-Hispanic White women, 47 (3.8%) deaths among infants born to Hispanic women, and 25 deaths among infants born to non-Hispanic Asian women.



The neonatal mortality rate by race and ethnicity was 2.6 among non-Hispanic Whites, 6.9 among non-Hispanic Blacks and 2.9 among Hispanics. The Hispanic rate decreased by 17.1% from 2017 to 2018.

The post neonatal mortality rate was 1.5 among non-Hispanic Whites, 3.3 among non-Hispanic Blacks and 0.9 among Hispanics. The Hispanic rate decreased by 18.2% between 2017 and 2018.

Risk-Appropriate Perinatal Care

Maternal mortality and severe maternal morbidity, specifically among women of color, have increased in the United States. A leading cause of this increase is common obstetric complications. The goal of risk-appropriate perinatal care is to reduce maternal morbidity and mortality through the growth of systems for the provision of risk-appropriate care specific to maternal health needs.

To standardize a comprehensive system of perinatal regionalization and risk-appropriate maternal care, a classification system establishes levels of maternal care. These levels include basic care (level I), specialty care (level II), subspecialty care (level III) and regional perinatal health care centers (level IV).

The determination of the appropriate level of care to be provided by a center should align with regional and state health care entities, national accreditation and professional organization guidelines, identified regional perinatal health care service needs and regional resources[29].

In Maryland, the American Academy of Pediatrics (AAP) evaluates hospitals and ranks them on the complexity of care provided by their NICU. Babies can be transferred from level to level NICU depending on the complexity of care needed.

Level I units provide the most basic neonatal care and is for newborns that had healthy births and are at low risk. Level II units can accommodate infants who have issues that can be resolved easily and have the capability to provide care for infants at moderate risk of developing serious complications. Level II should primarily be for infants born after 32 weeks of gestation and who weigh more than 1,500 grams. Level II is further divided into two subcategories, IIA and IIB, where IIB have the capability to provide mechanical ventilation for no more than 24 hours.

Level III units typically have advanced personnel including neonatologists, neonatal nurses and respiratory therapists. Level III units have appropriate equipment to provide life support for an indefinite period. Level III are also divided into two subcategories, IIIA and IIIB, where IIIB are more equipped to handle newborns weighing less than a kilogram who were born

LEVELS OF CARE IN MARYLAND

Level I Units:
MedStar St. Mary's

Level IIA Units:
Baltimore Washington Medical Center
Carroll Hospital
Holy Cross Germantown Hospital

Level IIB Units:
MedStar Southern Maryland Hospital Center

Level IIIA Units:
Adventist HealthCare Shady Grove Medical Center
Anne Arundel Medical Center
Frederick Memorial Hospital
GBMC
Holy Cross Hospital
MedStar Franklin Square
Sinai Hospital
Saint Agnes Hospital
University of Maryland Prince George's Hospital
University of Maryland Capital Region Health
Walter Reed National Military Medical Center

Level III+ Units:
Howard County General Hospital

Level IIIB Units:
Johns Hopkins Bayview NICU
NICU of Mercy's Family Childbirth and Children's Center
University of Maryland St. Joseph Medical Center

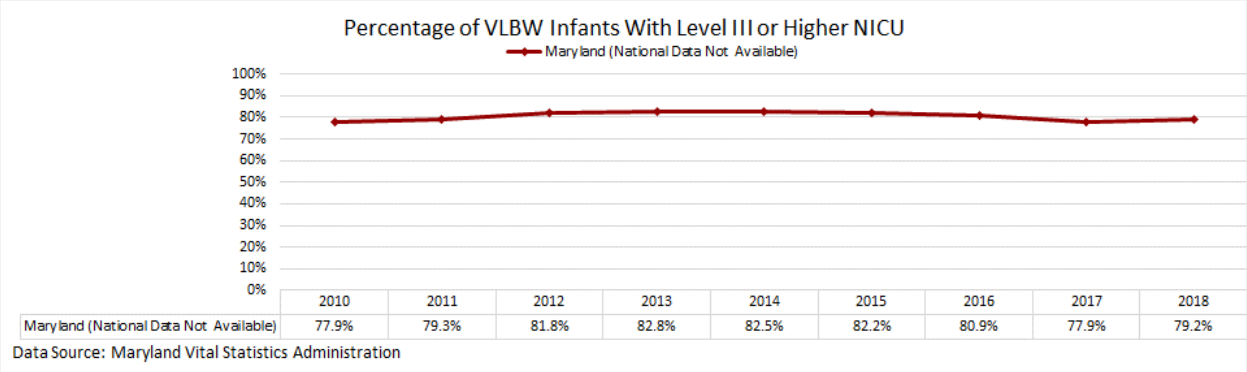
Level IV Units:
Johns Hopkins Hospital

[29] https://www.acog.org/clinical/clinical-guidance/obstetric-care-consensus/articles/2019/08/levels-of-maternal-care

prematurely. IIIB can also provide more advanced care for the babies' respiratory system for an indefinite period[30].

Level IV units are the most advanced NICU units. They have the same capabilities of IIIB units with the added ability to provide more advanced procedures such as extracorporeal membrane oxygenation (ECMO) and surgical repairs of heart conditions. These units have pediatric medical and surgical specialists who are constantly available.

In 2018, 79.2% of very low birthweight (VLBW) infants were born in a level III or higher NICU, which represents an increase of approximately 1% since 2017. Maryland saw its highest percentage of VLBW infants with level III or higher NICU in 2013 (82.8%) and saw a negative trend until 2018.

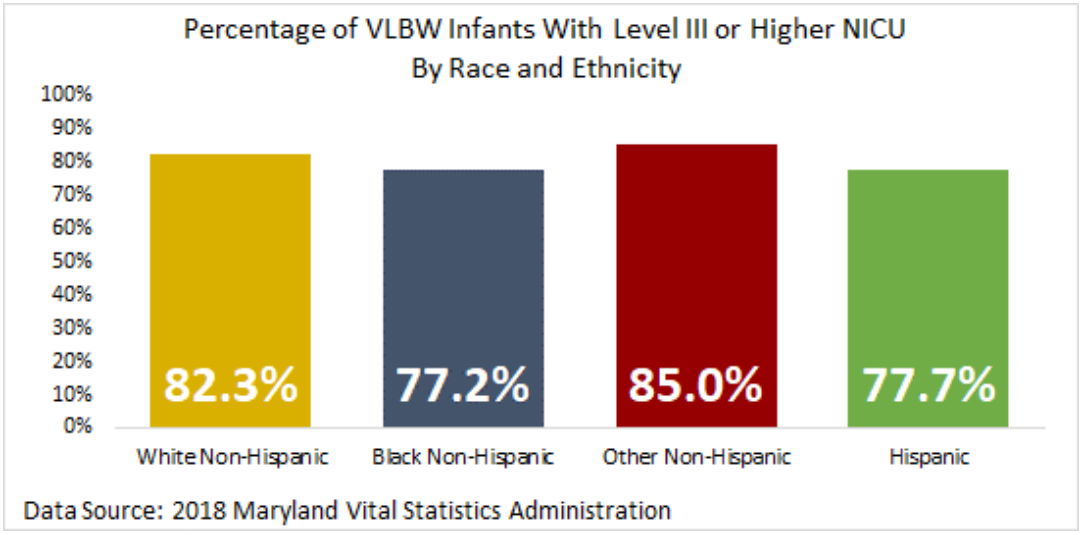


	2010	2011	2012	2013	2014	2015	2016	2017	2018
Maryland (National Data Not Available)	77.9%	79.3%	81.8%	82.8%	82.5%	82.2%	80.9%	77.9%	79.2%

Data Source: Maryland Vital Statistics Administration

Risk-Appropriate Perinatal Care by Race and Ethnicity

Non-Hispanic Black VLBW infants and Hispanic VLBW infants are seen by level III or higher NICU's less often (77.2% and 77.7%, respectively) than non-Hispanic White VLBW infants and other non-Hispanic VLBW infants (82.3% and 85.0%, respectively). This is consistent with the national trend.



[30] https://www.millerandzois.com/nicu-maryland-hospital-level.html

Risk-Appropriate Perinatal Care Variation by County

In 2018, there was a variation of VLBW infants born in level III or higher NICU's by county. Cecil County, Dorchester County, Washington County, Wicomico County and Prince George's County all have less than 60% of infants born at Level III or higher NICU, whereas Anne Arundel County, Baltimore County, Baltimore City, Caroline County, Frederick County, Hartford County, Howard County, Montgomery County, Queen Anne's County and Talbot County all have more than 80% of infants meeting this criteria.

County	LEVEL III or Higher NICU VLBW Infants 2018
Allegany County	**
Anne Arundel County	86.1%
Baltimore County	97.1%
Baltimore City	96.2%
Calvert County	75.0%
Caroline County	100.0%
Carroll County	75.0%
Cecil County	44.4%
Charles County	51.4%
Dorchester County	50.0%
Frederick County	95.0%
Garrett County	0.0%
Harford County	89.2%
Howard County	97.0%
Kent County	0.0%
Montgomery County	83.4%
Prince George's County	58.9%
Queen Anne's County	100.0%
Saint Mary's County	68.4%
Somerset County	**
Talbot County	100.0%
Washington County	50.0%
Wicomico County	54.2%
Worcester County	**
**Suppressed.	

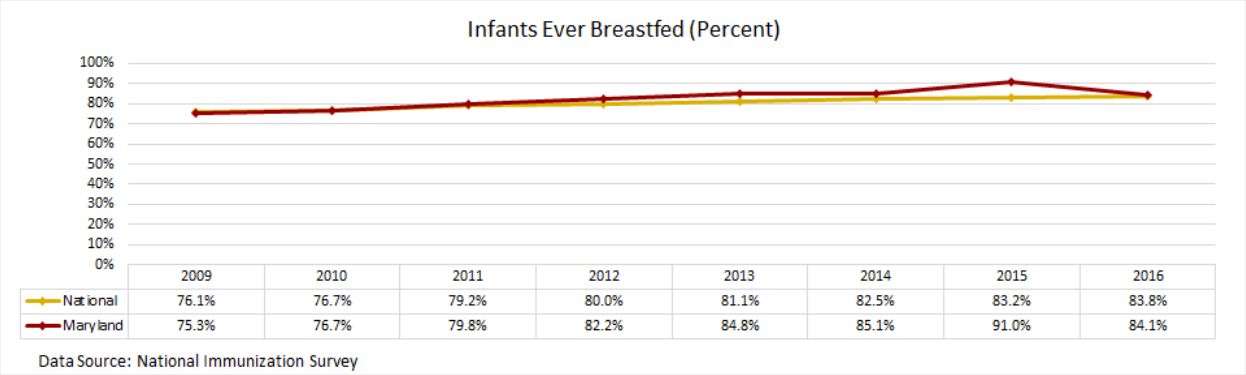
Breastfeeding

The American Academy of Pediatrics (AAP) recommends exclusive breastfeeding for about 6 months, and then continuing breastfeeding while introducing complementary foods until the child is a year old or older.

Breast milk is the best source of nutrition for most babies. Breast milk changes to meet the baby's nutritional needs as they grow. However, breastfed babies need additional vitamin D, beginning at birth, and iron, beginning at four months, from supplements. Breastfeeding can help protect mothers and babies against some short- and long-term illnesses. Babies who are breastfed have a lower risk of asthma, obesity, type 1 diabetes, severe lower respiratory diseases, acute otitis media (ear infections), sudden infant death syndrome (SIDS), gastrointestinal infections (diarrhea/vomiting) and necrotizing enterocolitis (NEC) for preterm infants. Mothers who breastfeed their babies have a lower risk of breast cancer, ovarian cancer, type 2 diabetes and high blood pressure[31].

According to the CDC, among infants born in 2015 in the United States, 4 out of 5 (83.2%) started to breastfeed, over half (57.6%) were breastfeeding at 6 months and over one-third (35.9%) were breastfeeding at 12 months. Rates increased for breastfeeding at 6 and 12 months, compared to 2014. Roughly 1 in 6 (17.2%) breastfed babies received formula supplementation in the first 2 days of life[32].

In 2016, Maryland was slightly above the national average for infants ever breastfed (84.1% and 83.8%, respectively). Both nationally and in Maryland, there is an upward trend for infants ever breastfed, apart from 2015, where Maryland saw a spike of 91.0% infants breastfed before falling slightly in 2016.



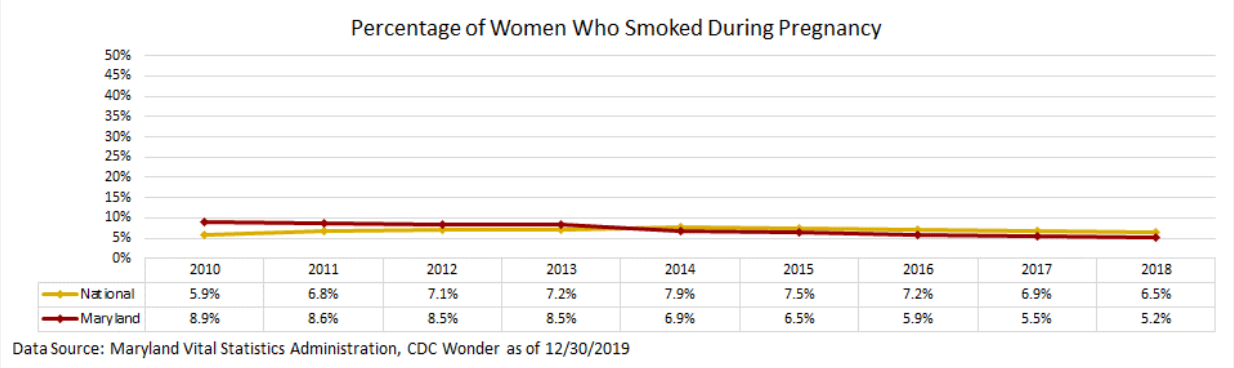
	2009	2010	2011	2012	2013	2014	2015	2016
National	76.1%	76.7%	79.2%	80.0%	81.1%	82.5%	83.2%	83.8%
Maryland	75.3%	76.7%	79.8%	82.2%	84.8%	85.1%	91.0%	84.1%

Data Source: National Immunization Survey

[31] https://www.cdc.gov/nutrition/infantandtoddlernutrition/breastfeeding/recommendations-benefits.html
[32] https://www.cdc.gov/breastfeeding/data/reportcard.htm

Smoking in Pregnancy

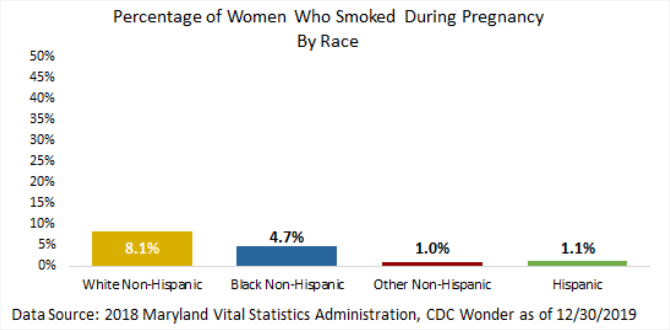
Smoking during pregnancy increases the risk of health problems for developing babies, including preterm birth, low birthweight and birth defects. Smoking during and after pregnancy also increases the risk of sudden infant death syndrome (SIDS). Nicotine is a health danger for both pregnant women and developing babies and can cause damage to a baby's developing brain and lungs[33].



	2010	2011	2012	2013	2014	2015	2016	2017	2018
National	5.9%	6.8%	7.1%	7.2%	7.9%	7.5%	7.2%	6.9%	6.5%
Maryland	8.9%	8.6%	8.5%	8.5%	6.9%	6.5%	5.9%	5.5%	5.2%

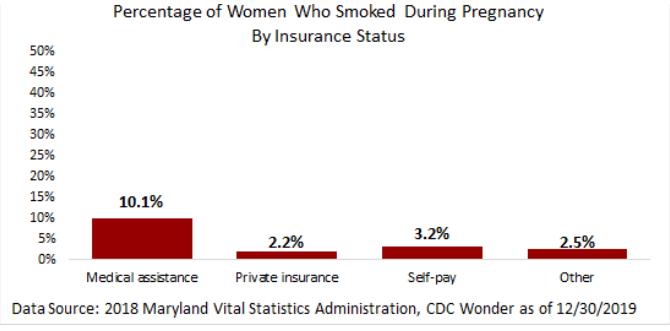
Data Source: Maryland Vital Statistics Administration, CDC Wonder as of 12/30/2019

White non-Hispanic women were more likely to smoke during pregnancy, followed by Black women.



Data Source: 2018 Maryland Vital Statistics Administration, CDC Wonder as of 12/30/2019

Women who received Medical Assistance were more likely to smoke during pregnancy than those with other kinds of coverage.



Data Source: 2018 Maryland Vital Statistics Administration, CDC Wonder as of 12/30/2019

Almost one in four pregnant women in Allegany County smoked in 2018.

County	Smoke
Allegany	**23.5%**
Anne Arundel	5.1%
Baltimore City	8.2%
Baltimore County	5.3%
Calvert	8.5%
Caroline	12.1%
Carroll	6.5%
Cecil	18.5%
Charles	5.4%
Dorchester	**19.6%**
Frederick	5.7%
Garrett	18.6%
Harford	7.4%
Howard	1.9%
Kent	8.1%
Montgomery	1.0%
Prince George's	1.5%
Queen Anne's	6.7%
Somerset	8.3%
St. Mary's	14.8%
Talbot	7.2%
Washington	14.6%
Wicomico	11.2%
Worcester	10.0%

* Counties in the highest ten percent are shown in red and bold.

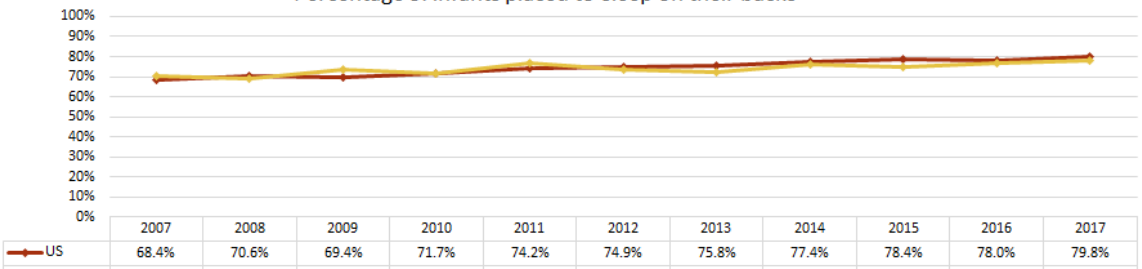
[33] https://www.cdc.gov/reproductivehealth/maternalinfanthealth/substance-abuse/substance-abuse-during-pregnancy.htm#tobacco

Safe Sleep

Significant improvements have been made in reducing baby deaths during sleep since the 1990's, when recommendations were introduced to place babies to sleep on their backs. Since then, declines have slowed down. AAP recommended safe sleep practices today include eliminating hazards, such as keeping blankets, pillows, bumper-pads and soft toys out of the sleep area. Additional recommendations include room sharing, but not bed sharing. These practices can lessen the risk of sleep-related infant deaths, including sudden infant death syndrome (SIDS) and accidental suffocation. Of the 11 jurisdictions that use Title V funds to provide home visiting services to pregnant and recently postpartum women a total of 4,109 parents received safe sleep education during FY 2019.

According to the CDC, unsafe sleep practices in babies are common in the US. In 2015, 22% of babies were not placed on their backs to sleep, 61% of babies shared beds and 39% of babies were placed to sleep with soft bedding. In each of these three cases, teen and young mothers had higher rates of unsafe sleep practices. Furthermore, there was a discrepancy by race and ethnicity as well. Not placing babies on their backs was more common with non-Hispanic Black babies (38%). Bed sharing was more common with American Indian or Alaska Native, non-Hispanic Black, and Asian or Pacific Islander babies (84%, 77% and 77%, respectively[34]).

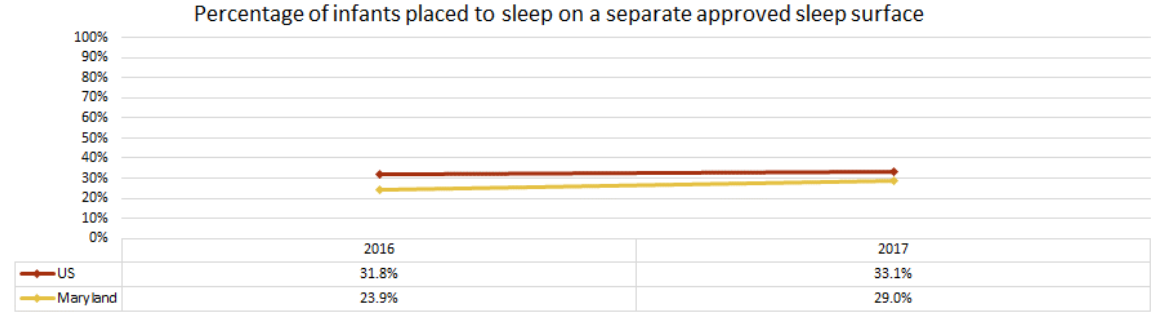
In 2017, Maryland reported an increase in the percentage of infants placed to sleep on their backs (78.2%) but has a rate which is less than the national average of 79.8%.



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
US	68.4%	70.6%	69.4%	71.7%	74.2%	74.9%	75.8%	77.4%	78.4%	78.0%	79.8%
Maryland	70.6%	69.2%	73.5%	71.6%	77.0%	73.3%	72.4%	76.0%	74.6%	76.5%	78.2%

Data Source: Maryland Vital Statistics Administration, National Vital Statistics Administration

Maryland reported an increase in the percentage of infants placed to sleep on a separate approved sleep surface (29%), which was approximately 4% lower than the national average.

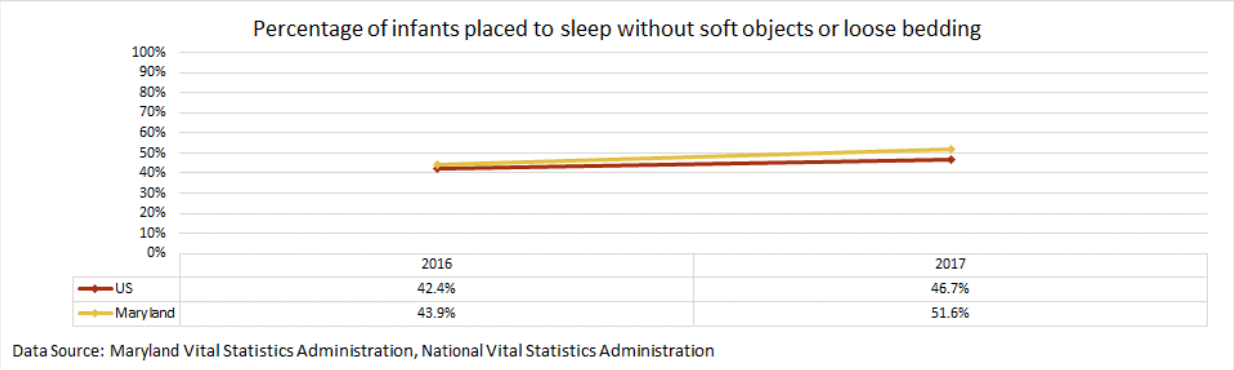


	2016	2017
US	31.8%	33.1%
Maryland	23.9%	29.0%

Data Source: Maryland Vital Statistics Administration, National Vital Statistics Administration

[34] https://www.cdc.gov/vitalsigns/pdf/2018-01-vitalsigns.pdf

With regard to the percentage of infants placed to sleep without soft objects or loose bedding, Maryland reported an increase of 51.6%, which is higher than the national average.



Data Source: Maryland Vital Statistics Administration, National Vital Statistics Administration

Findings from Key Informants

Key informants discussed various topics included in perinatal and infant health, such as social determinants, access and availability.

Gaps and Barriers: Social Determinants

When key informants were asked about perinatal and infant health, most attributed their responses to social determinants of health. Many stated that infant health is based on the level of care of their parents, where there are disparities for families of color and families of low-income. Key informants reported that safe affordable housing, mental health, presence of sickness and illness, access to transportation and childcare largely contribute to perinatal and infant health.

Several key informants highlighted that there is a lack of safe, affordable and stable housing. Due to this, there is a lack of adequate sleeping space, especially for a crib. This may lead to multiple people sharing a bed, which can then lead to unsafe sleep practices and suffocation. Low-income families struggle with options for housing, where one key informant stated that "families end up splitting up once they become homeless because there are very little family shelters." Furthermore, a few key informants pointed out that in some cultures co-sleeping practices are viewed as normal, which again can lead to increased risk of suffocation.

Several key informants stated that transportation is a huge barrier, especially in rural areas, and that the available public transit is not adequate. Another key informant emphasized that there are no public options for childcare and that daycares are saturated with waitlists.

Other social determinants presented by key informants included the financial burden, specifically for families of low-income, who are often families of color as well, and undocumented families. With these populations, women are not always aware that they are pregnant and therefore do not get care right away. Some women may even fear letting people know that they are pregnant. One key informant stated that the social and emotional health of infants and toddlers are not always met due to a lack in understanding the need to screen babies for cognitive delays. This key informant stated that the lack of screening leads Maryland "struggling with infant homicide and child abuse and neglect."

As stated in the women's and maternal health section, key informants expressed that immigrant populations may come to the country pregnant after receiving no prenatal care and some of these women may be in late stages of their pregnancy.

Key informants expressed that racial disparities and income status are heavily present when it comes to gaps and barriers to breastfeeding. One key informant stated that there is a lack of cultural support for breastfeeding. Several referenced the cruel legacy of American slavery, which may have left an association of breastfeeding with the forced breastfeeding of slave owners' children. Another key informant mentioned that women in lower-paying jobs are often not allowed to take adequate time to pump their milk at work.

> "There is societal pressure to breastfeed and it is hurting women's mental health, that's not good."
>
> -Key Informant

Gaps and Barriers: Access and Availability

Most key informants mentioned access and availability as another primary gap and barrier for this population. A lot of low-income families and families of color lack transportation and childcare options, as well as a lack of awareness that make it difficult to seek healthcare. Childcare options, especially for infants, for low-income families is extremely sparse. Several key informants commented that the available of programming and services for babies and toddlers up to the age of 3 is limited.

Furthermore, key informants reported that available pediatricians and specialists for young children is lacking. Several key informants stated that some families travel far distances to receive care. One key informant mentioned that a lot of low-income families and families of color go to the clinic due to the lack in availability of appointments. A few other key informants pointed out that racism plays a part in the assumption that moms of color do not need care in a timely manner, while another key informant noted that women of color are not taken seriously in healthcare.

In addition to a lack of awareness of programs and services, some key informants reported that there is too much reliance on the Prenatal Risk Assessment to identify challenges and not enough correspondence between the mother and hospital after delivery, with one key informant stating "when babies go home to the family for the first time, there are a lot of concerns the family has that the hospital doesn't know about." One key informant also reported that there are low enrollment percentages in WIC, particularly of eligible at-risk of late preterm babies.

Lastly, breastfeeding was also mentioned as an access and availability issue. A few key informants mentioned that breastfeeding education and support groups can be expensive and hard to find, especially in rural areas of the State. Some key informants also mentioned that for women of color, it can be hard to find a breastfeeding support group that is diverse and representative of their culture. One key informant mentioned that breastfeeding is especially challenging for first time mothers, who may not know techniques and likely lack an understanding of the emotional toll and amount of time it takes to breastfeed. Another key informant stated that breastfeeding education should also include the challenges about breastfeeding. Furthermore, access to a pump is an issue for low-income individuals. Key informants mentioned that insurance companies in Maryland are not following rules and that breast pumps are consistently denied.

Successful Programs and Services

Several programs and services were stated as being beneficial to this population. The Judy Center, the Infants and Toddlers Program and Head Start were all named as successful programs. The Judy Center keeps parents educated through parenting workshops and programs and provides cribs to parents in need. Healthy Start was mentioned as being helpful for their role in home visiting, mental health, partner violence and other social determinants. Healthy Start also provides pack n plays and informational outreach.

> "When infants get early intervention, school readiness is higher."
>
> -Key Informant

Several key informants mentioned progress in safe sleep and breastfeeding. Silver Spring Health Care was highlighted by a few key informants for their access to free classes with accurate information, their fully certified lactation consultant on staff, who can train, and for their work with safe sleep, where they give out pack n plays. Mary's Center for Healthy Families was also cited for their safe sleep

education and dissemination of information on the benefits of breastfeeding. A few key informants reported that safe sleep kits have been extremely helpful in the Safe Sleep Campaign since they provide educational packets, crib bumpers and, in some cases, cribs, portable bassinets and pack n plays. One key informant stated that the "multi-prong approach has been effective" and that they "use Safe Sleep ambassadors to help." A few key informants emphasized the importance of both breastfeeding support groups and classes, with one stating that it is helpful to offer them online.

Other areas of success include vaccines and other preventive health care, the WIC program, which offers prenatal courses through the Health Department, the Maryland Health EPS program, which includes dental, and public libraries.

CHILD HEALTH

Child's health includes physical, mental and social well-being. A child should get enough sleep, exercise and eat nutritious healthy foods, as well as receive regular checkups with their healthcare provider.

The priorities for child health include immunizations, developmental screenings, well-child/preventive visits for young adults, medical home and injury hospitalization.

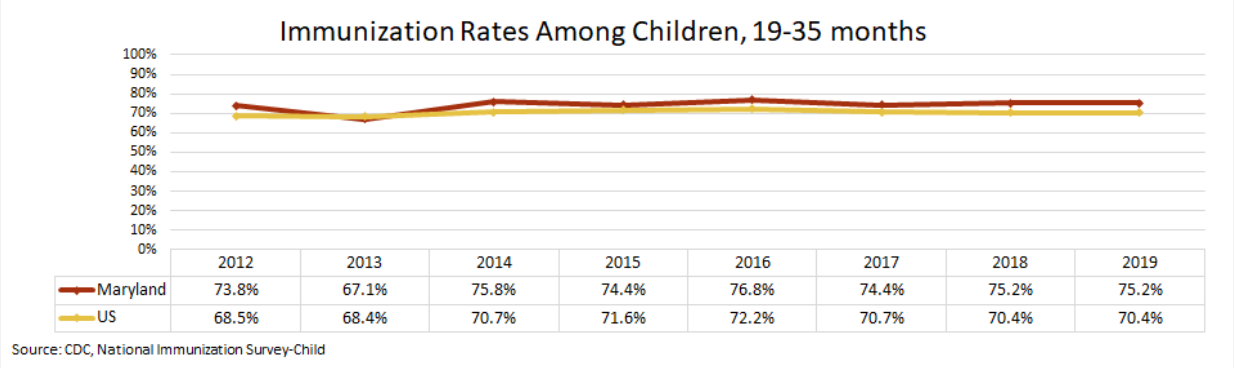
Immunizations

Vaccine schedules recommended by agencies and organizations, such as the CDC, the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians generally cover 14 diseases. Most child vaccinations are completed between birth and 6 years, with many given more than once, at different ages and in combinations.

In Maryland, vaccines are required to attend school. However, a child whose parent or guardian objects to immunization on the grounds that it conflicts with religious beliefs may not be required to present a physician's certification of immunization to attend school or day care. Exemptions are offered for medical circumstances. **The Healthy People 2020 Goal for Immunizations is 90%.**

During the COVID-19 pandemic, childhood immunizations have decreased compared to the year before. In April 2020, there was a 46% decrease in immunizations compared to April 2019[35].

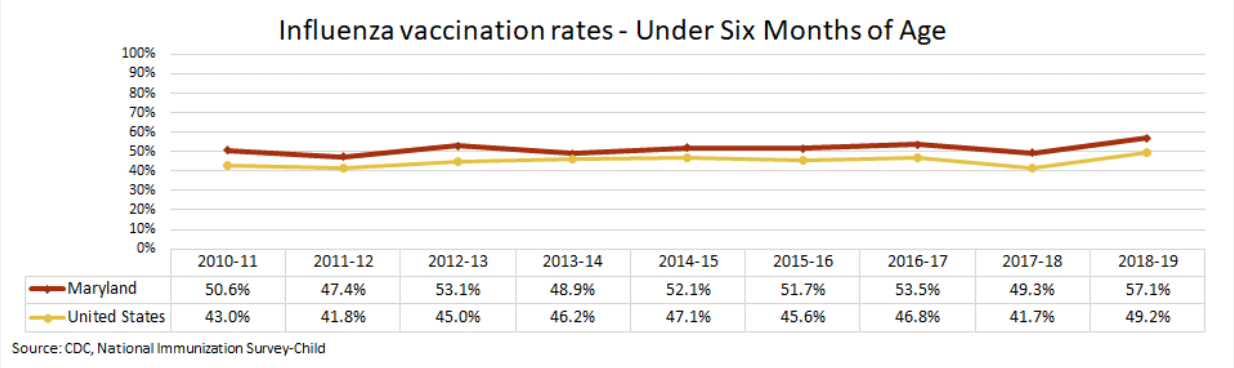
Immunization of young children is a positive predictor of avoidance of illness, death, disability, or developmental delays associated with immunization-preventable diseases. Maryland's immunization rates are higher than the national average for children aged 19 through 35 months. For 2019, Maryland's immunization rate was 75.2%, well above the national rate of 70.4%.



	2012	2013	2014	2015	2016	2017	2018	2019
Maryland	73.8%	67.1%	75.8%	74.4%	76.8%	74.4%	75.2%	75.2%
US	68.5%	68.4%	70.7%	71.6%	72.2%	70.7%	70.4%	70.4%

Source: CDC, National Immunization Survey-Child

Maryland's influenza vaccination rate for babies under six months of age increased to 57.1% during the 2018-19 year, well above the national rate of 49.2%.



	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Maryland	50.6%	47.4%	53.1%	48.9%	52.1%	51.7%	53.5%	49.3%	57.1%
United States	43.0%	41.8%	45.0%	46.2%	47.1%	45.6%	46.8%	41.7%	49.2%

Source: CDC, National Immunization Survey-Child

[35] Maryland Immunet

Annual Report of Immunization Status: Kindergarten Students (School year 2017-2018)*

	Students Surveyed (N)	Students Surveyed (%)	DTaP (%)	Polio (%)	MMR (%)	Hepatitis B (%)	Varicella (%)	Medical (%)	Religious (%)
State of Maryland	67,856	98.9	99.1	99.2	98.6	99	98.6	0.3	0.9
Allegany	661	98.1	100	100	100	100	100	0.3	1.6
Anne Arundel	6,624	98.7	99.6	99.6	99.3	99.6	99.2	0.6	0.8
Baltimore City	6,783	98.7	99.8	99.7	99.5	99.5	99.6	0.7	0.6
Baltimore County	9,101	99	99.3	99.5	99.3	99.5	99	0.1	1
Calvert	1,060	98.8	99.8	99.8	99.8	99.7	99.7	0.3	0.9
Caroline	402	100	98.8	99.8	99.5	99.8	99.5	0.2	0.2
Carroll	1,701	98	99.8	99.8	99.7	99.8	99.6	0.4	1.7
Cecil	1,081	98	99.8	99.7	99.6	99.8	99.5	0	2
Charles	1,599	98.3	99.7	99.7	99.7	99.8	99.7	0.6	1.1
Dorchester	358	99.7	99.7	99.7	98	99.4	98	0	0.3
Frederick	2,930	98.4	99.2	99.5	99.3	99.6	99.2	0.4	1.3
Garrett	172	97.7	99.4	99.4	99.4	99.4	99.4	0	2.3
Harford	2,727	98.5	99.6	99.6	99.4	99.4	99.3	0.5	1.2
Howard	4,178	98.9	99.6	99.8	99.4	99.5	99.2	0.2	0.8
Kent	274	99.6	98.5	98.9	97.1	98.9	94.9	0	0.4
Montgomery	12,226	99	99.6	99.7	99.2	99.4	98.7	0.2	0.8
Prince George's	10,019	99.1	96.2	96.6	94.1	96.2	95.5	0.3	0.6
Queen Anne's	510	98.3	97.8	98.6	100	99.4	100	0	1.7
Somerset	259	100	100	100	100	100	100	0	0
St. Mary's	1,357	98.9	99.7	99.9	99.4	99.9	99.3	0.4	0.7
Talbot	389	99	100	100	100	100	100	0.3	0.8
Washington	2,070	99.1	99.8	99.8	99.3	99.5	99.1	0.3	1.2
Wicomico	1,281	98.9	99.1	99.1	98.6	99.1	98	0.5	1.1
Worcester	483	99.2	99.6	99.6	99.2	99.6	99.2	0	1

* Self-reporting by public and private schools of all Kindergarteners. All numbers reflect immunization status of surveyed students, not all students in the jurisdiction. On day of assessment, student records are reviewed for compliance with Code of Maryland Regulations (COMAR 10.06.04). Students must be vaccinated with the following antigens: 4 Diptheria-Tetanus-Pertussis, 3 Polio, 2 Measles, 2 Mumps, 2 Rubella, 3 Hepatitis B, and 2 Varicella.

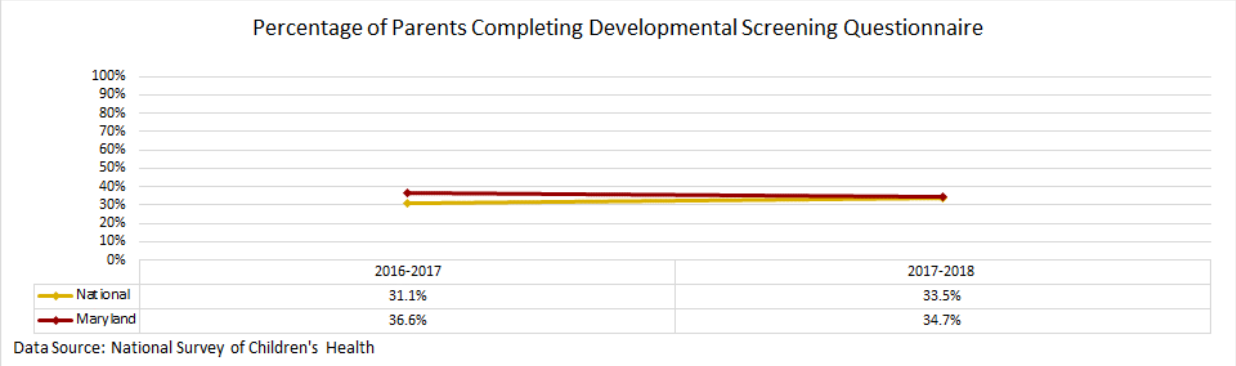
Developmental Screening

Developmental screenings provide a close look at how a child is developing through a test or a parent completed questionnaire. The tools used for developmental and behavioral screening are formal questionnaires or checklists that ask questions about a child's development, including language, movement, thinking, behavior and emotions. These screenings can be performed by a doctor or nurse, or through other professionals in healthcare, community or school settings.

Developmental screenings are a regular part of some well-child visits for all children. The AAP recommends developmental and behavioral screening for all children during regular well-child visits at 9 months, 18 months and 30 months. Additionally, AAP recommends that all children be screened specifically for autism spectrum disorder (ASD) during regular well-child visits at 18 months and 24 months. If a child's healthcare provider does not periodically check the child with a developmental screening test, parents and caregivers can ask that it be done. Furthermore, if a child is at higher risk for developmental problems due to preterm birth, low birthweight, environmental risk or other factors, a healthcare provider may discuss additional screening[36].

The Health Resources and Services Administration's 2016 National Survey of Children examined 5,668 randomly selected children 9 through 35 months of age whose parent or caregiver responded to the address-based survey. Analyses were weighted to account for the probability of selection and nonresponse and to reflect population counts of all noninstitutionalized US children. Of the estimated 9.0 million children aged 9 through 35 months, 30.4% were reported by their parent or caregiver to have received a developmental screening questionnaire[37].

In 2018 nationally, 35.1% of Hispanic parents completed the questionnaire, 37.4% of white non-Hispanic parents, 24.3% of Black parents. African American families are less likely to complete developmental screenings. Breakdowns by racial groups and ethnicities are not available for the state of Maryland.



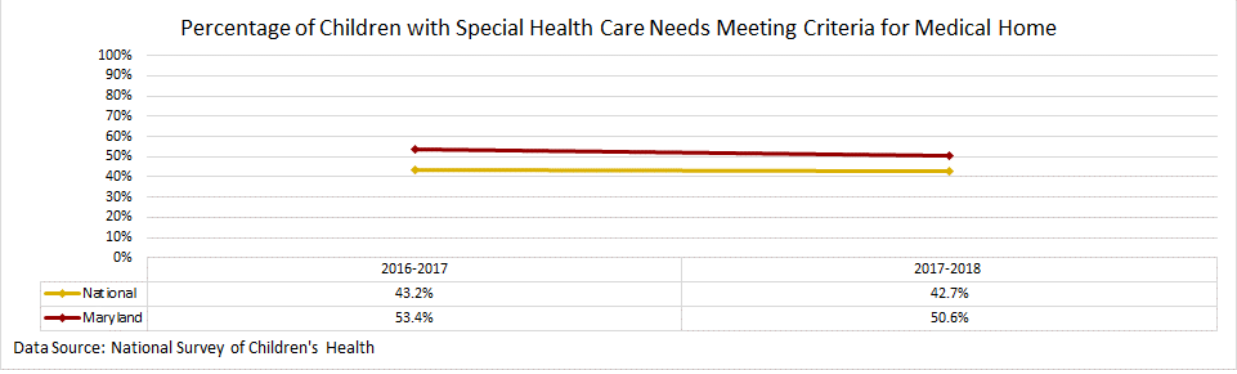
[36] https://www.cdc.gov/ncbddd/childdevelopment/screening.html

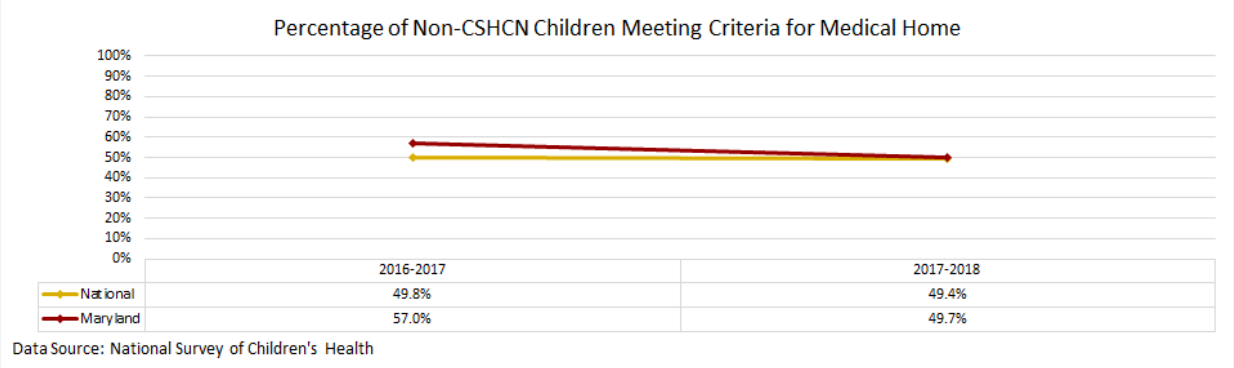
[37] "Prevalence and Variation of Developmental Screening and Surveillance in Early Childhood," Ashley H. Hirai, Michael D. Kogan, Veni Kandasamy, Colleen Reuland, Christina Bethell JAMA Pediatr. 2018 Sep; 172(9): 857–866. Published online 2018 Jul 9. doi: 10.1001/jamapediatrics.2018.1524 PMCID: PMC6143066

Medical Home

The Medical Home, also known as Patient or Family Centered Medical Home, is an approach to providing comprehensive primary care that facilitates partnerships between patients, clinicians, medical staff, and families. The medical home is "patient-centered, comprehensive, team-based, coordinated, accessible and focused on quality and safety[38]." It has become a widely accepted model and is used to produce higher quality care and improved cost efficiency. The Medical Home provides most of the care within the practice, referring when appropriate, and coordinating with other providers on the health care team both in and out of the practice.

In 2018, Maryland saw a reduction in the percentage of children with and without special health care needs, ages 0 through 17, who met the criteria for having a medical home. With both populations, Maryland's percentage was higher than the national average (50.6% vs. 42.7% and 49.7% vs. 49.4%, respectively).

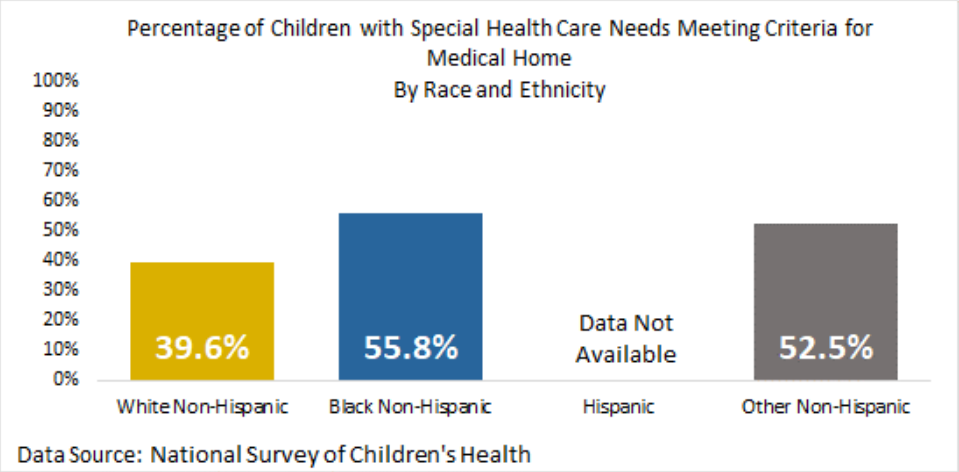


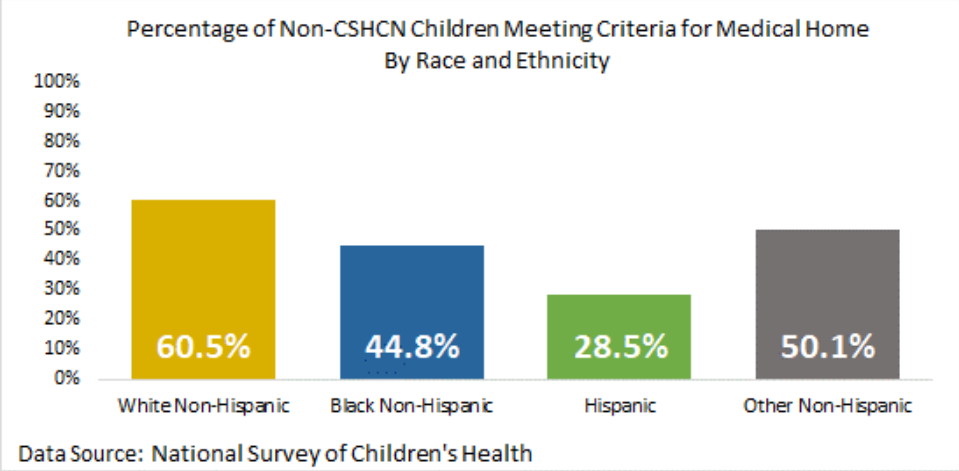


[38] Patient Centered Primary Care Collaborative https://www.pcpcc.org/about/medical-home

Access to the Medical Home Approach Across Racial Groups and Ethnicities

When factoring in race and ethnicity, non-Hispanic Black children with special health care needs were more likely to meet the criteria for a medical home than other races, at 55.8%. Whereas, non-Hispanic White children with no special health care needs were more likely to meet the criteria for a medical home than other races, at 60.5%.

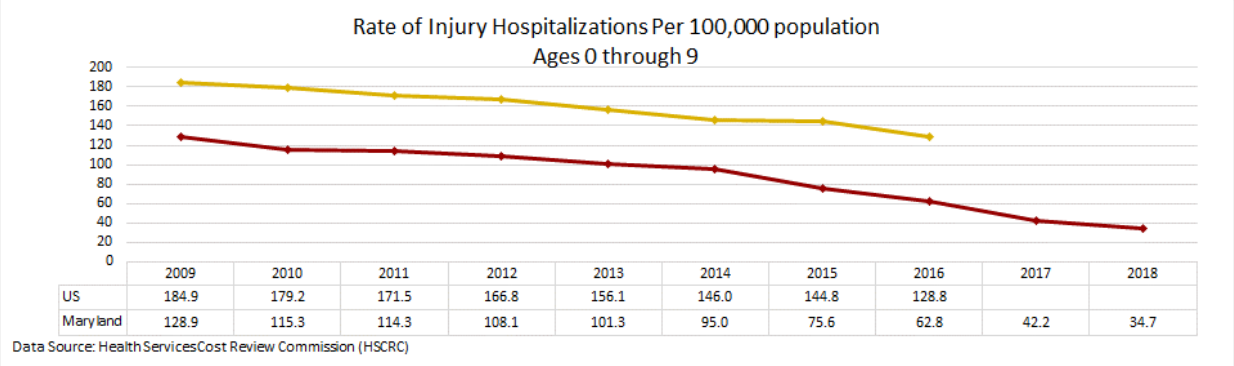




Injury Hospitalizations

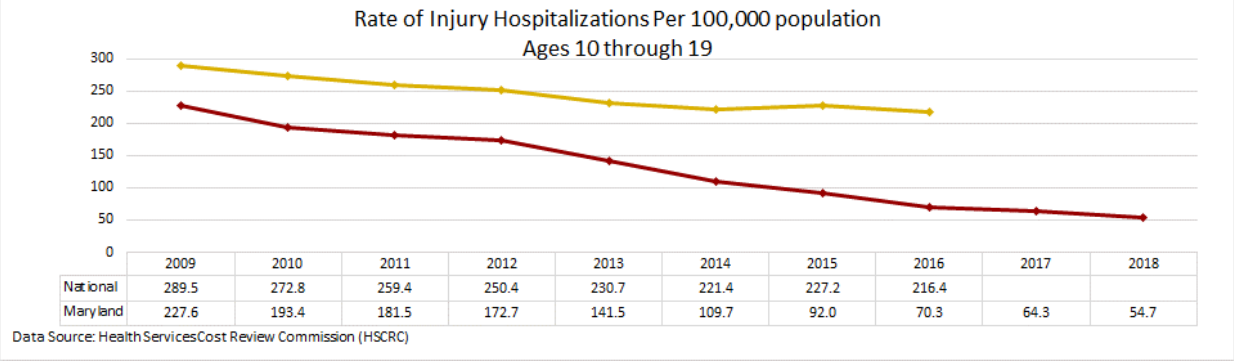
In Maryland, the rate of injury hospitalizations is measured by the number of hospital admissions among children ages 0 through 9 years with a diagnosis of unintentional or intentional injury. This rate excludes readmissions for the same event. Changes in injury hospitalization coding from ICD-9 to ICD-19 in October 2015 may have influenced the number of child injuries in these years. Furthermore, data reflects Maryland residents in Maryland hospital only.

Since 2009, both nationally and in Maryland, there has been a downward trend in the rate of injury hospitalizations among those ages 0 through 9 and those ages 10 through 19. For both age groups, Maryland has consistently reported a lower rate of injury hospitalizations than the national rate.



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
US	184.9	179.2	171.5	166.8	156.1	146.0	144.8	128.8		
Maryland	128.9	115.3	114.3	108.1	101.3	95.0	75.6	62.8	42.2	34.7

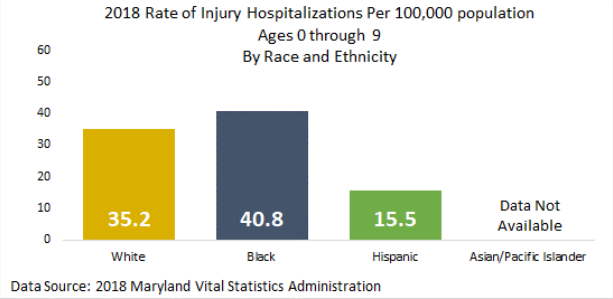
Data Source: Health Services Cost Review Commission (HSCRC)



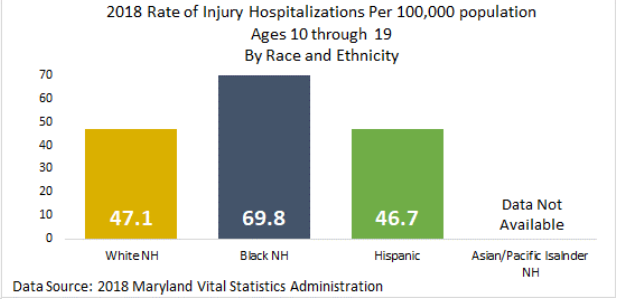
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
National	289.5	272.8	259.4	250.4	230.7	221.4	227.2	216.4		
Maryland	227.6	193.4	181.5	172.7	141.5	109.7	92.0	70.3	64.3	54.7

Data Source: Health Services Cost Review Commission (HSCRC)

In 2018, the rate of injury hospitalizations for ages 0 through 9 and for ages 10 through 19, non-Hispanic Black children had a higher rate than other racial and ethnic groups (40.8% and 69.8%, respectively). The methodology used to identify race in HSCRC files changed in 2013, so differences in outcomes by race before and after 2013 may be due to data collection.



Data Source: 2018 Maryland Vital Statistics Administration



Data Source: 2018 Maryland Vital Statistics Administration

Findings from Key Informants

Key informants discussed various topics included in child health, such as developmental screenings and Medical Home, as well as car seat safety, safe sleep and child maltreatment.

Gaps and Barriers: Developmental Screenings, Accessibility to Appointments and Medical Home

Several key informants discussed challenges associated with developmental screenings. Many highlighted that there is a lack of knowledge of resources out there, a lack of providers and other personnel and a lack of trust. Many families are unaware and do not understand that they can self-refer for developmental screenings. Furthermore, there is a lot of stigma associated with diagnoses that cause fear for the parents, with one key informant stating, "some are reluctant to do an Autism diagnosis before 4 or 5 and that is lost time." One key informant also noted that families are starting to see more misdiagnoses, while another key informant reported that black children get diagnosed later than their white counterparts, both leading to more distrust. A few key informants reported that not all pediatricians use the standard screening tool. Most key informants agreed that there is a lack of medical personnel who provide developmental screenings, which leads to a long wait list.

Other key informants mentioned that geography is a hindrance as well, and many families travel far distances to receive developmental screenings for their child. Transportation presents many problems that can lead to a child not receiving care, such as no transportation to the appointment, inadequate transportation that leads to being late and ultimately losing the appointment and inadequate transportation for those with multiple children.

> "You can be a distance from a transportation site and have no way to get to it."
>
> -Key Informant

Furthermore, if a child misses an appointment and does not present for a well-visit, there may be a lengthy gap time before the child can be seen, which leads to delays in schedules, such as immunization schedules.

Some key informants also mentioned that insurance coverage presents more barriers for developmental screenings, where one key informant stated that some insurance policies state that a physician needs to do the screening.

When asked about Medical Home, most key informants reported that many families do not know what a Medical Home is. One key informant stated that there is a misconception that Primary Care Providers are a Medical Home. Many key informants felt that a true Medical Home is not available for most due to a lack of funding and reimbursement, a lack of physician and other medical personnel time, a lack of care coordination and an overall lack of understanding. Some key informants felt that Medical Homes are very piece meal and fragmented when they are supposed to have care coordination with available wrap-around services. One key informant stated that there is "no case management and no nurse case management," while another key informant asked, "how can we make it easier for physicians?"

Like previous sections, accessibility and trust were also mentioned as barriers to Medical Home. Ensuring that a family has access to a PCP or Medical Home location is a challenge, particularly for those in rural areas of Maryland where wrap-around services may be limited. A few key informants also

highlighted on potential language and cultural barriers that make it difficult to build trust with their Medical Home.

Gaps and Barriers: Car Seat Safety, Safe Sleep and Child Maltreatment

A few key informants highlighted gaps in car seat safety, such as obtaining a car seat. One key informant noted that those who use public transit, as well as taxi's and Ubers, cannot use a car seat safely. Additionally, some key informants mentioned that unsafe sleep positions may be linked to fatalities for this population. Furthermore, another key informant reported that Child Abuse Centers (CACs) are an area that warrants a lot of attention and more support, because they are not getting the referrals they should be.

Successful Programs and Services

A variety of programs and services were stated as being beneficial to this population. The Early Head Start Program, the Judy Center, Healthy Start, Mary's Center for Healthy Families, the Coordinating Center and the Parents Place of Maryland were among some of the programs mentioned.

> "The early intervention systems in Maryland are very good."
>
> -Key Informant

Healthy Start and the Judy Center both screen for developmental delays using the ASQ with parents. The ASQ was mentioned by several key informants as being a good indicator. Mary's Center for Healthy Families provides car seat safety as well as focuses on injury prevention and detection. The Coordinating Center connects families with screenings if a delay is known. Most key informants agreed that screenings are successful in Maryland, with most organizations following the AAP guidelines and providing routine evidence-based screenings at 9 months, 24 months and 30 months.

Key informants mentioned beneficial programs and services that keep children safe, such as anticipatory guidance, which employs a car seat safety course, Safe Kids, which can help to provide car seats, Targeted Injury Prevention, which provides parenting workshops and the Child Advocacy Centers. The Child Advocacy Centers (CACs) were mentioned by several key informants as being the primary organization referred to in cases of child maltreatment. Furthermore, Medicaid was mentioned as being successful for this population because each eligible Medicaid recipient is assigned a Medical Home if they want one. Lastly, to provide increased physical activity among children, a few key informants highlighted the benefits of the Diabetes Action Plan.

ADOLESCENT HEALTH

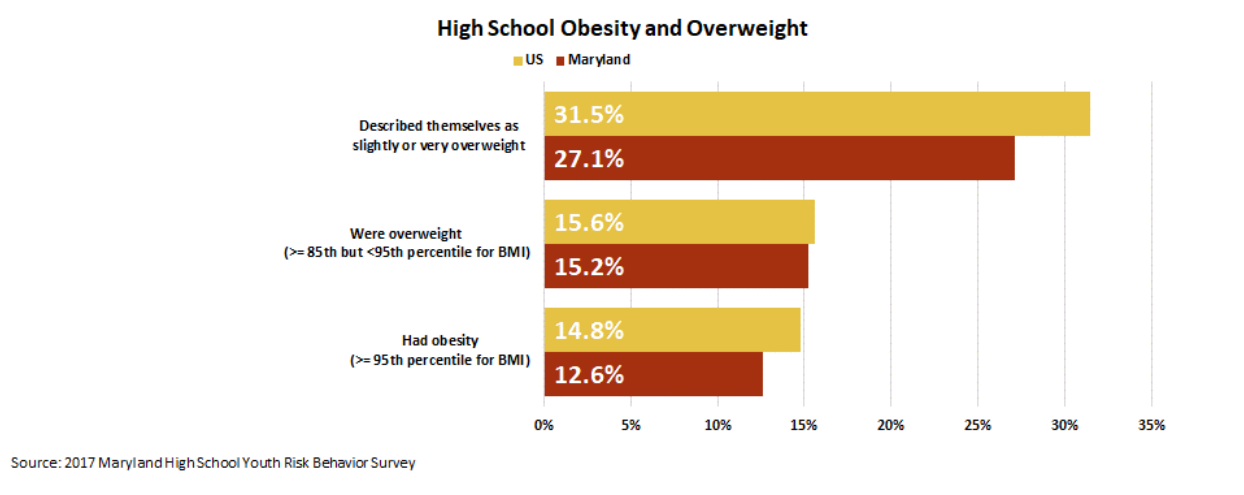
The unique needs of adolescence make it a critical period for promoting health, competence and capacity to prepare adolescents for a successful future.

The needs which reflect the broader general priority areas which are most important for adolescent and young adult health include: teen pregnancy and reproductive/sexual health, substance use, mental health, overweight/obesity and physical activity, bullying and adolescent preventive visits.

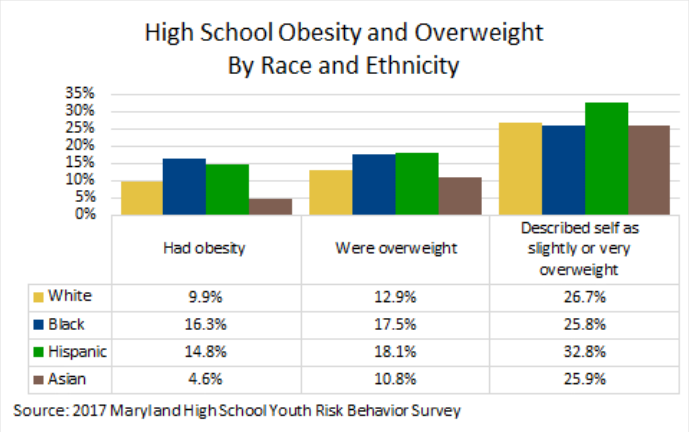
Overweight/Obesity and Physical Activity

Body mass index (BMI) is the measure used to determine childhood overweight and obesity. According to the CDC, overweight is defined as "a BMI at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex," while obesity is defined as "a BMI at or above the 95th percentile for children and teens of the same age and sex." As opposed to using adult BMI categories, a child and adolescent's weight status is determined using an age- and sex-specific percentile. This percentile is used because children's and adolescent's body composition vary by age and gender.

In 2017, Maryland's obesity rate for 10-17-year-olds was 14.5%, a decrease from 15.7% in 2016. This was slightly below the national obesity rate of 15.3%[39]. Maryland was below the US average with obesity, overweight and adolescents describing themselves as either slightly or very overweight. Among Maryland high school students, 27.1% described themselves as overweight, as compared with 31.5% nationally and 12.6% had obesity, as compared with 14.8% nationally. A similar percentage were overweight (15.2% vs. 15.6%, respectively.)



Non-Hispanic Black and Hispanic adolescents were more likely to be either overweight or obese, followed by non-Hispanic White adolescents and lastly Asian adolescents. Interestingly, when asked if they describe themselves as slightly or very overweight, roughly one in four agreed across the board, with the exception of Hispanic adolescents who were slightly higher at 32.8%.



[39] 2017 Youth Risk Behavior Surveillance System (YRBSS)

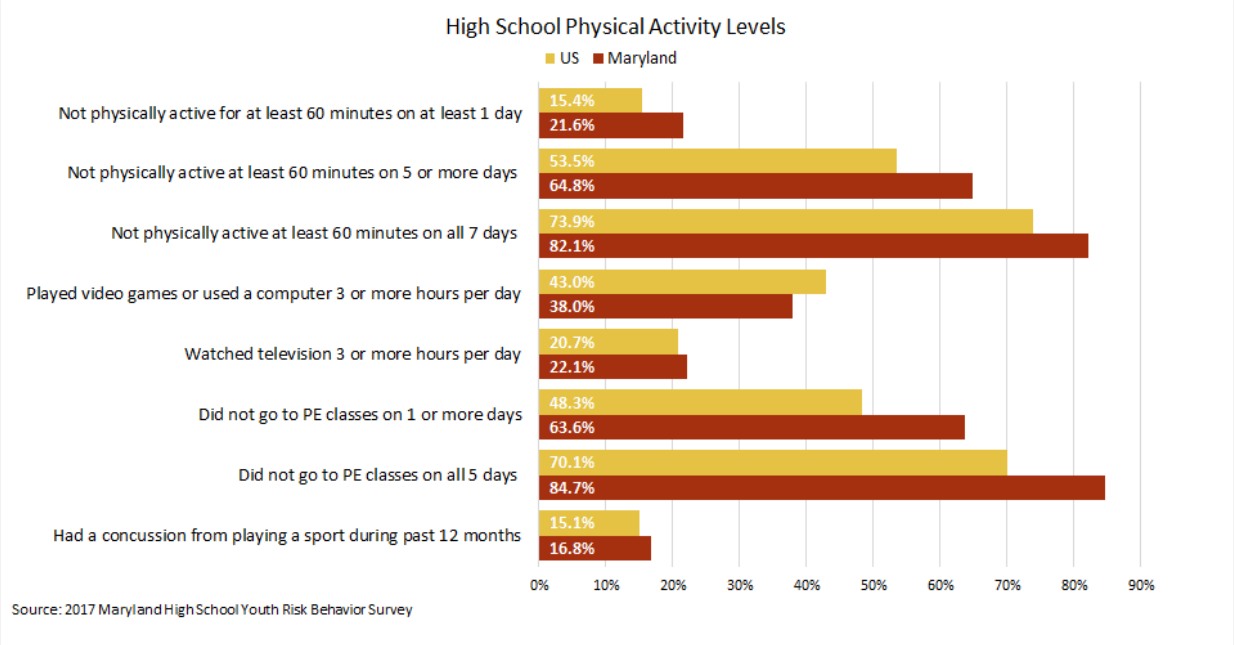
Physical Activity

The Physical Activity Guidelines for Americans, 2nd edition recommends children and adolescents ages 6 to 17 years do 60 minutes or more of moderate-to-vigorous physical activity daily. Following these guidelines can help improve cardiorespiratory fitness, build strong bones and muscles, control weight, reduce mental health symptoms (i.e., anxiety and depression) and decrease the risk of developing health conditions like heart disease, cancer, type 2 diabetes, high blood pressure, osteoporosis and obesity.

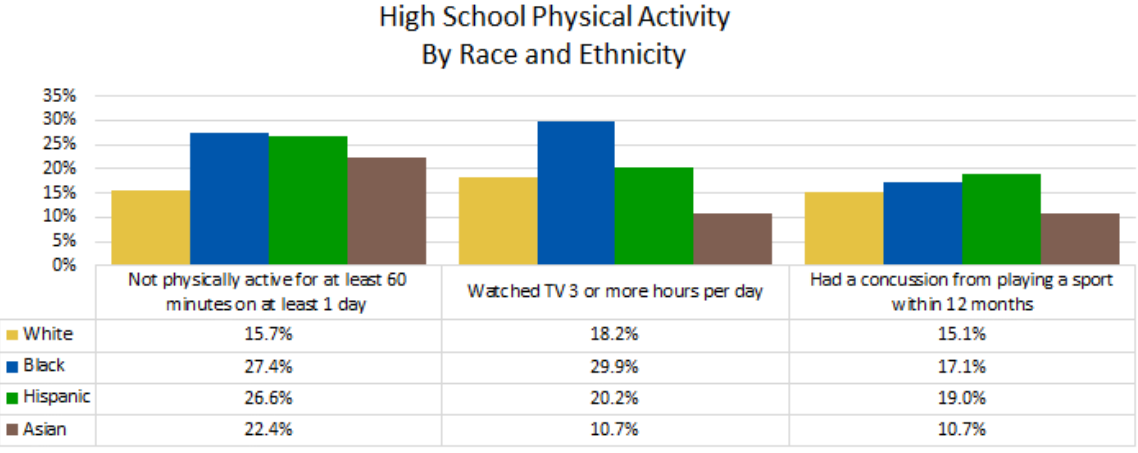
In 2017, 21.6% of Maryland high school students reported not being physically active (any kind that increased their heart rate and made them breathe hard some of the time) for a total of at least 60 minutes on at least one day during the last seven days, higher than the national average of 15.4%. Similarly, 64.8% reported not being physically active at least 60 minutes on five or more days, higher than the average of 53.5%. 82.1% reported not being physically active at least 60 minutes on all 7 days, higher than the national average of 73.9%. 84.7% of Maryland high school students reported not going to PE classes on all 5 days, almost 15% higher than the national average.

When asked about video games and computer usage, 38% of Maryland high school students reported 3 hours or more of usage, lower than the national average of 43%. 22.1% of Maryland adolescents reported watching television for 3 or more hours per day, slightly higher than the national average of 20.7%.

When asked about concussions from playing sports, 16.8% of Maryland adolescents reported having a concussion during the past 12 months, higher than the national average of 15.1%.



When looking at high school physical activity by race and ethnicity, non-Hispanic Black and Hispanic adolescents reported not being physically active for at least 60 minutes at least one day the most (27.4% and 26.6%, respectively). This was followed by Asian adolescents (22.4%) and non-Hispanic White adolescents (15.7%). Non-Hispanic Black adolescents reported the highest rate of watching TV for 3 or more hours per day (29.9%), while Asian adolescents reported the lowest rate at 10.7%. Hispanic adolescents reported having a concussion from playing a sport within the last 12 months most often (19.0%), while Asian adolescents reported the lowest rate at 10.7%.



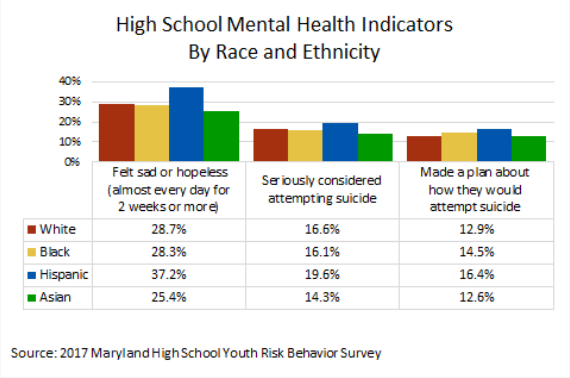
	Not physically active for at least 60 minutes on at least 1 day	Watched TV 3 or more hours per day	Had a concussion from playing a sport within 12 months
White	15.7%	18.2%	15.1%
Black	27.4%	29.9%	17.1%
Hispanic	26.6%	20.2%	19.0%
Asian	22.4%	10.7%	10.7%

Source: 2017 Maryland High School Youth Risk Behavior Survey

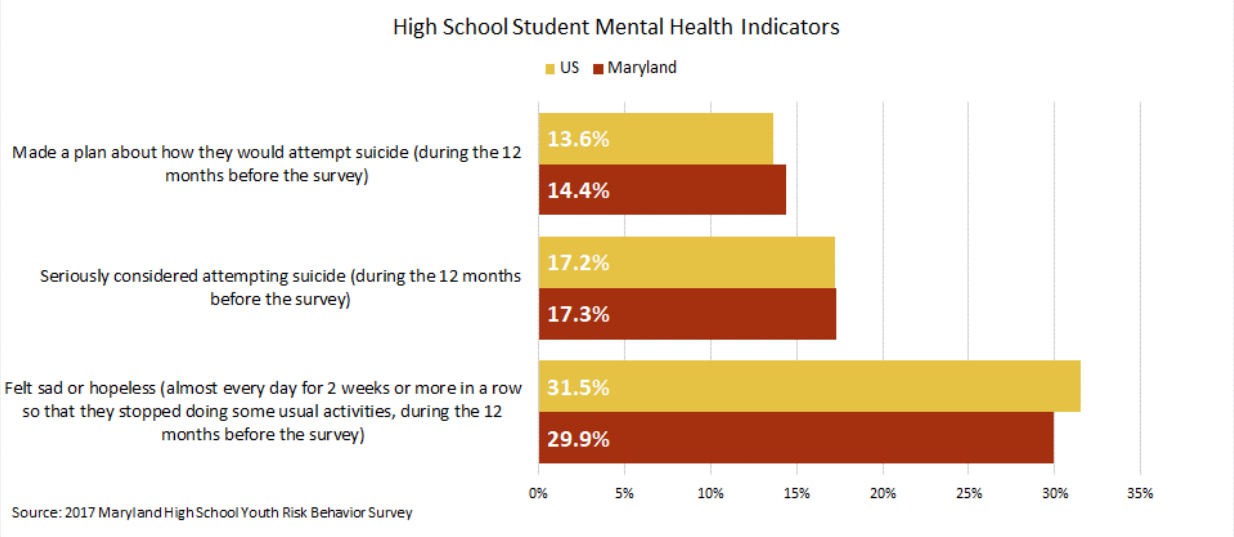
Mental Health

Depression is a leading risk factor for suicide among high school students residing in Maryland. According to the 2017 YRBSS, 29.9% of Maryland high school students felt so sad or hopeless for two or more weeks in a row that they stopped doing usual activities. While slightly lower than the national average, this is an increase since 2007. Females were more likely to report feeling sad or hopeless than their male counterparts (38.7% and 21.0%, respectively). Hispanic adolescents were more likely to report feeling sad or hopeless than other races and ethnicities (37.2%).

Almost one in five Maryland high school students (17.3%) seriously considered attempting suicide in the last 12 months, consistent with the national average at 17.2%. Again, the rate was higher for females than their male counterparts (21.8% and 12.4%, respectively). Hispanic adolescents were slightly more likely to seriously consider attempting suicide than other races and ethnicities (19.6%).



29.9% of Maryland high school students made a plan in the last 12 months about how they would attempt suicide, compared with 31.5% of high school students nationwide. The rate was again higher for females than their male counterparts (17.7% and 11.0%, respectively). Hispanic adolescents were slightly more likely to make a plan than other races and ethnicities (16.4%).



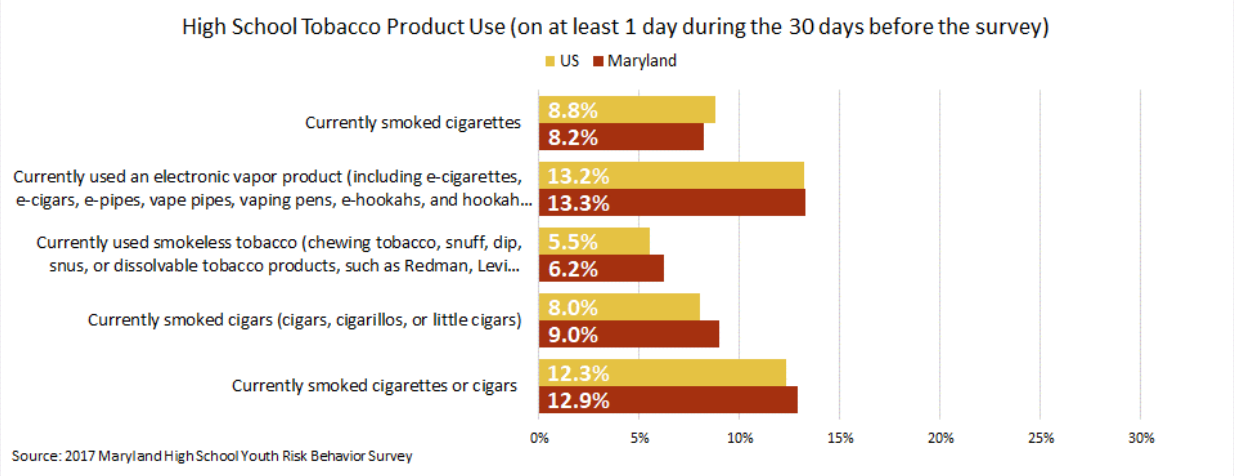
Among Maryland youth age 15-24, the suicide rate increased between 2018 and 2019, from 8.5 to 10 per 100,000. This is less than the national rate, which also increased during this time period, from 13.1 to 14.4 per 100,000.

Substance Use

This section covers tobacco, alcohol and other drug use among Maryland adolescents.

Tobacco

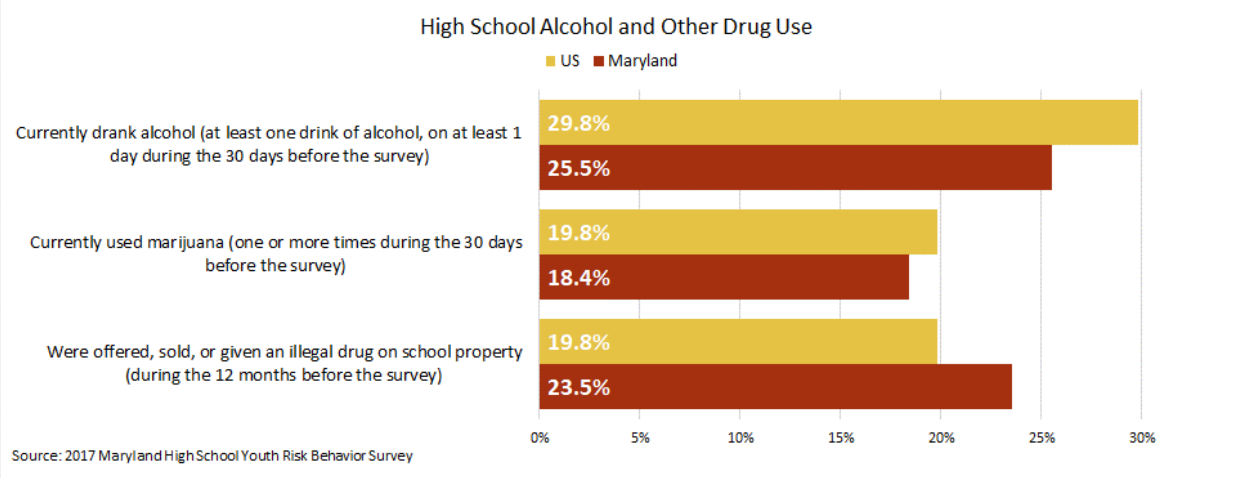
According to the 2017 YRBSS, 8.2% of Maryland high school students reported currently smoking cigarettes, compared with 8.8% nationally. Males were more likely than their female counterparts to report smoking cigarettes (9.3% and 6.3%, respectively). 13.3% of Maryland high school students reported currently using electronic vapor products, compared with 13.2% nationally. Again, males were more likely than their female counterparts to report smoking electronic vapor products (14.0% and 12.1%, respectively). 6.2% of Maryland high school students reported currently using smokeless tobacco, compared with 5.5% nationally. Males reported using smokeless tobacco at a rate more than double of their female counterparts (8.3% and 3.2%, respectively). 9.0% of Maryland high school students reported currently smoking cigars, compared to 8.0% nationally. Males again reported higher rates of cigar smoking than their female counterparts (10.9% and 6.3%, respectively). 12.9% of Maryland high school students reported currently smoking cigarettes or cigars, compared to 12.3% nationally. Males were more likely than females to smoke cigarettes or cigars (14.9% and 9.9%, respectively).



Among Maryland middle school students (not included in the graph above, 7.9% said they had tried cigarette smoking (even one or two puffs) and 1.3% had smoked cigarettes on at least one day during the 30 days before the survey. Of those students who had smoke in the past 30 days, 12.3% smoked more than 10 cigarettes per day on the days they smoked. Almost one in five Maryland middle school students (18.4%) have used an electronic vapor product (including e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens).

Alcohol and Other Drug Use

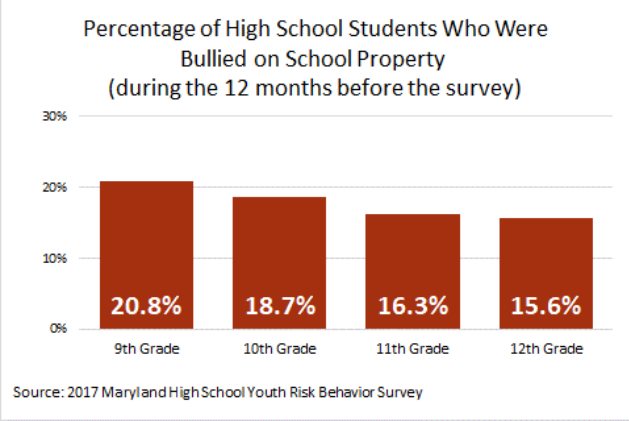
According to the 2017 YRBSS, 25.5% of Maryland high school students reported currently drinking alcohol, compared with 29.8% nationally. Females were more likely than their male counterparts to report drinking alcohol (28.6% and 22.2%, respectively). 18.4% of Maryland high school students reported currently using marijuana, compared with 19.8% nationally. Again, females were more likely than their male counterparts to report using marijuana (19.0% and 17.6%, respectively). 23.5% of Maryland high school students reported instances of being offered, sold or given an illegal drug on school property, which is higher than the national percentage at 19.8%. Males reported higher instances than their female counterparts (24.6% and 22.2%, respectively).



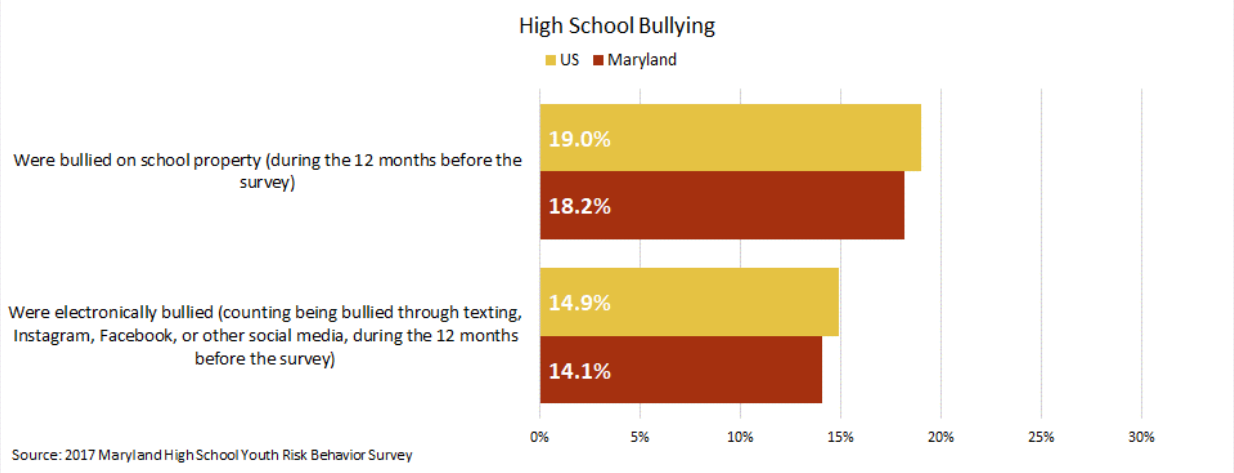
Bullying

In 2014, the Centers for Disease Control and Department of Education released the first federal uniform definition of bullying for research and surveillance. The core elements of the definition include unwanted aggressive behavior; observed or perceived power imbalance; and repetition of behaviors or high likelihood of repetition[40].

According to the 2017 YRBSS, 18.2% of Maryland high school students reported being bullied on school property in the last 12 months, compared with 19.0% nationally. Females were more likely than their male counterparts to report being bullied (19.9% and 16.1%, respectively). Furthermore, bullying on school property also varied by grade, where bullying rates decreased by increasing grade. One in five 9th graders reported being bullied, compared with roughly one in six 12th graders. 14.1% of Maryland high school students reported being electronically bullied in the last 12 months, compared with 14.9% nationally.



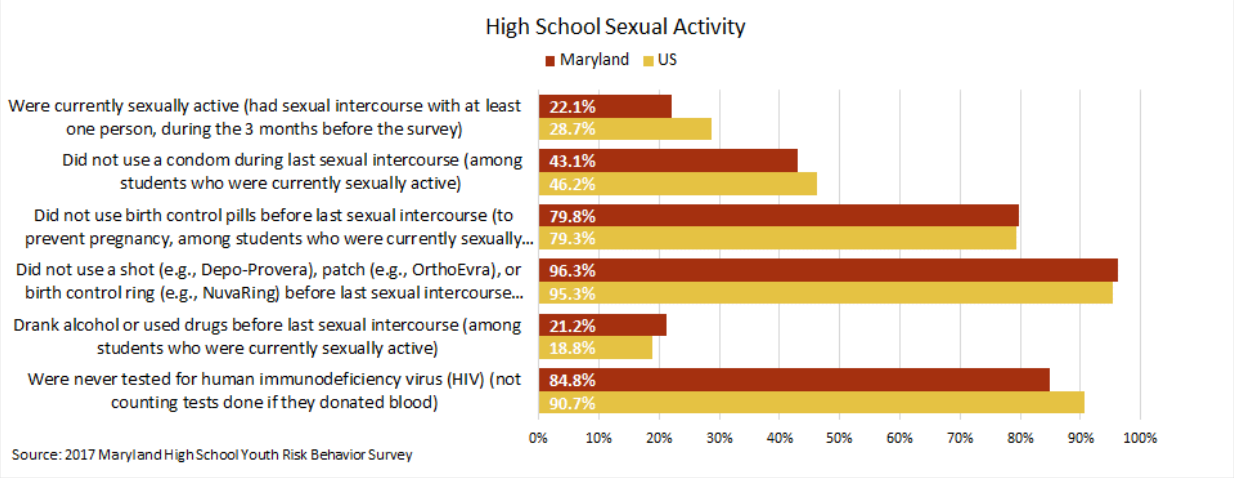
Females reported a much higher rate of being electronically bullied than their male counterparts (17.0% and 11.1%, respectively).



[40] Gladden, R. M., Vivolo-Kantor, A. M., Hamburger, M. E., & Lumpkin, C. D. (2014). Bullying surveillance among youths: Uniform definitions for public health and recommended data elements, Version 1.0. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention and US Department of Education

Teen Pregnancy and Reproductive/Sexual Health

Many high school students are engaged in sexual risk behaviors that relate to unintended pregnancies and STIs, including HIV infection. The birth rate for women aged 15-19 in the United States in 2016 was 20.3 births per 1,000 women, down 9% from 2015 at 22.3. Since 2009, the teen birth rate has fallen to a new low each year. Maryland ranked 38 out of 51 (50 states and D.C.) on final 2016 teen birth rates among females ages 15-19 (with one representing the highest rate).

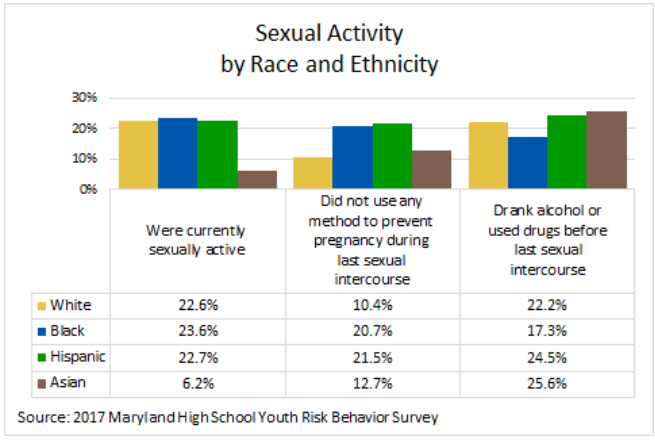


According to the 2017 YRBSS, 22.1% of Maryland high school students reported currently being sexually active, compared with 28.7% nationally. Females were slightly more likely to be sexually active than their male counterparts (22.2% and 21.8%, respectively).

43.1% of Maryland high school students reported not using a condom during their last sexual intercourse, compared with 46.2% nationally. Almost half of females reported not using condoms, while roughly one third of males reported not using a condom (49.3% and 35.8%, respectively).

96.3% of Maryland high school students reported not using a birth control shot, patch or ring before their last sexual intercourse. Hispanic and non-Hispanic Black adolescents reported higher rates of not using any method to prevent pregnancy during their last sexual intercourse (21.5% and 20.7%, respectively) when compared with their non-Hispanic White and Asian counterparts (10.4% and 12.7%, respectively).

21.2% of Maryland high school students reported drinking alcohol or using drugs before their last sexual intercourse, compared with 18.8% nationally. Males reported higher rates than their female counterparts (22.6% and 19.7%, respectively). 84.8% of Maryland high school students reported never being tested for HIV, compared with 90.7% nationally. Females reported never being tested more than their male counterparts (86.0% and 83.9%, respectively).

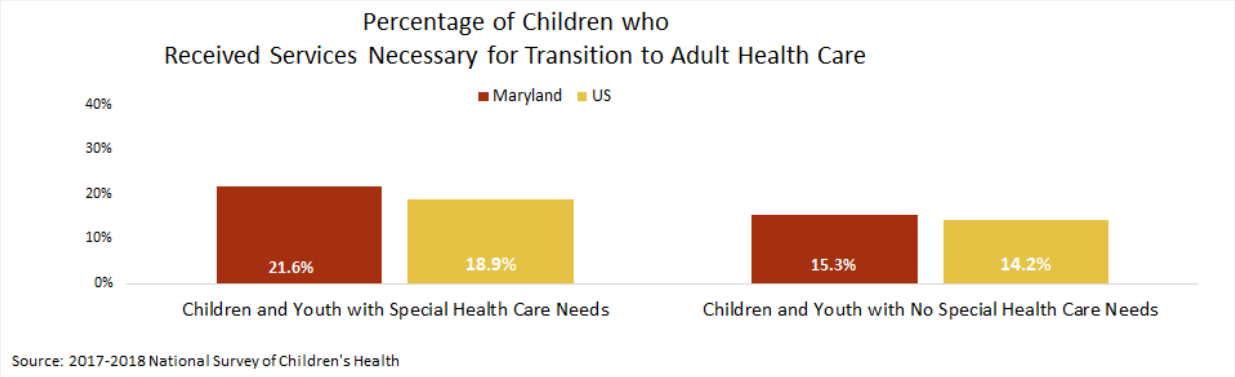


Medical Transition to Adult Care

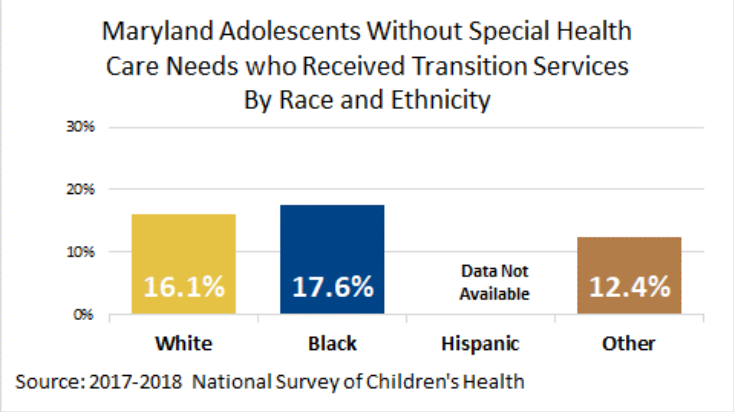
Health care transition helps young people with and without special health care needs transition from pediatrics to adult healthcare. In 2018, the National Survey of Children's Health found that only 15% of youth received assistance in planning the transition from pediatric, parent-supervised care to more independent adult care.

To address this gap, the AAFP joined the American Academy of Pediatrics (AAP) and American College of Physicians (ACP) in updating a joint clinical report titled "Supporting the Health Care Transition from Adolescence to Adulthood in the Medical Home." This report calls for clinicians to establish a structured process to ensure that a planned transition from pediatric to adult health care as part of the routine care for adolescents and young adults[41].

According to the 2017-2018 National Survey of Children's Health, 15.3% of children received services necessary to transition to adult health care, compared with 14.2% nationally. 21.6% of children and youth with special health care needs received services necessary for transition to adult health care, compared with 18.9% nationally.



In looking at Maryland adolescents without special health care needs who received transition services by race and ethnicity, there was a slight difference in rate between non-Hispanic White and non-Hispanic Black, where non-Hispanic Black adolescents received transition services more often.



[41] https://pediatrics.aappublications.org/content/142/5/e20182587

Findings from Key Informants

Key informants discussed various topics included in adolescent health, such as access to medical care and transition, as well as mental health, physical activity and preventive care.

Gaps and Barriers: Access to Medical Care and Transition

Key informants agreed that well-check visits are low for this population, with many reporting that families focus on bringing their children in for immunizations and start to taper off with their adolescents. One key informant stated that there is not enough opportunity for this population to bring up health issues. When asked about school nurses, most key informants agreed that school nurses have enough on their plate and are not trained to be health educators.

Many key informants stated that transition can be scary when not prepared. While most stated that they start transition earlier, a few reported that they have a blunt conversation at the age of 18. A few challenges were discussed regarding transition, such as a lack in adult providers and specialty providers, long waitlists, a lack of pediatric training on transition, a lack of family training on transition and a lack of trust with a new provider. One key informant reported that pediatricians are not helping families select an adult provider. Another key informant stated that not having enough providers to adequately address transition is another reason that Medical Home does not work.

Gaps and Barriers: Mental Health, Physical Activity and Preventive Care

Many key informants emphasized that this population has an unbelievable burden of mental health problems, which are typically increased for adolescents of color and for those with low-income. Several key informants mentioned that bullying is a key issue for this population. Most agreed that a lot of bullying occurs on social media where there is an overflow into the schools. Key informants also agreed that when bullying is present, parent skills may decline while depression and anxiety may increase.

> "Most of the kids I have seen with depression and suicidal ideation were bullied."
>
> -Key Informant

> "Lack of trauma-informed practices in elementary and middle schools."
>
> -Key Informant

One key informant also mentioned that there are more single parents who have a lot of stressors with less coping mechanisms, potentially leading to more childhood trauma. Some key informants stated there is a need for both increased parent involvement as well as conversations in school about suicide. One key informant remarked that a lack of support from family members can lead adolescents to dropping out of school to start working.

A few key informants reported that health education and physical activity is too limited in schools, with one key informant stating that they are, respectively, only a 0.5 graduation credit in most school districts. One key informant also stressed the importance and real need for health literacy, which is currently integrated into other academic areas. Additionally, in rural communities, there is no public transit for those who want to join in recreational activities.

Lastly, several key informants mentioned the lack of family planning education and contraception care, as well as teen pregnancy prevention and STI prevention. Additionally, one key informant reported that more attention should also be brought to gang prevention.

Successful Programs and Services

Key informants highlighted several programs and services that benefit the adolescent population. Anti-bullying programming was among the top mentioned. Many key informants emphasized the importance of anti-bullying programming, especially in schools, and reported that schools are incorporating more programs. Among the programs mentioned were the "Stop it" app, school task forces, Girls Incorporated and others provided at school. Furthermore, one key informant felt that the psychosocial approach is being more incorporated in practice for this age group.

Physical activity was another major area mentioned by key informants. Several key informants stressed that adolescents need more opportunity for physical activity, with one key informant stating this is currently happening through school-based health and wellness programs. Another key informant reported that programs like Girls on the Run are beneficial, particularly because they screen for childhood obesity.

Some key informants reported on successful program and services geared at transition, such as GotTransition, Quality Trust, Arc of Prince George's County, the REM waiver and the IEP process. Other successful programs and services described by key informants included the Healthy Families program offered by Mary's Center in Prince George's County and the Parents Place. The Healthy Families program provides family planning to teens. One key informant also said that the Local Health Department goes out to all public schools and provides a presentation for all 9th graders to make them aware of services, including the teen walk-in clinics for STIs and teen pregnancy. There are 27 other Healthy Families programs across the state as well as other evidence-based home visiting models focused on maternal or child health[42].

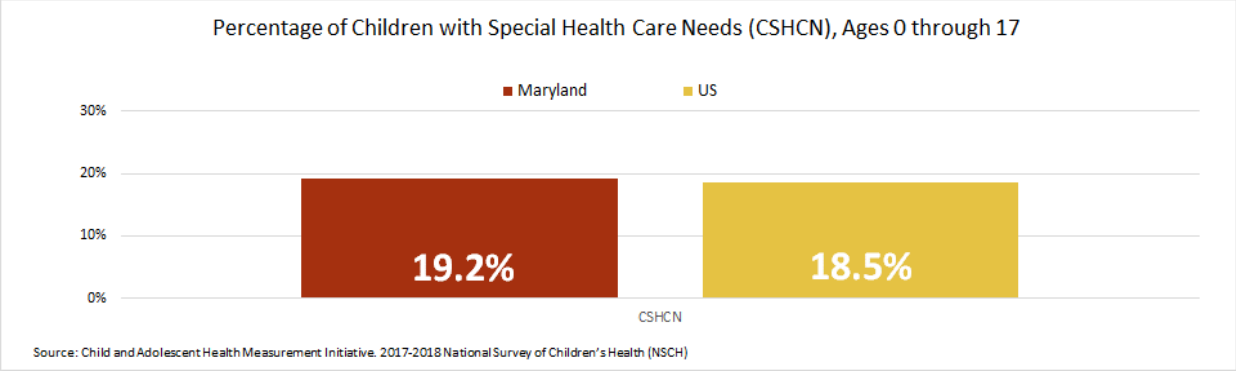
[42] https://goc.maryland.gov/wp-content/uploads/sites/8/2020/01/HU-%C2%A7-8-507c-GOC-2019-Report-on-the-Implementation-and-Outcomes-of-State-Funded-Home-Visiting-Programs-in-Maryland-MSAR-9107.pdf

CHILDREN AND YOUTH WITH SPECIAL HEALTH CARE NEEDS

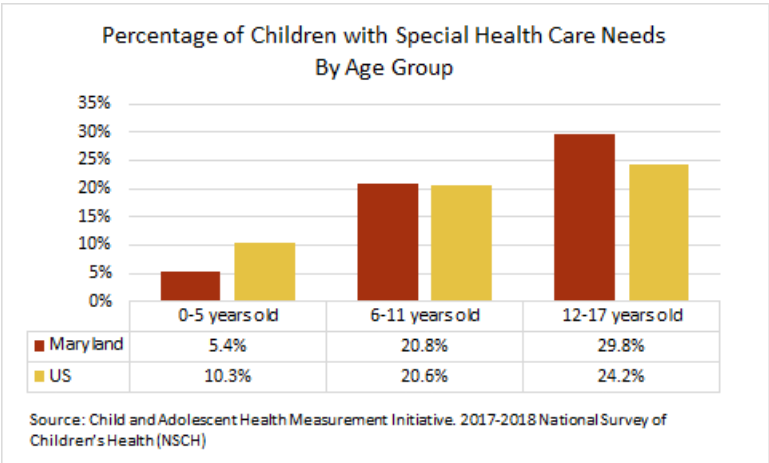
Children and Youth with Special Health Care Needs (CYSHCN) are defined by the U.S. Department of Health and Human Services, Maternal and Child Health Bureau, and Health Resources and Services Administration as the children who are at increased risk for a chronic condition including behavioral, developmental, emotional or physical and have an increased requirement of health and related services as compared to children generally. The CYSHCN is a more vulnerable population requiring specialty care and an organized healthcare delivery system providing comprehensive care and facilitating ease of access.

The broad categories under which most of the priorities for children and youth with special health care needs include racial and ethnic disparities, quality of care, developmental screening for special health care needs, medical home and services needed for transition to adulthood.

According to the 2017-2018 National Survey of Children's Health, Maryland reported that 19.2% of children ages 0 through 17 are CYSHCN, compared with 18.5% nationally.



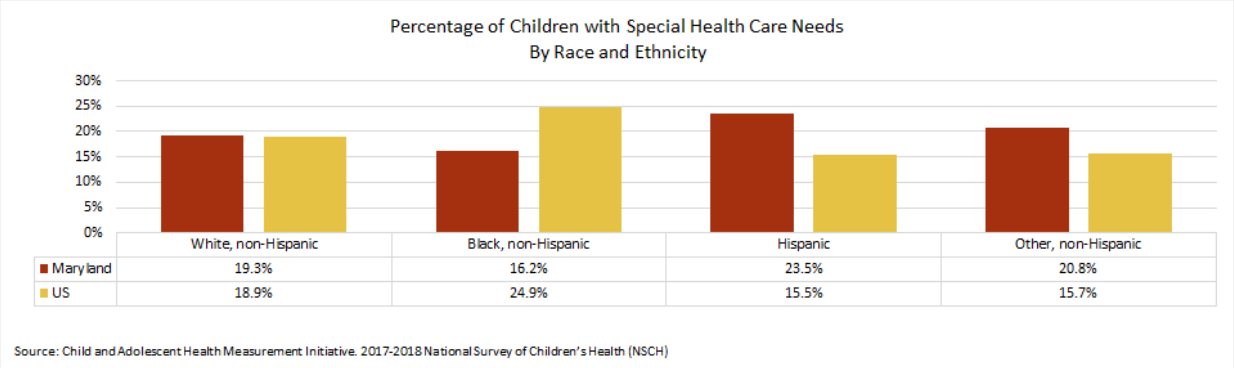
Among Maryland children 0-5 years of age, 5.4% have been identified as having special health care needs, as compared to 10.3% nationally, almost double the Maryland percentage. For children 6-11 years of age, 20.8% have been identified as having special health care needs, consistent with the national average of 20.6%. For adolescents ages 12-17 years, 29.8% have been identified as having special health care needs, which is higher than the national average at 24.2%.



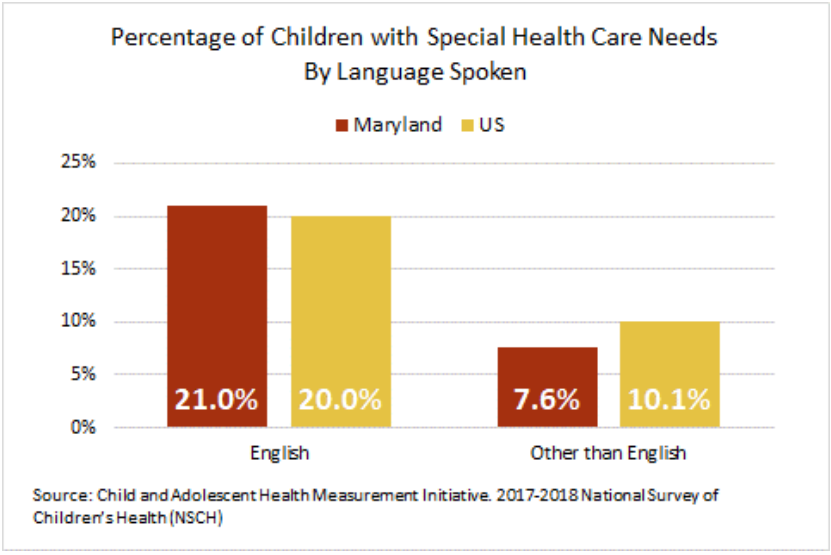
Racial and Ethnic Disparities

The social determinants of health, including poverty, racial and ethnic disparities and geographic disparities continues to have an impact on the health care of CYSHCN.

About 20% of non-Hispanic White children have been identified as having special health care needs in Maryland and nationally. However, 16.2% of non-Hispanic Black children have been identified as special needs, compared to 24.9% of non-Hispanic Black children nationally. In contrast, Maryland has identified an estimated 23.5% of Hispanic and 20.8% of "other" children as special needs, as compared

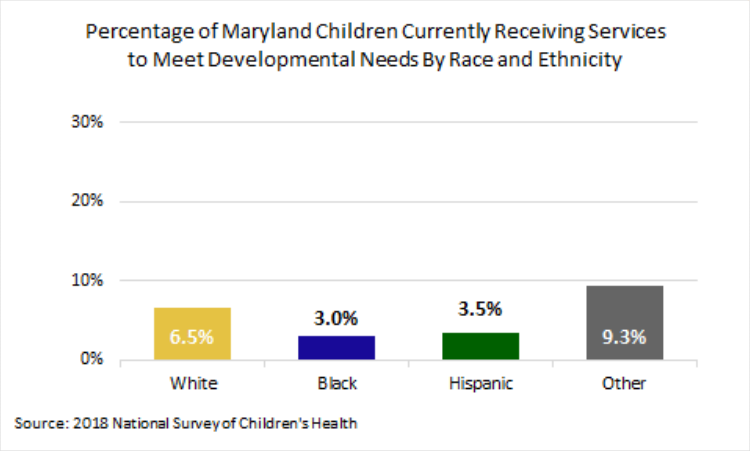


Among children in Maryland, an estimated 7.6% of those who speak a language other than English have been identified as children with special healthcare needs, as compared with 21.0% of English-speaking children.



According to the 2019 BRFSS, Maryland's health status for racial and ethnic minorities is better than the national average for American Indian and Alaska Native, Asian, non-Hispanic Black and multi-racial. Maryland's health status for Hispanic and "other" is lower than the national average.

According to the 2018 National Survey of Children's Health, 6.5% of non-Hispanic White CYSHCN were reported to currently be receiving services to meet developmental needs, whereas Hispanic and non-Hispanic Black CYSHCN was roughly half of that (3.5% and 3.0%, respectively). "Other" CYSHCN were reported to be currently receiving services the most at 9.3%.

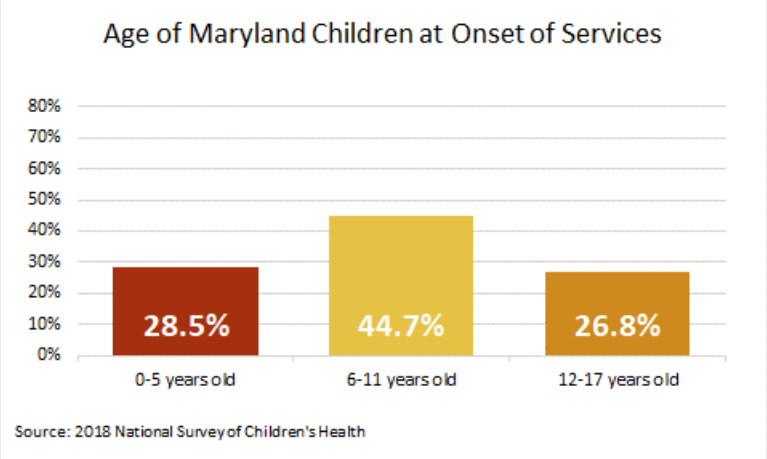


Quality of Care

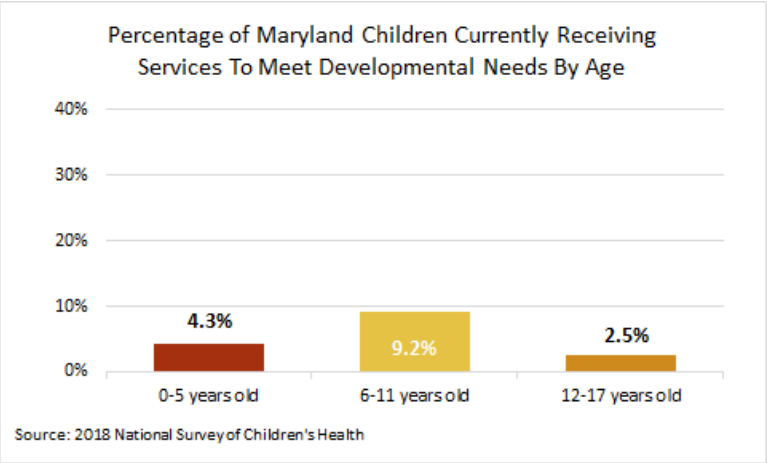
The quality of care provided by medical professionals is extremely important in determining health outcomes for CYSHCN. The Institute of Medicine (IOM) defines health care quality as "the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." The IOM further defines quality as meeting six domains: effectiveness, efficiency, equity, patient centeredness, safety and timeliness[43].

The Maryland Department of Health, Office of Health Care Quality (OHCQ) is the agency responsible with monitoring the quality of care in Maryland's health care facilities and community-based programs. OHCQ licenses and certifies facilities and programs throughout Maryland, where certification authorizes a facility to participate in Medicare and Medicaid Programs. OHCQ assess' facilities and programs to determine compliance with State and federal regulations, which set forth minimum standards for the delivery of care.

According to the 2018 National Survey of Children's Health, almost half (44.7%) of CYSHCN start receiving services to meet their developmental needs at 6-11 years old. 28.5% of CYSHCN start receiving services at 0-5 years old. One in four children with special health care needs (26.8%) start receiving services at 12-17 years old.



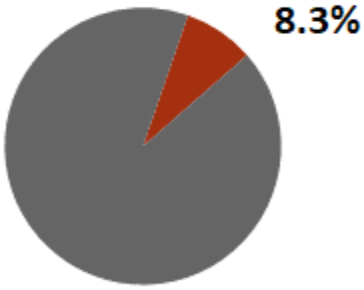
According to the 2018 National Survey of Children's Health, 4.3% of Maryland CYSHCN ages 0-5 years old are receiving services to meet developmental needs. Similarly, 9.2% of CYSHCN ages 6-11 years old and 2.5% of CYSHCN ages 12-17 years old are receiving services to meet developmental needs.



[43] https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/chtoolbx/understand/index.html

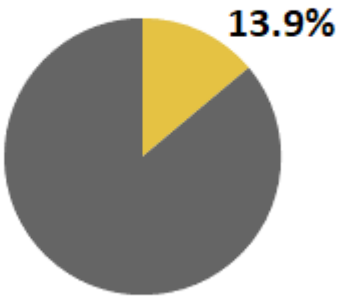
According to the 2017-2018 Child and Adolescent Health Measurement, 8.3% of Maryland children with special health care needs were reported to be receiving care in a well-functioning system, significantly below the national percentage of 13.9%.

Maryland Percentage of Children with Special Health Care Needs Who Receive Care in a Well-Functioning System



Source: Child and Adolescent Health Measurement Initiative. 2017-2018 National Survey of Children's Health (NSCH)

National Percentage of Children with Special Health Care Needs Who Receive Care in a Well-Functioning System

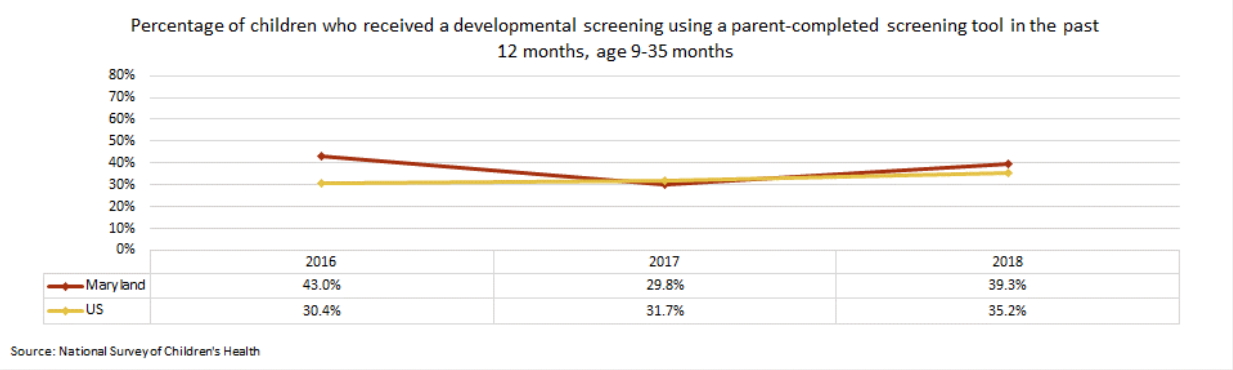


Source: Child and Adolescent Health Measurement Initiative. 2017-2018 National Survey of Children's Health (NSCH)

Developmental Screening for Special Health Care Needs

As mentioned in the Child Health Developmental Screening section, in 2018 non-Hispanic Black parents were less likely to complete developmental screenings when compared to Hispanic and non-Hispanic White parents.

In 2018, according to the National Survey of Children's Health, 39.3% of Maryland children, ages 9-35 months, received a developmental screening using a parent-completed screening tool during the last year, higher than the national percentage of 35.2%. While the national trend is increasing, Maryland saw a peak in 2016 (43.0%), however Maryland's trend has increased from 2017 at 29.8%.



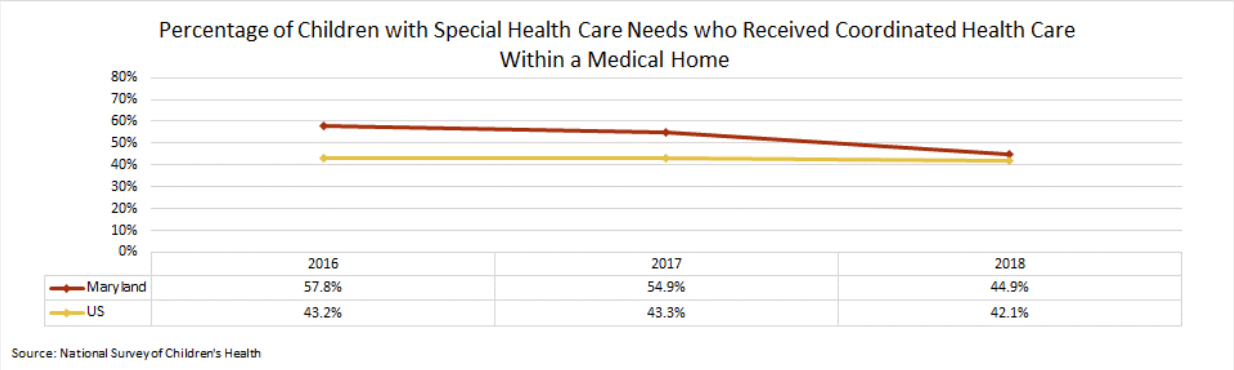
	2016	2017	2018
Maryland	43.0%	29.8%	39.3%
US	30.4%	31.7%	35.2%

Source: National Survey of Children's Health

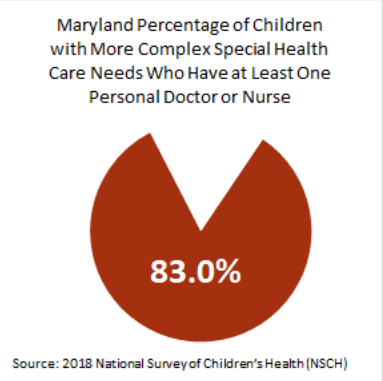
Medical Home

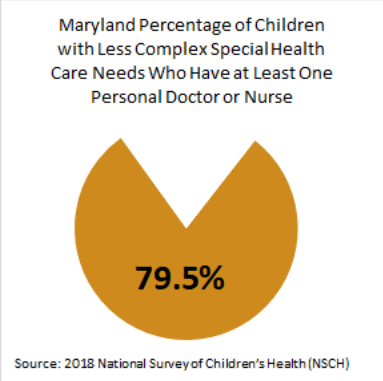
See the Medical Home section in Child Health for more information on Maryland residents' access to the medical home approach.

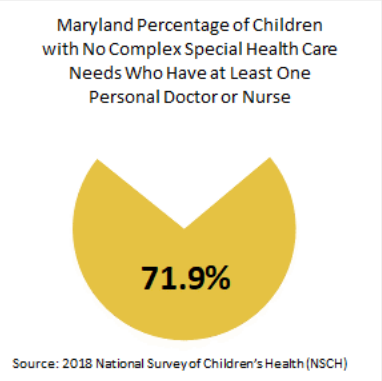
According to the National Survey of Children, 44.9% of CYSHCN in Maryland received coordinated, ongoing, comprehensive care within a medical home, compared to 42.1% nationally. The national trend has remained relatively consistent since 2016, whereas Maryland has seen a decrease since both 2016 and 2017 (57.8% and 54.9%, respectively).



In 2018, 83.0% of Maryland children with more complex special health care needs reported having at least one personal doctor or nurse, while 79.5% of Maryland children with less complex special health care needs reported having at least one personal doctor or nurse. Both percentages reflect a rate higher than for children with no complex special health care needs at 71.9%.







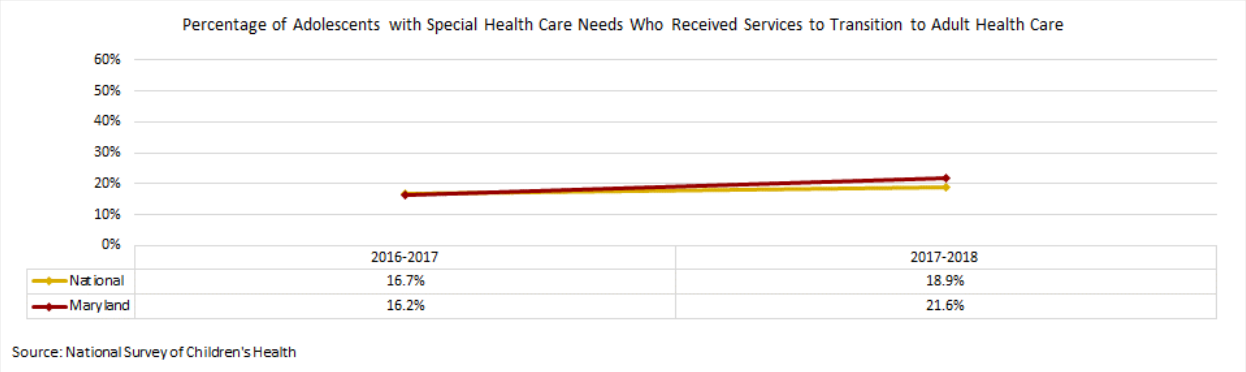
Services Needed for Transition to Adulthood

See the Transition section in Adolescent Health for more information on Transition.

Successfully transitioning children and youth with special health care needs (CYSHCN) to adult health care services is becoming a key area of interest as more people with disabilities are living well into their adult years. One of the six core outcomes for CYSHCN identified by the Maternal and Child Health Bureau was that "youth with special health care needs receive the services necessary to make transitions to all aspects of adult life, including adult health care, work, and independence[44]."

The most common recommendations among transition experts are that transition should start early (at the minimum age of 13) and should involve the youth, their pediatrician and a primary care doctor, so that everyone is included in the discussion of the expectations and goals for this process[45].

In 2018, according to the National Survey of Children's Health, 21.6% of adolescents with special health care needs received services to transition to adult health care. This percentage is higher than the national average of 18.9% and reflects an increase from 2017 (16.2%).



[44] U.S. Department of Health and Human Services. The National Survey of Children with Special Health Care Needs Chartbook 2005–2006. U.S. Department of Health and Human Services; Rockville, Maryland: 2008. Health Resources and Services Administration, Maternal and Child Health Bureau

[45] http://www.amchp.org/programsandtopics/CYSHCN/resources/Documents/Models-of-Care-for-CYSHCN.pdf

Findings from Key Informants

Key informants emphasized that challenges, gaps and barriers affecting children and adolescents are amplified for those with special health care needs.

Gaps and Barriers

Like the gaps and barriers to accessing health care discussed in previous sections, children and youth with special health care needs experience the same challenges with the added stress of more appointments and specialty care. A few key informants reported that families may have to travel far distances, such as to Johns Hopkins, because providers in the area may not have the expertise. The increased travel and time spent going to appointments makes it challenging for parents to have regular day jobs. Additionally, some key informants reported that despite respite services for the family being of high importance, there is a lack in Maryland. Without respite services, day to day activities are difficult for families and can lead to family structures breaking down, which can directly hinder health outcomes. Furthermore, key informants mentioned that finding providers and services who specialize in children and adults with special health care needs can be extremely challenging. One key informant said services for children and youth with special health care needs are often short duration programs.

Many key informants reported that it can be challenging to identify adult providers who are comfortable with individuals who have complex health care needs. Furthermore, several key informants mentioned trust being a big issue for this population. Families of children and youth with special health care needs are often reluctant to seek adult health care because they may not trust that the adult physician is knowledgeable enough. A few key informants said that physicians are not listening to families of children and youth with special health care needs, with one key informant stating that “families are not partners in decision making.” Another key informant stated, “families don’t often know their right and don’t know how to effectively advocate or support their child with special health care needs.”

Successful Programs and Services

Key informants listed several hospitals and programs who work with this specific population, including Johns Hopkins, Kennedy Krieger, Children’s National, University of Maryland, Parent’s Place, the Infant-Toddler Program and the Community Choice First program. Additional services mentioned included Medicaid services, Respite Care and DDA waivers.

It is important to note that children and youth with special health care needs utilize many of the same programs and services as their neurotypical counterparts; therefore, successful programs and services mentioned in other sections may also be applicable to this population.

Findings from Strategic Planning Sessions

AI facilitated six strategic planning sessions for children and youth with special healthcare needs. These sessions, which covered topics of bullying, Medical Home and transition at great length, provided discussion on both the challenges, gaps and needs of this population as well as successes. Findings from the strategic planning sessions will also be discussed in the five-year action plan.

Greatest Challenges, Gaps and Needs

Strategic planning participants mentioned a multitude of challenges, gaps and needs for this population. Social determinants were mentioned at most sessions, which included access to safe and adequate housing, transportation and cultural challenges. Transportation was noted to be a barrier to accessing medical services, as well as creating barriers in general to everyday life. Cultural challenges included immigration status, where undocumented individuals may have a fear of utilizing services, English learning capability, where translation services may be required, and housing, where in some cultures families "double up" creating less space for safe sleep of infants, toddlers and young children.

Another large barrier, cited by all planning sessions, is the lack of knowledge of programs and resources available for families. Participants suggested that the State redesign their website to make it more user friendly for families trying to locate services. Furthermore, several participants noted that to fill this gap, schools would be a good place for outreach. Therefore, Maryland should make sure that schools are knowledgeable of the resources available. Participants also expressed that even when a resource is found, there is often a waitlist.

"Finding care with expertise in complex needs."

-Planning Session Participant

Provider capacity was mentioned in most planning sessions. While it was stated that there is a need for medical care capacity in general, several mentioned behavioral and mental health specifically. To this point, one session reported that there is an extreme lack of behavioral health professionals for children diagnosed with autism and down syndrome especially. Furthermore, it was reported that there is a lack of comprehensive healthcare coverage, due to inaccessible hours and inadequate insurance coverage.

Planning session participants highlighted on two services that need to be expanded to fill the gap, REM and respite care. Several participants noted that REM is a wonderful program, but that the number of waivers needs to be increased because there is always a waitlist. Likewise, respite care was cited as being one of the most beneficial services for this population, but participants felt there is not enough of it.

"It is not only peers, teachers bully too."

-Planning Session Participant

Together with respite care, participants expressed the need for more parenting help and support system services. Mentoring services were mentioned for both parents and families as well as the child with special health care needs. Several participants noted that children and youth with special healthcare needs are more likely to be bullied at school by their neurotypical peers and that by having a mentor system in place, families can feel more secure in knowing that their children are protected. One strategic planning group commented that there needs to be ways to support individuals with complex needs without punishment and that support services should get to families before CPS intervention.

Participants mentioned various other gaps in supporting families, including a full-day kindergarten, which would alleviate parents who work, childcare options for CYSHCN, early care for CYSHCN, supports for schools with complex cases, teacher education on mental and behavioral health, in-home services and residential treatments where mothers can bring their children. Similarly, one planning session also stated that an increase of provider satellite offices would be beneficial. One group of participants mentioned a need for safe spaces that could be offered in the community in spaces like movie theaters and public libraries. One participant suggested that there is a need for a program for

mothers with a child who has complex needs, who is pregnant again and potentially at higher risk. Lastly, planning session participants revealed that employment opportunities for this population are limited, especially in rural areas.

Oral health was another area discussed by participants. Participants felt that dental services are cost prohibitive for many families who are ineligible for Medicaid. Participants also expressed that there needs to be an incentive for dentists to want to work in rural areas of Maryland. One participant suggested that the State should gather information on Medicaid recipients to see if there truly is a dentist shortage.

Lastly, substance use was another topic of discussion. One planning session group mentioned that marijuana use, smoking tobacco and alcohol use in pregnancy all remain big issues. The opioid crisis was cited by a few planning sessions, where one participant stated that they have seen more WIC recipients who are addicted to opioids than those who are not.

Successes

Strategic planning participants expressed various successes for this population. The REM program, the DDA, and WIC were among the most mentioned by participants. Additionally, participants highlighted on programs that directly serve children and their families including the Infants and Toddlers program, the Head Start program, the PACT program, the Judy Center, the Care for Kids program, Medical Home and the Maryland Medicaid Home and Community-Based Services Waiver for children with Autism Spectrum Disorder (Autism waiver) through the schools. Furthermore, participants noted programs that directly serve parents, such as parent partner, parent navigation programs and parent peer support groups offered through the Parents' Place, Catholic Charities and Children's National, among others.

A few participants noted successes with Children's Dental and dental services for pregnant women, while others discussed the benefits of expanded telehealth and satellite offices as well as more options for occupational therapy and speech therapy. Other standalone successes mentioned included Project ECHO, XpertCare and the Bridge Program. Lastly, one participant stated that there is increased "collaboration across agencies."

CROSS-CUTTING OR LIFE COURSE

The umbrella health themes under which cross the life span include adequate insurance coverage, oral health care and smoking in households.

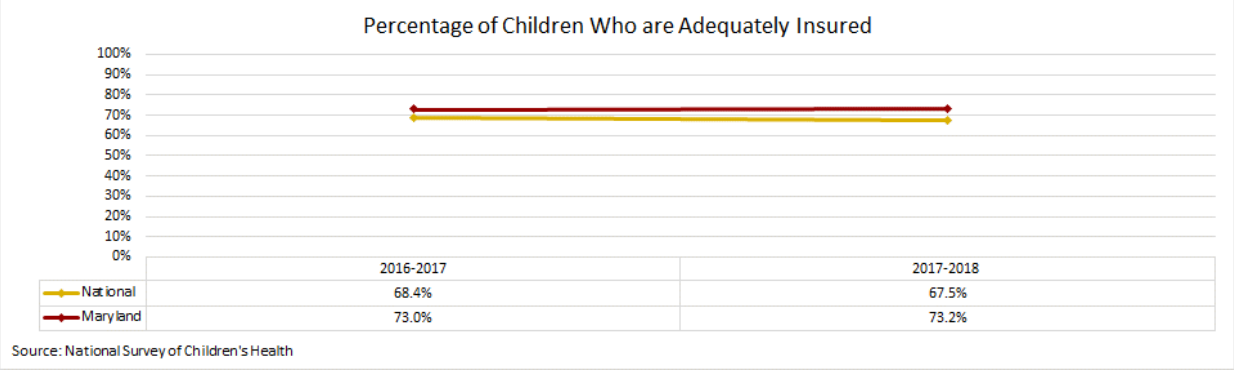
Adequate Insurance Coverage

In 2018, according to a report by The Commonwealth Fund[46], an estimated 87 million people were either underinsured or had no coverage for at least part of last year. This number remains essentially unchanged from 2010. This report further detailed that 41% of underinsured adults said they delayed care while 47% said they had trouble paying their medical bills. Meanwhile, among those with adequate health coverage, 23% put off their care and 25% had problems with medical expenses.

The Affordable Care Act, which was signed into law in 2010 and saw key provisions implemented in 2014, expanded Medicaid eligibility and subsidized coverage for millions of low-income Americans who did not have access to employed-based health insurance.[47]

The Affordable Care Act resulted in nearly 20 million people gaining access to health care coverage. However, America is now dealing with a larger pool of people who are underinsured. Sara Collins, lead author of the study and The Commonwealth Fund's vice president for health care coverage and access stated "U.S. working-age adults are significantly more likely to have health insurance since the ACA became law in 2010… but the improvement in uninsured rates has stalled (and) more people have health plans that fail to adequate protect them from health care costs."

According to the National Survey of Children's Health, 73.2% of parents reported that children, ages 0 through 17 years, were adequately insured in 2017-2018, which is consistent with 2016-2017. Maryland remains higher than the national average at 67.5%. A child was said to be adequately insured based on three criteria: whether their children's insurance covers needed services and providers and reasonable covers cost. A child was considered to have adequate insurance coverage if a parent answered "always" or "usually" to all three.

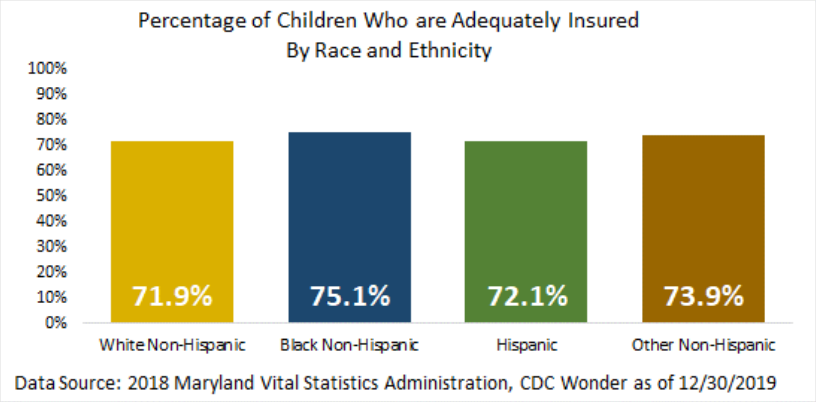


Source: National Survey of Children's Health

[46] https://www.commonwealthfund.org/publications/issue-briefs/2019/feb/health-insurance-coverage-eight-years-after-aca

[47] https://www.usnews.com/news/healthiest-communities/articles/2019-02-07/lack-of-health-insurance-coverage-leads-people-to-avoid-seeking-care

When looking at children who are adequately insured by race and ethnicity, there was virtually no discrepancy. In fact, non-Hispanic Black children were reported to be adequately insured the most at 75.1%, compared with non-Hispanic White children who were reported as the least adequately insured at 71.9%.

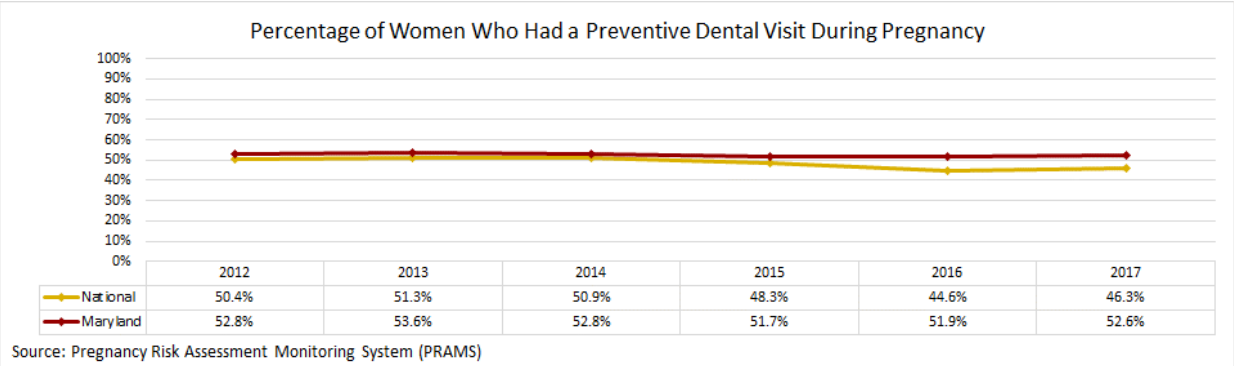


Oral Health Care

According to the CDC, oral health refers to "the health of the teeth, gums and the entire oral-facial system that allows us to smile, speak and chew. Some of the most common diseases that impact our oral health include cavities (tooth decay), gum (periodontal) disease and oral cancer," which can cause pain and disability for millions in the U.S. and cost taxpayers billions each year[48]. Furthermore, oral health can also affect a person's self-esteem, as well as their professional performance and attendance at school or work.

Oral health disparities are prevalent in the United Stated and exist for many racial and ethnic groups, by socioeconomic status, gender, age and geographic location. Nationally, non-Hispanic Blacks, Hispanics and American Indians and Alaska Natives generally have the poorest oral health. Economic factors that relate to poor oral health include access to dental care and an individual's ability to obtain and keep dental insurance. Additionally, social factors can also contribute to increased risk of oral health problems, including tobacco use, frequency of alcohol use and poor dietary choices.[49]

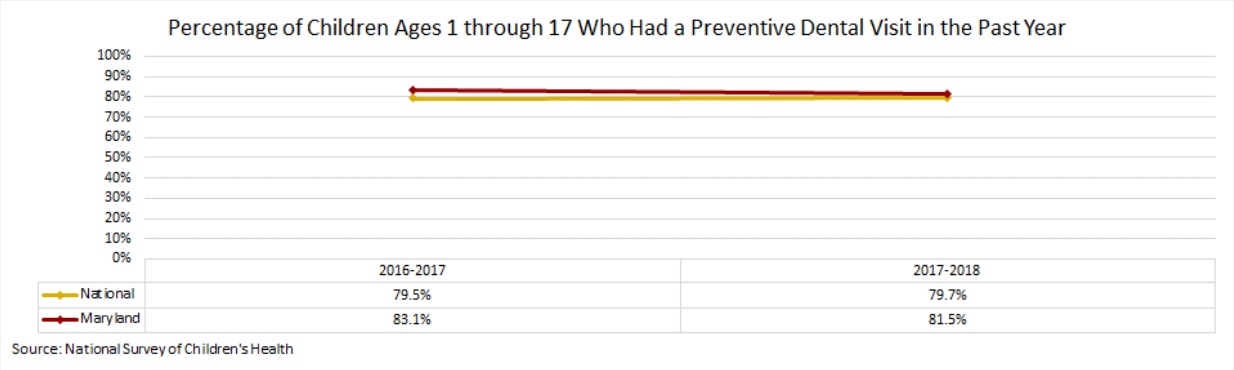
According to the Pregnancy Risk Assessment Monitoring System (PRAMS), 52.6% of pregnant women received a preventive dental visit during pregnancy in 2017, higher than the national average of 46.3%. The rate of pregnant women receiving preventive dental visits has remained somewhat consistent, despite the peak rate in 2014, and has increased slightly since 2015.



[48] https://www.cdc.gov/oralhealth/conditions/index.html; https://www.cdc.gov/oralhealth/basics/index.html

[49] https://www.cdc.gov/oralhealth/oral_health_disparities/index.htm

Likewise, during the 2017-2018 year, 81.5% of children ages 1 through 17 were reported to have had a preventive dental visit in the last year, compared with 79.7% nationally. This percentage represents a slight drop since 2016-2017, where Maryland reported 83.1%.



	2016-2017	2017-2018
National	79.5%	79.7%
Maryland	83.1%	81.5%

Source: National Survey of Children's Health

Smoking in Households

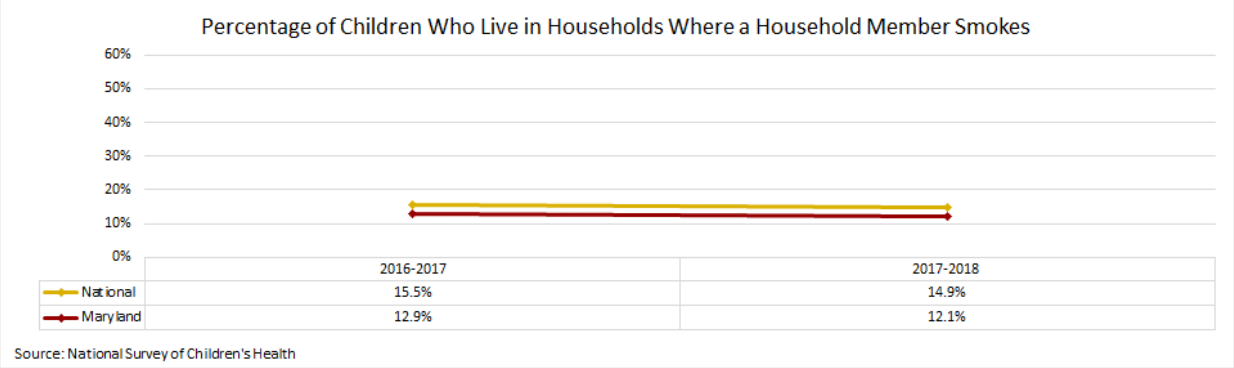
See previous substance abuse sections for more information about smoking and tobacco use.

"Tobacco smoke contains a deadly mix of more than 7,000 chemicals. Hundred are toxic. About 70 can cause cancer."

-Center for Disease Control and Prevention

According to the CDC, the home is the number one place where children are most exposed to secondhand smoke. Children who live in households with a member who smokes have higher levels of cotinine, a biological marker of secondhand smoke exposure, than children who do not live in households where smoking is allowed. While children are more likely to be exposed to secondhand smoke than adults, the home is still a major place for secondhand smoke exposure for adults as well.[50]

According to the National Survey of Children's Health, in 2017-2018, 12.1% of children were reported to live in households where a member smokes, compared with 14.9% nationally. Maryland has remained almost consistent since 2016-2017, where the percentage was slightly more at 12.9%.



[50] https://www.cdc.gov/tobacco/basic_information/secondhand_smoke/children-home/index.htm

Findings from Key Informants

Key informants were asked about various cross-cutting topics including adequate insurance coverage, oral healthcare and smoking in households.

Gaps and Barriers

Key informants reported that adequate insurance is hindered mostly due to financial burden and immigration status. Key informants stated that many people and families are underinsured due to the cost of health insurance, which means that their insurance does not cover the level of care needed. One key informant mentioned a middle-income level gap, where a family may not qualify for Medicaid, but the cost is too high to get adequate coverage. The undocumented do not qualify for Medicaid, leading to health care limitations for this population as well.

> "There are a lot of families who make too much money to qualify for help but don't make enough money to pay for the help they need."
>
> -Key Informant

Several key informants highlighted that prohibitive cost either prevents people from seeking healthcare or causes people to present later with treatable conditions. One key informant stated that those without adequate insurance may go to a clinic for care, but due to long waitlists it may not be timely. Another key informant stated that in addition to delaying clinical care, some individuals may go to a home country for care or may go to holistic medicine.

Some key informants expressed that signing up for insurance can be a barrier to accessing adequate insurance. Maryland encourages signing up online, which can be a barrier to individuals who are not equipped to do so. A few key informants stated that some individuals do not understand the documentation required to sign up and do not understand deductibles, copays and choice of providers when deciding on a health insurance policy.

Regarding oral health, key informants agreed that dental care should be more accessible. One key informant mentioned that women are getting pregnant just to get dental coverage. Another key informant stated that oral health care is not accessed because of parent's time and cost. One more stated that there is a lack of education on baby teeth health and needs, not enough providers, a lack of transportation and a lack of interpreters.

Lastly, when asked about smoking in the household a few key informants agreed that vaping is a huge problem, with one also saying marijuana needs to be better studied as well. One key informant reported that low-income individuals may have a hard time with the affordability of smoking cessation options, while another key informant stated that when it comes to smoking cessation it is a "lack of desire, not a resource issue."

> "I think it's related to treating mental health issues. I think smoking is a disease of poverty."
>
> -Key Informant

Successful Programs and Services

Key informants reported that there are some successful programs and services regarding health insurance, such as the all-payer system which one key informant stated "we see benefit with the population who used to slip through the cracks, the 21-26 year old's." Other key informants stated that

sliding scales, charity, clinics and grant funded programs are successful, as well as telehealth practices. One key informant reported that insurance companies are using case management models to reach out to people about their Medicaid files and making referrals to other community programs, stating "having someone friendly on the phone is a big help."

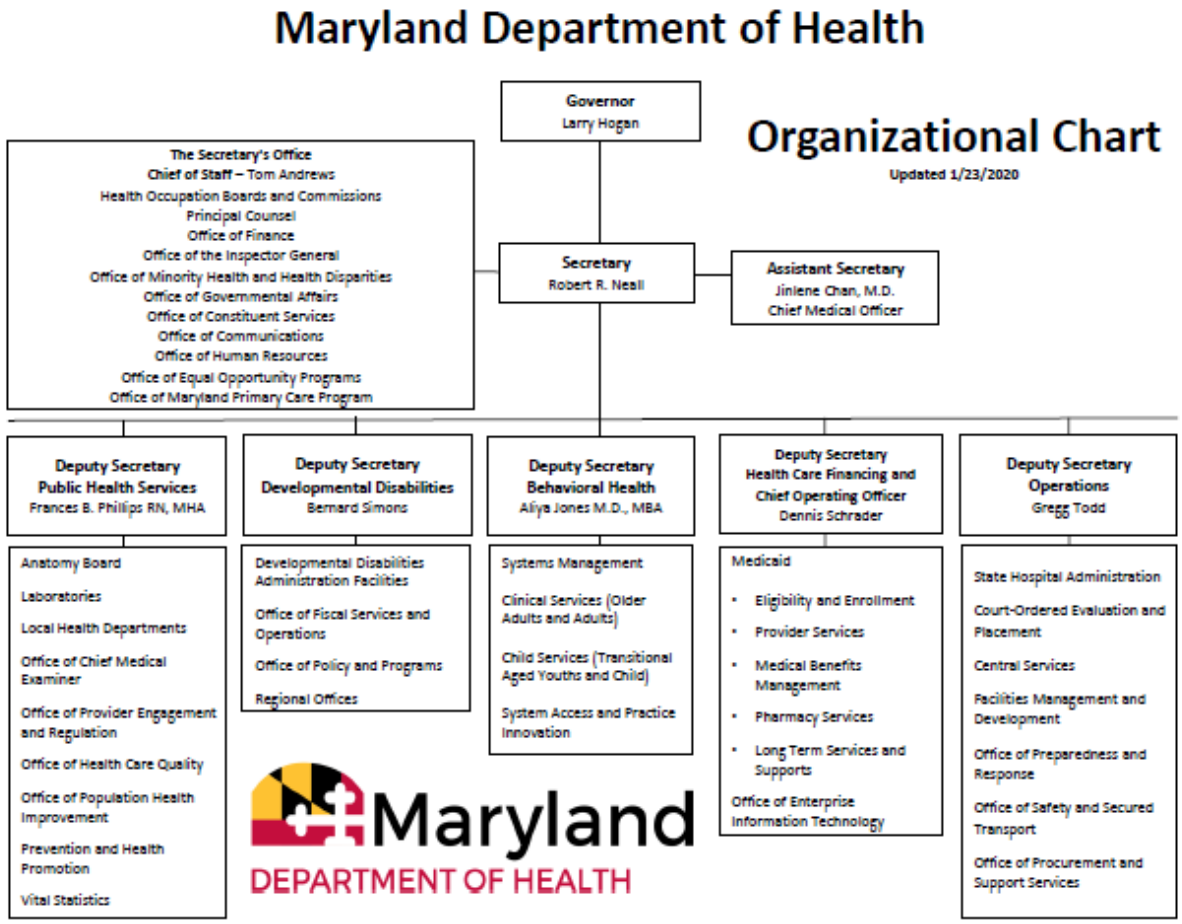
Regarding oral health, many key informants stated that Medicaid coverage for preventive dental visits is very good. Key informants specifically noted the coverage for children and pregnant women. A few key informants mentioned the benefits of a mobile dental bus, while another key informant reported that the Judy Center invites dental clinics to their play groups.

When asked about smoking cessation, most key informants agreed that there are many resources available in Maryland, including the quit hotline, smoking cessation therapies, health department smoking cessation programs and anticipatory guidance programs. One key informant reported that smoking cessation education is also provided through the early care nurse who provides in-home services.

TITLE V PROGRAM CAPACITY

The aim of this section is to discuss the MDH organizational structure, the agency capacity and the MCH workforce and capacity.

ORGANIZATIONAL STRUCTURE



In January 2015, Larry Hogan was sworn in as the Governor of Maryland and in February of 2018 Robert R. Neall was confirmed as the Secretary of the Maryland Department of Health (MDH). Assistant Secretary, Jinlene Chan, M.D. Chief works next to Robert Neall as the Chief Medical Officer, while Tom Andrews also works alongside Neall at the Secretary's Office as the Chief of Staff. MDH is the designated agency responsible for administering Title V – Section 509 (b) as well as other Title V programs.

MDH has four major divisions: Public Health Services, Behavioral Health, Developmental Disabilities and Medicaid Administration. MDH also houses a fifth division called operations. In addition, the department has 26 boards that license and regulate health care professionals; and various commissions that issue grants and research and make recommendations on issues that affect Maryland's health care delivery system.

The newly appointed Deputy Secretary for Public Health Services, Frances B Phillips, RN, MHA, oversees the Anatomy Board, Laboratories, Local Health Departments, the Office of Chief Medical Examiner, the Office of Provider Engagement and Regulation, the Office of Health Care Quality, the Office of Population Health Improvement, Prevention and Health Promotion, and Vital Statistics.

Bernard Simons was appointed in 2014 as the Deputy Secretary for Developmental Disabilities. This department oversees the Developmental Disabilities Administration Facilities, the Office of Fiscal Services and Operations, the Office of Policy and Programs and Regional Offices.

Newly appointed Deputy Secretary for Behavioral Health, Aliya Jones M.D., MBA, is responsible for overseeing the Systems Management, Clinical Services (Older Adults and Adults), Child Services (Transitional Aged Youths and Child) and System Access and Practice Innovation.

Newly appointed Deputy Secretary for Health Care Financing and Chief Operating Officer Dennis Schrader is responsible for overseeing Medicaid and the Office of Enterprise Information Technology.

Newly appointed Deputy Secretary of Operations Gregg Todd is responsible for overseeing the State Hospital Administration, Court-Ordered Evaluation and Placement, Central Services, Facilities Management and Development, the Office of Preparedness and Response, the Office of Safety and Secured Transport and the Office of Procurement and Support Services.

AGENCY CAPACITY

The Title V Program is within the Prevention and Health Promotion Administration (PHPA). The Prevention and Health Promotion Administration is organized into five Bureaus that oversee a diverse array of public health programs targeting all of Maryland citizens and working together to support the core functions of public health. The bureaus are Infectious Disease Epidemiology and Outbreak Response, Infections Disease Prevention and Health Services, Maternal and Child Health, Cancer and Chronic Diseases and Environmental Health.

The Office of Family and Community Health Services (OFCHS), the Office of Quality Initiatives, and the Office of Genetics and People with Special Health Care Needs (OGPSHCN reside in the Maternal and Child Health Bureau (MCHB) at the Maryland Department of Health and are referred to collectively as the MCH Program. These three offices share responsibility for MCH Block Grant development, implementation and evaluation.

The mission of MCHB is to provide statewide leadership to improve the health and well-being of Maryland women, men, infants, children, adolescents and their families. Through maternal and child health expertise, guidance and support, MCHB envisions a Maryland in which our population achieves optimal health through the elimination of health inequities, promotion of the highest quality accessible care and engagement of families to live healthier and happier lives. MCH programs and services in Maryland are provided at a variety of levels and work to protect and promote the health of women and children, including those with special health care needs.

The MCH Program is responsible for addressing several federal and state mandates for improving the health of women and children. These State statutes and regulations are highlighted in the Overview Section to this report.

Maryland's MCH Bureau

Courtney McFadden, MPH is the acting director of MDH MCHB. Ms. McFadden provides public health leadership in the provision of maternal and child health services and the prevention, control, monitoring and treatment of infectious diseases, cancer, chronic diseases and environmental health hazards. Ms. McFadden transitioned to MDH in 2006, serving in several roles in the Center for Cancer Prevention and Control, including services as the Office Director from 2011-2016. She has served as the MDH Maternal and Child Health Bureau acting Director since 2017.

Dr. Linda Alexander, MD, MPP, FACOG, currently serves as the Acting Medical Director for the MCHB. Ms. Alexander is a board-certified OB/Gyn and also serves as the Reproductive Health Medical Director for the MCH Bureau. Ms. Alexander has served as the MCHB Acting Medical Director since 2019.

Alena Troxel currently serves as the Deputy Director for the MCHB. Ms. Troxel has held this position since 2019. Prior to this position, Ms. Troxel held several positions at Jhpiego, a nonprofit global leader in the creation and delivery of transformative health care solutions for the developing world.

The Office of Family and Community Health is directed by Melissa Beasley.

Dr. Jed Miller, MD, MPH is the Director of the Office of Genetics and People with Special Health Care Needs (OGPSHCN). Stacy Taylor currently serves as Deputy Director of the OGPSHCN. Ms. Taylor has served as the Deputy Director since 2018.

Jennifer Wilson, Med, RD, LDN is the current Director for the Office of the MD WIC Program. Ms. Wilson is a registered dietitian who previously worked in local agency clinics for nearly 25 years as a WIC Aide, then Nutritionist and eventually a Program Coordinator. Debbie Morgan works as the Deputy Director of Maryland WIC.

The Office of Quality Initiatives is directed by Maisha Douyon Cover. Prior to being named the Director, she served as the senior program manager. Prior to this, she held several roles at the Brigham and Women's Hospital, where she worked for over a decade. Ms. Douyon Cover has been the Acting Director since 2020.

Colleen Wilburn, MPA, serves as the Title V Manager for the Maternal and Child Health Bureau. Ms. Wilburn is responsible for ensuring Title V's success in meeting federal programmatic and fiscal requirements at the Maryland Department of Health.

MCH WORKFORCE AND CAPACITY

Maryland's MCH Bureau (MCHB) includes a highly skilled and diverse team of public health professionals representing a variety of disciplines. This team plans, manages and monitors Title V activities for Maryland and supports a variety of MCH staff in local health departments, including a cadre of community health nurses, physicians, program administrators and clerical personnel, which are also supported by Title V funds. The Maternal and Child Health Bureau has four offices: the Office of the Maryland WIC Program (WIC); the Office of Family and Community Health Services (OFCHS); the

Office of Genetics and People with Special Health Care Needs (OHPSCHN); and the Office of Quality Initiatives (OQI). The MCHB also collaborates and coordinates activities with other State agencies on health issues that affect women and children including immunizations, injury prevention, mental health care, medical assistance, oral health care, substance abuse and smoking cessation.

An adequately prepared workforce is essential to building capacity to address MCH needs and provide essential services. Key Title V staff are afforded opportunities to attend both national and state conferences and training that provide opportunities to acquire new skills and strengthen existing capacities.

MCHB supports an annual Reproductive Health Conference as well as periodic meetings and webinars for grantees. Title V staff participate in the planning of the annual school health institute, the youth suicide prevention conference and annual or ongoing meetings with Title V grantees, advisory groups and stakeholders.

Title V staff have recently received training on contract monitoring, fiscal and budgetary management and change management. Moving forward, Title V staff are being instructed to use the MCH Navigator for training opportunities and resources. New Title V employees will be directed to several of the training bundles to receive helpful background information on Title V, MCH and public health.

FINDINGS – PARTNERSHIPS, COLLABORATION AND COORDINATION

This section provides an overview of major MCH collaborations with State agencies including MDH bureaus and offices.

STATE AGENCIES

The Governor's Office for Children (GOC) is the coordinating unit for Maryland Governor's Children's Cabinet. The Children's Cabinet coordinates the child and family-focused service delivery system by emphasizing prevention, early intervention and community-based services for all children and families. The Children's Cabinet includes the Secretaries from the Departments of Budget and Management; Disabilities; Health; Human Services; and Juvenile Services; as well as the State Superintendent of Schools for the Maryland State Department of Education and the Executive Director of the Governor's Office of Crime Control and Prevention. The Executive Director of the Governor's Office for Children chairs the Children's Cabinet.

Today, the GOC operationalizes Governor Hogan's vision for economic opportunity for all and advances that vision by focusing on four Strategic Goals: reducing the impact of parental incarceration on children, families and communities reducing the number of youth aged 16-24, who are not working and not going to school; reducing childhood hunger; and reducing youth homelessness. The GOC is also a key partner on infant mortality issues and serves in an advisory decision-making role for the MIECHV home visiting program which is administered by the MCHB. MCHB represents MDH at annual briefings by GOC to the Maryland General Assembly's Joint Committee on Children, Youth and Families.

At the local level, GOC funds Local Management Boards (LMBs) in every jurisdiction. The LMBs are comprised of the local agency counterparts to the Children's Cabinet agencies, including local child-serving agencies, local child providers, clients of services, families and other community representatives to empower local stakeholders in addressing the needs of and setting priorities for their communities. The Boards serve as the coordinator of collaboration for child and family services. The LMBs conduct periodic needs assessment and this data is shared with Title V. Input from the LMBs is also more broadly sought by Title V on issues and needs impacting children and families in Maryland.

MDH shares responsibility for school health with the Maryland Department of Education (MSDE). MCHB coordinates with the MDH Office of School Health on school health issues. MSDE has lead State responsibility for early childhood issues in Maryland with much of the work coordinated through an Early Childhood Advisory Council (ECAC). Title V is represented on the ECAC and this group serves as the State Team for the Early Childhood Comprehensive Systems (ECCS) grant. Title V's Early Childhood Coordinator sits on the Office of Child Care's Advisory Group. Recently, the ECAC applied for a Quality Improvement Grant renewal for the year 2021, which in part aims to strengthen the availability and access to health services and improve capacity to meet infants' and children's mental health needs.[51]

[51] https://earlychildhood.marylandpublicschools.org/system/files/filedepot/23/lecac_rfp_application_pdg_b-5renewal_final_3.18.pdf

Other key child serving agencies include the Maryland Department of Human Resources (DHR), the Governor's Office for Crime Control and Prevention and the Department of Juvenile Services. DHR oversees the State's network of social services offices that addresses financial support for families, child protective services and foster care. MCHB collaborates with DHR on child abuse and neglect, teen pregnancy prevention, outreach for family planning and early initiation of prenatal care. Title V is represented on the Governor's Council on Child Abuse and Neglect. MCHB provides consultation and technical assistance on adolescent health and teen pregnancy prevention to the Department of Juvenile Services. The Chief of Perinatal and Women's Health represents the MDH Secretary on the Governor's Office of Crime Control and Prevention's Family Violence Council.

The Maryland Community Health Resources Commission (CHRC) was created by the Maryland General Assembly in 2005 to expand access to health care services in underserved communities in Maryland. MCHB collaborated with the Maryland Community Health Resources Commission to establish infant mortality reduction as a priority for Commission grants to safety net providers (primary FQHCs). MCHB provides technical assistance for review of proposals and has joined in site visits to grantees with Commission staff. CHRC and MDH also collaborate on implementation of the 2013 Health Enterprise Zone initiative focused on reducing health disparities in targeted Maryland communities.

MDH AGENCIES – PREVENTION AND HEALTH PROMOTION ADMINISTRATION

As described earlier, MCHB is one of five bureaus within PHPA. MCHB plays a major leadership role for maternal and child health issues across the Administration and its bureaus. Three of the four offices within MCHB: OFCHS, OGPSCHN, and OQI manage Title V Block Grant Funds. The fourth office, the WIC Program, works closely with the Title V agencies on several issues including preconception health, breastfeeding, nutrition and obesity prevention and family planning outreach.

MCHB collaborates with the Environmental Health Bureau (EHB) on several environmentally linked child health issues including birth defects, asthma and childhood lead poisoning. MCHB is represented on the Children's Environmental Health Advisory Council which is staffed by EHB. EHB also includes the Center for Injury and Sexual Assault Prevention. EHB also includes the Center for Injury and Sexual Assault Prevention. MCHB coordinates with the Center on childhood injury prevention, child fatality review, intimate partner violence and child abuse and neglect. Title V's adolescent health coordinator sits on the Center's Teen Distracted Driving Task Force and works with staff on violence prevention issues including bullying.

The Maryland Primary Care Program (MDPCP) is now in its first program year for 2020. The MDPCP is a voluntary program open to all qualifying Maryland primary care providers that provides funding and support for the delivery of advanced primary care throughout the state. The MDPCP supports the overall health care transformation process and allows primary care providers to play an increased role in prevention, management of chronic disease, and preventing unnecessary hospital utilization.

The Infectious Diseases Bureau addresses MCH linked activities such as immunizations and sexually transmitted infection (STI) prevention. Title V partners with this Bureau and local health departments to improve immunization rates and reduce STI rates including HIV/AIDS.

MDH AGENICES – OTHER

Local health departments are unique and key Title V partners who serve as important service delivery arms for many Title V activities. The Office of Population Health Improvement (OPHI), reporting directly to the Deputy Secretary for Public Health Services, oversees the State's Health Improvement process as well as administering matching funds for core public health services to local health departments. MCHB partners with this Office to deliver vital maternal and child health services to jurisdictions throughout the State using Title V support.

The Behavioral Health Administration (BHA) which directs mental health and addiction activities for the State is an important Title V partner. Areas of partnership include early childhood mental health, youth suicide prevention, perinatal depression, perinatal substance abuse and Fetal Alcohol Spectrum Disorders (FASD). MCHB supports a Fetal Alcohol Coalition with assistance from BHA staff. Title V is represented on BHA's Early Childhood Mental Health Steering Committee and the Governor's Commission on Suicide Prevention. Maryland Title V is represented on the National Association of FASD State Coordinators.

MCHB collaborates with the MDH Office of Minority Health and Health Disparities (OMHDD) on infant mortality reduction as well as other overall reductions in disparate MCH outcomes. MCHB is a frequent presenter at the State's annual health disparity conference sponsored by this Office.

The Vital Statistics Administration (data and surveillance) and the Office of the Chief Medical Examiner (child fatality, maternal mortality) are other major agency partners. MCHB staffs and oversees the State's Child Fatality Review Team, the Maternal Mortality Review Committee as well as the MMQRC Committee, which include representatives from Vital Statistics and the Office of the Medical Examiner.

MARYLAND'S TITLE V MATERNAL CHILD HEALTH PRIORITIES 2021-2025

During the project's initial meeting with the Steering Committee, committee members discussed each of the National Performance Measures (NPMs) and selected those each member believed were priorities for inclusion. NPMs were selected to address known needs of the target populations, incorporate current priorities of the programs and ensure coverage of each population domain, including Women/Maternal Health, Perinatal/Infant Health, Child Health, Adolescent Health, Children and Youth with Special Health Care Needs and areas that incorporate two or more population areas (Cross-Cutting/Life Course).

Eight NPM priority areas were selected among those most prioritized by the greatest number of members. The following selection of NPMs were reviewed and approved by the Title V Manager.

National Performance Measure		Population Area*
Selected:		
NPM 5	Safe Sleep	PIH, AH
NPM 3	Risk-Appropriate Perinatal Care	PIH
NPM 4	Breastfeeding	W, PIH
NPM 10	Adolescent Well-Visit	AH
NPM 13.1	Preventive Dental Visit - Pregnancy	W
NPM 14.1	Smoking - Pregnancy	W, PIH
NPM 11	Medical Home	CSHCN
NPM 12	Transition	AH, CSHCN

STATE PERFORMANCE MEASURE

The Steering Committee selected infant mortality disparities, substance use, maternal mortality disparities and mental and behavioral health as priorities for State Performance Measures (SPMs) in late 2019. Through discussions with the Title V Manager, the focus for the SPM selection was narrowed to infant mortality disparities and substance use, with a focus on opioid abuse. Due to the need to respond to COVID-19 pandemic-related issues, activities regarding the SPMs have been suspended. They may be revisited during the five-year cycle.

NATIONAL OUTCOME MEASURE

The inclusion of National Outcome Measure (NOM) is optional, and the majority of Steering Committee members believed it important to include such a measure to represent Maryland's progress and focused efforts in an area where health needs are increasing. Two areas of interest emerged from the Steering Committee: Sleep-related Sudden Unexpected Infant Death (SUID) rate and the adolescent mortality rate for adolescents ages 10-19. Through discussions with the Title V Manager, the SUID rate was selected as Maryland's NOM for this grant cycle.

APPENDIX A: KEY INFORMANT INTERVIEW GUIDE

Hello, my name is _____. I'm calling from Analytic Insight. We're conducting interviews on the needs of Maryland's Title V Services on behalf of the Maryland Department of Health, Office of Quality of Initiatives in the Maternal and Child Health Bureau. We have an appointment to speak. Is this still a convenient time?

Before we get started, let me tell you a little about the interview process.

A. First, the purpose of this study is to learn about Title V health services and your needs, as well as identifying key priorities over the next five years. These key priority areas will be the focus of initiatives that improve the availability, accessibility and quality of primary and specialty care services for women and children.

B. I'm going to be recording our interview using a smart pen that links my notes to an audio recording. After using them to develop a report, the recordings will be deleted. Do I have your permission to record this conversation?

C. Do you have any questions for me before we get started?

1. I have here that you are the _____ (title) at _____ (organization). Is that correct?
    a. How long have you been in this position?

Women and Maternal

My questions today will focus on the needs of women, infants, children including children and youth with special health care needs, and adolescents, as well as gaps in services and the barriers that are encountered by underrepresented and underserved populations. You'll notice that I have a series of questions on a variety of topics. If any of these topics do not apply or are not within your scope of expertise, let me know and we will skip that section.

The first series of questions focus on the needs associated with women and maternal health.

2. What are the largest gaps in service for women and maternal health?
    a. Do these gaps differ for women of color?
    b. Do these gaps differ for women with low-income?
3. What are the barriers for women to access maternal health care?
    a. What are the barriers for women of color?
    b. What are the barriers to care for women with low-income?
4. What services or initiatives are working well?

Well-Women Visit

My next questions focus on well-women visits.

5. What barriers make it difficult for women to see their primary care physician for routine check-ups?
6. How comprehensive are routine check-ups?
    a. If not comprehensive: What is missing? (Probe for discussions around diet, exercise, nutrition, smoking, alcohol or drug use, mental health issues, sexual history, and intimate partner violence.)
7. Do you think the quality of care received by women differs based on their race or income level?
8. Are women aware of the importance of annual well-women visits?
    a. If no: What are your suggestions to better inform women about the importance of their annual well-woman visit?

Low-Risk Cesarean Delivery

My next questions are about low-risk cesarean deliveries.

9. What are the reasons for low-risk cesarean deliveries? (Probe for patient preference.)
10. Does your local hospital participate in a quality improvement process to reduce low-risk cesarean deliveries?
11. What are your outreach activities to women who are low-risk and want a cesarean delivery?
    a. What outreach activities are needed?
    b. What outreach activities have been most impactful?

Breastfeeding

Now I would like to talk about needs related to breastfeeding.

12. What gaps exist around breastfeeding?
13. What are the barriers to breastfeeding?
    a. Do women of color encounter different barriers?
    b. Do women with low-income encounter different barriers?
14. How are women educated on the importance of breastfeeding?
    a. What's missing?
    b. What's been most impactful?
15. Have staff from your organization completed breastfeeding education training?

16. Does your organization provide or refer women to a breastfeeding support group?
    a. What are your reasons?
    b. Are these support groups impactful?
    c. Do you have any suggestions to improve use of breastfeeding support groups?

Preventive Dental Visits

I have several questions about preventive dental visits for pregnant women.

17. What gaps exist around preventive dental visits?
18. What are the barriers to obtaining preventive dental visits?
    a. Do women of color encounter different barriers?
    b. Do women with low-income encounter different barriers?
    c. What are the barriers for adolescent pregnant women?
19. How are dental services for pregnant women coordinated?
20. What information is provided to pregnant women about preventive dental visits?
21. What are your suggestions to increase the number of pregnant women who receive preventive dental care?
22. What are your suggestions to increase awareness of expanded Medicaid coverage for adult dental health care services more generally?

Smoking and Pregnancy

My next questions focus on the smoking and pregnancy.

23. What strategies or practices do physicians use to encourage pregnant women to stop smoking?
    a. How are pregnant women being educated on the risks and adverse effects associated with smoking?
24. Are there gaps in the available services to help pregnant women stop smoking? (Probe for specific gaps.)
25. Are their certain populations or demographics of women who are more likely to smoke while pregnant?
    a. What barriers exist for these women?
    b. How can information be tailored to this group to encourage cessation?
26. Do you have any other suggestions to further encourage pregnant women to not smoke?

Infants and Young Children

In this next section, our questions will focus on the needs of infants and young children.

27. In general, what are the largest gaps in service for infants?
    a. Do these gaps differ for infants of color?
    b. Do these gaps differ for low-income families with infants?
28. What are the largest gaps in service for young children?
    a. Do these gaps differ for young children of color?
    b. Do these gaps differ for low-income families with young children?
29. What barriers exist for families with infants?
    a. What barriers of care are present for infants of color?
    b. What barriers of care are present for low-income families with infants?
30. What barriers exist for families with young children?
    a. What barriers of care are present for young children of color?
    b. What barriers of care are present for low-income families with young children?
31. What services or initiatives are working well?

Risk-Appropriate Perinatal Care

I have a few questions about risk-appropriate perinatal care.

32. What are the gaps in services for risk-appropriate perinatal care?
33. What are the barriers to accessing services or support for families with high-risk infants?
    a. Are there additional barriers for families of color?
    b. Are there additional barriers for low-income families?
34. Are there other racial or ethnic disparities present related to risk-appropriate perinatal care?
35. Do women of color receive the same level of risk-appropriate perinatal care?
    a. What are your reasons?
    b. What about women with low-income, do they receive the same level of care?
36. What activities do you do or know about to educate women on risk-appropriate perinatal care?
    a. What's missing?
    b. What's been most impactful?

Safe Sleep

My next questions are regarding safe sleep practices.

37. What factors contribute to unsafe sleep practices (probe for not placing on back, incorrect or no advice on safe sleep practices, bed sharing, soft bedding, demographics such as age, race and education level)
38. How are families educated on safe sleep practices?
    a. What services are needed?
    b. Are educational materials, messages and counseling provided in culturally appropriate ways?

       If no, what are your suggestions to ensure education messages are reaching their intended audience?

Injury Hospitalization (Ages 0-9)

Now I'd like to talk about injury hospitalizations of young children ages 0 to 9.

39. What are the main reasons for injury hospitalizations for this age group?
40. How are parents educated about car seat safety?
41. What services are offered or provided following a case of child maltreatment?
42. What activities are provided related to Targeted Injury-Prevention?
43. Are self-inflicted injuries common for this age group?

Physical Activity (Ages 6-11)

I have a couple questions related to physical activity among young children 6 to 11 years old.

44. Are there gaps in providing opportunities for physical activity among young children?
45. What are the barriers to physical activity for this age group?
46. How is physical activity promoted or encouraged for families with young children?
    a. What services or programs are needed in your area?
    b. What programs have had the greatest impact?

Preventive Dental Visits (All Children)

Now I'd like to talk a little more about preventive dental visits for all children.

47. What gaps exist around preventive dental visits for children?
48. What are the barriers to obtaining preventive dental visits for children?
    a. Do families of color encounter different barriers?

b. Do families with low-income encounter different barriers?

c. Are their different barriers for families with young children versus adolescents?

49. How are preventive dental services coordinated for families?

50. What are your suggestions to increase the number of children receiving preventive dental visits?

Children and Youth with Special Health Care Needs

Our next series of questions will focus specifically on children and youth with special health care needs.

51. In general, what are the largest gaps in service for children with special health care needs?

    a. Do these gaps differ for children of color?

    b. Do these gaps differ for families with low-income?

52. What are the barriers to services for families with children with special health care needs?

    a. What additional barriers do families with children of color encounter?

    b. What additional barriers exist for families with low-income?

53. What services or initiatives are working well?

Developmental Screening

I have a few questions about the developmental screening process.

54. How are children screened for developmental delays?

55. Are there gaps in services available to help families access developmental screenings?

56. What are the barriers to accessing screening for developmental delays?

    a. What barriers exist for children of color?

    b. What barriers exist for families with low-income?

57. What is working well?

58. Do you have any suggestions to improve early identification and referral of developmental delays?

Medical Home

Now I have some questions about medical homes. A medical home is defined as an approach to providing primary care that is patient-centered, a partnership among practitioners, patients, and their families, comprehensive, coordinated across all elements of the health care system, and accessible

59. In your experience, are most families with children with special health care needs aware of the medical home approach to care?

60. How are families made aware of the medical home approach?

a. Are additional outreach efforts needed?

b. What efforts have had the greatest impact on increasing awareness?

61. About what percentage of families with children with special health care needs have a coordinated medical home approach?
62. What are the gaps in services for families who are using the medical home approach?
63. What are the barriers to implementing the medical home approach?
    a. What additional barriers are there for families of color?
    b. What are the barriers for families with low-income?
64. What training is available to health providers who would like to implement the medical home approach?
    a. Is there a need for additional training? (Probe for what type of trainings are needed.)

Transition

Now I'd like to talk about health care transition services.

65. What are the barriers to successfully transitioning a child with special health care needs from pediatrics to adult health care?
    a. How are these barriers different for families of color?
    b. How are these barriers different for families with low-income?
66. How are families made aware of existing services that can help facilitate health care transition?
    a. Are there gaps in the existing services? (Probe for specific areas.)
    b. What efforts have had the greatest success in increasing public awareness?
67. Are school nurses trained on transitioning children to adult health care services?
68. What are your suggestions to increase the number of providers who specialize in transition?
69. What's working well?
70. What needs to be addressed?

Adolescents

In this next section, our questions focus on the needs of adolescents.

71. In general, what are the greatest unmet health needs of adolescents?
    a. Do these needs differ for adolescents of color?
    b. Do these needs differ for families with low-income?

72. What are the barriers to accessing services for adolescents?
    a. What additional barriers exist for adolescents of color?
    b. What additional barriers exist for families with low-income?
73. What services or initiatives are working well?
74. What services would you like to see improved?

Adolescent Well-Visit

I'd like to start with some questions about adolescent well-visits.

75. What are the barriers that make it difficult for adolescents to see their primary care physician for routine check-ups?
76. How comprehensive are routine check-ups?
    a. If not comprehensive: What is missing? (Probe for discussions around diet, exercise, nutrition, smoking, alcohol or drug use, mental health issues, sexual history, and intimate partner violence.)
77. Do you think the quality of care received by adolescents differs based on their race or income level? What are the reasons for these disparities? How can they be best addressed?
78. Are adolescents aware of the importance of annual well-visits?
    a. If no: What are your suggestions to better inform adolescents about the importance of their annual well-visit?
    b. Do you think it is more impactful to inform adolescents or their parents about the importance of annual well-visits?

Bullying

I have some questions on bullying.

79. How would you define bullying?
80. As you may know, bullying has increased nationwide and statewide over the past several years. What are the reasons for this increase?
81. What initiatives or programs currently address bullying?
    a. What's missing?
    b. What's had the greatest impact?
82. How are bullying and suicide related?
    a. What suicide prevention strategies have been implemented?
    b. What suicide prevention strategies are most impactful?

c. What resilience strategies are used for adolescents at high risk for suicide?

83. What other suggestions do you have to deter bullying?

Injury Hospitalization (Ages 10-19)

Now I'd like to talk about injury hospitalizations of adolescents ages 10 to 19.

84. What are the main reasons for injury hospitalizations for this age group?
85. How are adolescents educated about safe driving practices?
86. What services are provided following a case of child maltreatment?
    a. What additional services are needed?
87. What activities are provided related to Targeted Injury-Prevention?
    a. What additional services are needed?
88. Are self-inflicted injuries common for adolescents ages 10 to 19?
    a. What suicide prevention strategies are provided if an adolescent presents at the hospital with a self-inflicted injury?
    b. What additional programs or services are needed?

Physical Activity (Ages 6-11)

I have a couple questions related to physical activity among adolescents aged 12 to 17 years old.

89. What are the gaps in programs providing opportunities for physical activity among adolescents in your area?
90. What are the barriers to physical activity for this age group?
91. How is physical activity promoted to adolescents?
    a. What's missing?
    b. What has been most impactful?

All Populations

My last questions are focused issues that affect all families.

Smoking-Household

First, I'd like to discuss the impacts of smoking in family households.

92. What strategies or practices do physicians use to encourage family members to stop smoking around their children?

93. What programs are currently in place in your area to educate families on the risks and adverse effects associated with smoking?
94. What additional services or programs are needed to help family members stop smoking?
95. What are the barriers to accessing these programs or services?
    a. What are the barriers for families of color?
    b. What are the barriers for low-income families?
    c. How can information be tailored to specific groups to encourage cessation?
96. Do you have any other suggestions to further encourage families to not smoke around their children?

Adequate Insurance

Finally, I have just a couple questions about adequate insurance coverage.

97. What barriers are present for women and families without health insurance?
98. What barriers are present for women and families who are under-insured?
99. How do those without health insurance receive care?
100. What are your suggestions to ensure health insurance is more accessible?
101. How has the all-payer system helped expand access to health care?

Wrap-Up

102. In conclusion, is there anything else that you would like us to know about the healthcare needs of women, children or families that we have not talked about?

Thank you for taking the time to speak with me today!