Virginia's Title XXI Section 1115 Demonstration:

FAMIS MOMS and FAMIS *Select*

Demonstration No. 21-W-00058/3

Year 2 Annual Report

July 1, 2020 through June 30, 2021

Virginia Department of Medical Assistance Services
November 2021

Background

Virginia's Title XXI Children's Health Insurance Program (CHIP) covers children with family income from 143 to 200 percent of the federal poverty level (FPL) under a separate child health plan known as the Family Access to Medical Insurance Security (FAMIS) Plan. Virginia's Title XXI Section 1115 Demonstration has two components. First, it expands Title XXI coverage to uninsured pregnant women with family income up to 200 percent FPL who are not eligible for Medicaid, through a program known as FAMIS MOMS. Second, it uses Title XXI funds to support a health insurance premium assistance program known as FAMIS Select. Children must first be found eligible and enroll in FAMIS before electing to receive a subsidy for coverage through FAMIS Select.

The Department of Medical Assistance Services (DMAS) administers Virginia's FAMIS MOMS and FAMIS Select demonstration. The Centers for Medicare and Medicaid Services (CMS) approved the original waiver on June 30, 2005, and DMAS began a phased implementation of the FAMIS MOMS and FAMIS Select programs on August 1, 2005. The demonstration was most recently approved for a ten-year extension for the period October 25, 2019, through June 30, 2029.

The goals of Virginia's Title XXI Section 1115 Demonstration are as follows:

For FAMIS MOMS:

- Facilitate access to prenatal, obstetric, and postpartum care for a vulnerable population that does not otherwise qualify for public insurance;
- Improve selected birth outcomes of FAMIS MOMS participants and their newborns;
- Facilitate access to recommended pediatric care for newborns of FAMIS MOMS participants.

For FAMIS Select*:*

- Facilitate access to affordable private and employer-sponsored health insurance for low-income families through premium assistance;
- Ensure that access to and use of health care services available to children participating in FAMIS Select is comparable to that of children participating in FAMIS;
- Assure the aggregate cost-effectiveness of the FAMIS Select program.

Revised demonstration objectives proposed by DMAS in the revised evaluation design are to (1) facilitate access to prenatal care for FAMIS MOMS participants; (2) improve selected birth outcomes of FAMIS MOMS participants and their newborns; (3) facilitate access to affordable private and employer-sponsored health insurance for low-income families through premium assistance; (4) monitor and ensure member satisfaction with the FAMIS Select program; and (5) assure the aggregate cost-effectiveness of the FAMIS Select program.

Operational Updates

Legislative Activities

Two amendments to the state budget affecting the FAMIS MOMS program were adopted by the Virginia General Assembly during the previous demonstration year, state fiscal year 2020. The first of these amendments directed DMAS to seek federal authority to extend coverage for pregnant women from 60 days to one year postpartum. An additional amendment directed DMAS to seek federal authority to offer medically necessary treatment for substance use disorder (SUD) in an institution for mental diseases (IMD) for FAMIS MOMS enrollees, equivalent to such benefits offered to pregnant women under the Medicaid state plan and Virginia's Addiction and Recovery Treatment Services (ARTS) 1115 SUD demonstration.

On March 12, 2020, Governor Ralph Northam issued Executive Order No. 51, declaring a state of emergency in Virginia due to the novel coronavirus (COVID-19). The Governor subsequently amended the state budget and suspended all new discretionary spending by un-allotting funding for many items, including the new provisions affecting FAMIS MOMS. The General Assembly passed the budget with the Governor's amendments. In August of 2020, the General Assembly reconvened for a Special Session, during which a revised budget bill was passed. In this budget, signed by Governor Northam on November 18, 2020, funds were re-allotted to extend FAMIS MOMS coverage to 12 months postpartum, with an effective date of April 1, 2021, or upon federal approval of the change.[1] Funding for the SUD/IMD coverage provision was also later re-allotted in the 2021 Special Session I budget, effective July 1, 2021.

Having secured state funding and authority, on March 31, 2021, DMAS submitted its 1115 waiver amendment application to extend coverage to 12 months postpartum, completing all required steps of the amendment process as outlined in STCs 6 and 7. The federal public comment period took place from April 7 through May 7. Virginia and CMS are currently working in collaboration to establish the amended special terms and conditions of the demonstration.

Regulatory Updates

The most recent state regulatory action regarding the demonstration programs was the adoption of updates pursuant to periodic review of the FAMIS and FAMIS MOMS regulations, effective June 26, 2019.[2] Prior to that, permanent regulations extending access to FAMIS MOMS for state employees who are otherwise eligible became effective in June of 2016.

Since March of 2015, FAMIS MOMS participants have been able to access dental services through the *Smiles For Children* program; permanent regulations became effective at the end of July 2016.

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[1] Chapter 56 of the 2020 Acts of Assembly, Item 313 AAAA.
https://budget.lis.virginia.gov/get/budget/4283/HB5005/

[2] Virginia Register of Regulations, Volume 35, Issue 20, effective June 26, 2019.

Outreach and Communications Activities

DMAS' Outreach and Community Engagement team is responsible for the cost-effective promotion of FAMIS, FAMIS MOMS, FAMIS Select, and the Medicaid programs for children and pregnant women. The Outreach team has regional outreach coordinators who develop knowledge of their respective localities and foster community connections in their assigned regions. Depending on DMAS policies and local public health guidelines / COVID-19 restrictions, regional outreach coordinators facilitate and attend community outreach and engagement opportunities including presentations, workshops, and community events. They build community partnerships and increase access to materials, tools, and resources among internal and external partners and stakeholders. In 2019, prior to the onset of the public health emergency, the Governor's Office held a series of maternal health listening sessions in communities throughout the Commonwealth. Regional coordinators participated and gathered information from these listening sessions that they used to better understand and tailor their outreach strategies to the needs of maternal health stakeholders within their respective communities.

After the onset of the COVID-19 public health emergency in March 2020, DMAS adapted outreach campaigns to accommodate social distancing guidelines through strategies such as expanding online presence. During the reporting period, outreach activities included:

- Sponsorship of community trainings through *SignUpNow* in numerous localities across the state, and of online training modules to promote FAMIS, FAMIS MOMS, and FAMIS Select;
- Distribution of FAMIS MOMS materials at events, conferences, presentations, and meetings with materials available in both English and Spanish, transitioning to primarily electronic distribution after March 2020 due to COVID-19 restrictions;
- Launch of new Cover Virginia (https://coverva.org/en) and Cubre Virginia (https://www.cubrevirginia.org/es) websites on March 29, 2021. The new websites provide a more user-friendly platform—in English and Spanish, respectively—to promote Virginia's medical assistance programs, including FAMIS MOMS and FAMIS Select. The new websites include a live-chat feature where Virginians can chat with a representative in real time. With the launch of the new websites, all pages were reviewed and revised by subject matter experts and division directors to ensure the most up-to-date information is available to members;
- Continued maintenance of the FAMIS MOMS and FAMIS Select pages on the Cover Virginia website at https://www.coverva.org/en/famis-moms/ and https://www.coverva.org/en/famis-select/. The website is available for translation in 48 languages;
- Continued maintenance of the FAMIS MOMS and FAMIS Select pages on CubreVirginia.org, the Spanish-language website at (https://www.cubrevirginia.org/es/famis-moms/ and https://www.cubrevirginia.org/es/famis-select/);

- Launch of the Cover Virginia Instagram page in December 2020 to include the promotion of the FAMIS MOMS and FAMIS Select programs, as well as other related initiatives throughout the agency;
- Promotion of the FAMIS MOMS and FAMIS Select programs in English and Spanish on the FAMIS and Cover Virginia Facebook pages;
- Continued promotion of the *Staying Healthy* section of the Cover Virginia and Cubre Virginia websites. This section serves as a resource for enrolled families to promote utilization of preventive care services. The site features information for parents and parents-to-be on prenatal care, well-child checkups, prevention, immunizations, safety, nutrition, developmental milestones, parenting, dental care, and more (https://coverva.org/en/staying-healthy-for-children). It contains health-related links and resources for parents and parents-to-be, including a page dedicated to prenatal care information and resources (https://coverva.org/en/staying-healthy-when-pregnant).

The following documents explaining the FAMIS Select program continue to be available to interested families:

- The FAMIS Select brochure in both English and Spanish;
- The FAMIS Select Decision Aid that assists parents in determining which program (FAMIS or FAMIS Select) is the right choice for their family.

Finally, continuing a partnership with the Virginia Department of Business Assistance (DBA), an electronic ad for FAMIS Select was placed in the daily Virginia Business eNews during the months of February through July 2021.

Enrollment, Managed Care Delivery, and Operations Updates

FAMIS MOMS

During the reporting period, applications for program enrollment continued to be processed by the Central Processing Unit and local departments of social services. Initially, enrollees access services on a fee-for-service basis until enrolled in a managed care plan. Approximately 96 percent of FAMIS MOMS members are enrolled in managed care. Health care services to FAMIS MOMS are delivered primarily through the six managed care organizations (MCOs) contracted by DMAS to provide benefits through the Medallion 4.0 managed care program.

DMAS operates the Medallion mandatory managed care program through a waiver under the authority of section 1915(b) of the Social Security Act. In December 2018, DMAS completed the phased rollout of the Medallion 4.0 managed care program. Medallion 4.0 builds on the strengths and experience of the twenty-year Medallion program and is closely aligned with the Commonwealth Coordinated Care (CCC) Plus program. Together these two programs streamline policies and processes related to value-based purchasing, data integrity, care coordination, and other areas.

The MCO contracts were modified in 2016 to better describe expectations for assisting with management of pregnancies, especially those identified as high risk. Staff

in DMAS' Health Care Services division reviewed the maternity program descriptions, policies and procedures, and annual reports submitted by each contracted MCO for compliance with these clarified contract requirements, and provided feedback on opportunities for improvement.

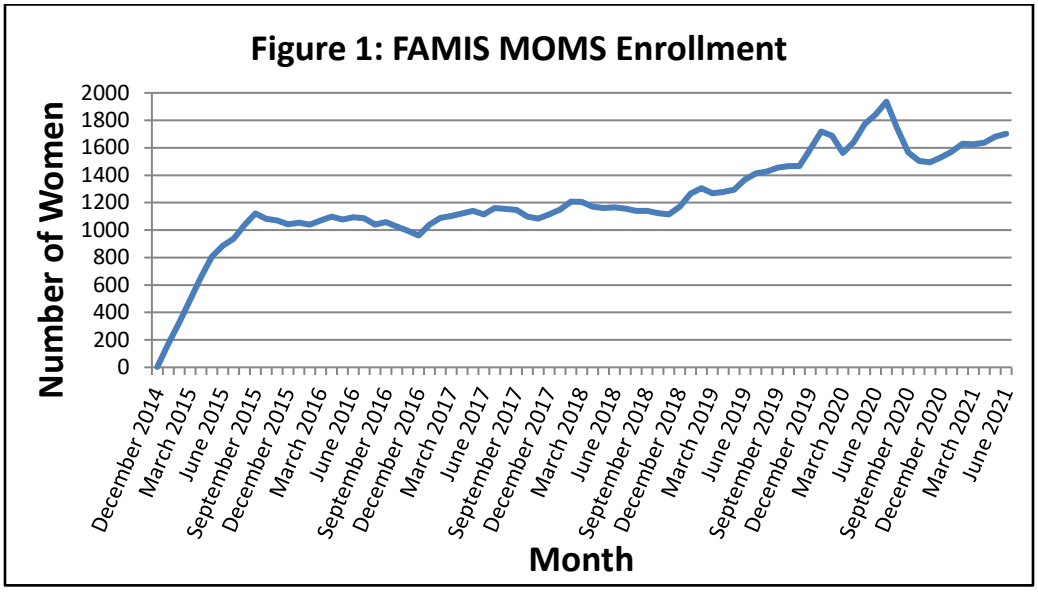
FAMIS Select

The 2016 revised worksheet for families interested in FAMIS Select remains in use. The worksheet is designed to assist prospective FAMIS Select applicants in comparing their benefits and projected expenses under FAMIS to their private or employer-sponsored insurance. This tool is not required, and the information it reflects is not collected at application. An online application for FAMIS Select is also available, and periodic mailings to FAMIS enrollees inform them of their option to participate in FAMIS Select.

Participation in FAMIS MOMS

Enrollment in FAMIS MOMS began in August 2005. The number of pregnant women enrolled increased to 1,203 on October 1, 2008, and then remained relatively level during the final two years of the initial Demonstration period (Years 1–5). Enrollment increased during the first Demonstration extension period (Years 6–8) to a high of 1,670 in December 2012. In June 2013, 1,616 women were enrolled.

Participation in FAMIS MOMS was stable up to the point when enrollment was stopped in January 2014. During the period of January 1, 2014 through November 30, 2014, DMAS phased out the FAMIS MOMS program because the Virginia General Assembly adopted budget language directing DMAS to eliminate the program when health insurance coverage became available through the federally facilitated marketplace (FFM). DMAS reinstated enrollment in FAMIS MOMS in December of 2014. Figure 1 shows the trend since enrollment was reinstated.



Source: DMAS Enrollment Files

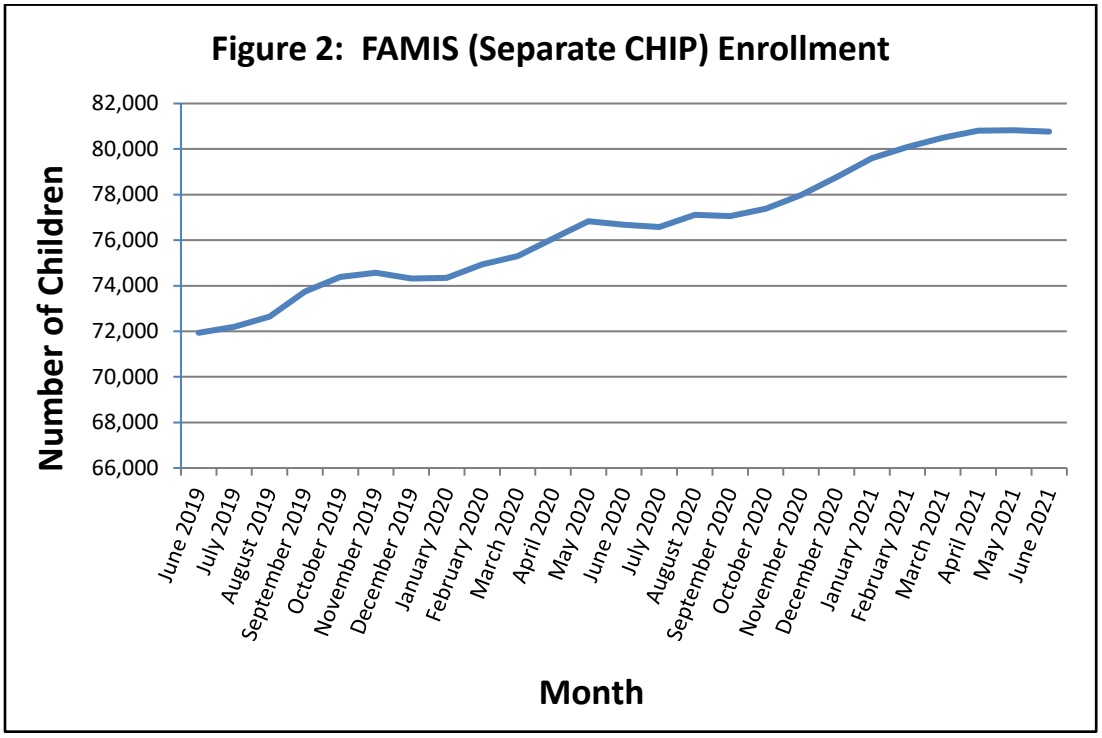
Since enrollment was reinstated, the number of women participating increased steadily and stabilized until October 2016. In October of 2016, DMAS was unable to receive transfers from the Federally Facilitated Marketplace (FFM). The issue was resolved in early 2017 and the numbers increased and stabilized once again. In 2018, CMS approved Medicaid and CHIP state plan amendments (#VA-18-0011, VA-18-0015, and VA-18-0016) to authorize Virginia's transition to a determination state, and Virginia began accepting Medicaid and CHIP eligibility determinations made by the FFM.

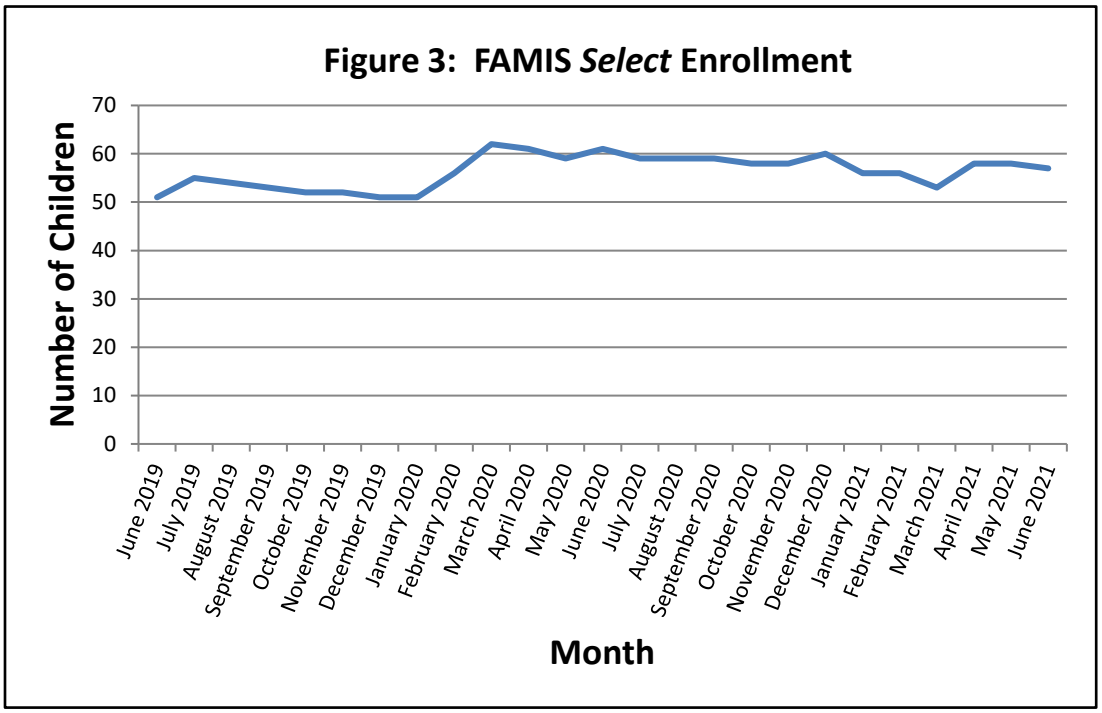
FAMIS MOMS enrollment grew during the initial months of the COVID-19 public health emergency (PHE), peaking at 1,936 in July 2020, declining over the subsequent months until October 2020, then beginning to climb again. This pattern could be partly related to DMAS' adherence with CMS guidance that FAMIS MOMS continue to be redetermined at the end of their 60 days postpartum during the PHE, at which time these individuals' coverage ends or they qualify for and are enrolled in another coverage group. At the same time, an increasing number of pregnant women are qualifying for coverage in the Medicaid pregnant women aid category, indicating that the current applicant pool consists of a larger proportion of individuals with lower household income, possibly stemming from economic impacts of the pandemic such as job loss of a member of the household. Monthly enrollment as of June 2021 was 1,701—higher than the program's enrollment before the onset of the PHE but still below the July 2020 peak. Average monthly enrollment for SFY 2021 (Demonstration Year 2) was1,635, up 3.0% from SFY 2020 (DY1). However, average monthly enrollment previously had grown by 30.2% from SFY 2019 to SFY2020.

The steady demand for coverage through FAMIS MOMS and the program's ability to rebound from challenges and continue to attract applicants demonstrates a clear need for this coverage option and underscores the value perceived by providers and community partners who refer women to the program.

Participation in FAMIS Select

A total of 98 children were enrolled in FAMIS Select in August 2005, the first month of the program. Enrollment reached a high of 480 children in March 2009. Figures 2 and 3 show the trend in FAMIS and FAMIS Select enrollment over the past two reporting years. Although FAMIS enrollment has steadily increased during this time, enrollment in FAMIS Select has plateaued, with occasional fluctuations but remaining in the range of 50-60 children enrolled. As of June 2021, 57 children were enrolled in FAMIS Select statewide.





Source: DMAS Enrollment Files

Declining enrollment in FAMIS Select is likely due in large part to changes in employer-sponsored health insurance (ESHI) options. According to the State Health Access Data Assistance Center (SHADAC), there are three main factors in determining the scope of ESHI coverage: (1) the employee must work in a firm that offers ESHI; (2) the worker must be eligible for ESHI coverage based on the employer's criteria; and (3) the worker must "take up" the option.

SHADAC analysis of data from the Medical Expenditures Panel Survey (MEPS) – Insurance Component, accessed via the SHADAC website in December 2020, indicates that fewer Virginia employees are eligible for and taking up ESHI.[3] In addition, the employee share and employee premium/out of pocket amounts for family coverage have steadily increased both nationally and in Virginia.[4] These trends have likely contributed to declining interest in the FAMIS Select program.

Percent of Offer, Eligibility, and Take-Up of ESHI Among Virginia Workers					
	2012/2013	**2013/2014**	**2014/2015**	**2015/2016**	**2016/2017**
Offered ESHI	84.8%	85.4%	85.7%	86.9%	84.5%
Eligible for ESHI	77.0%	78.0%	77%	76.9%	74.2%
Taking up ESHI	74%	73.6%	75.6%	69.3%	71.4%

The cost of ESHI is central to an employer's decision of whether to offer it, and to a worker's decision of whether to participate in an ESHI plan. Over the course of Virginia's CHIP 1115 Demonstration, annual insurance premiums for employer-sponsored family coverage in the Commonwealth increased from an average of $10,367 in 2005 to $19,865 in 2019. While employers often cover a large share of these premium costs, the share paid by employees has been increasing. Between 2005 and 2019, the employee's share of the cost of employer-sponsored family coverage increased from 26.5 percent to 32.0 percent.

In Virginia in 2019, the average family plan premium for a private sector worker getting ESHI was $1,655 per month, compared to $565 for individual ESHI coverage. Of these costs, on average 32.0 percent of the family plan premium was the employee's responsibility, while under an individual plan a smaller share of cost, 23.8 percent, was passed to the employee.

Issues, Concerns, and Accomplishments

FAMIS MOMS

FAMIS MOMS enrollment has continued to grow during the COVID-19 pandemic, demonstrating the importance of the FAMIS MOMS program as a key component of Virginia's health care safety net. Since the onset of the public health emergency, DMAS has worked closely with the Virginia Department of Social Services (VDSS) to ensure that enrollment and renewal processes are consistent with guidance issued by CMS. Specifically, CMS has clarified that after the end of the postpartum period of coverage, the FAMIS MOMS population is not subject to the continuation of

[3] State Health Access Data Assistance Center (SHADAC), State Health Compare, http://statehealthcompare.shadac.org/

[4] State Health Access Data Assistance Center (SHADAC), "State-Level Trends in Employer-Sponsored Health Insurance (ESI), 2013-2017, Virginia Fact Sheet," available at https://shadac.org/sites/default/files/state_pdf/VA_Oct18.pdf

coverage provision of the Families First Coronavirus Response Act (FFCRA). Based upon CMS guidance, eligibility is redetermined for FAMIS MOMS individuals who have reached the end of postpartum coverage. DMAS is working with VDSS to ensure that FAMIS MOMS members who are not eligible for other Medicaid or CHIP coverage receive appropriate referral to the Marketplace.

As described above, DMAS was directed by the Virginia General Assembly and the Governor to seek approval from the federal government for a waiver amendment to extend coverage for FAMIS MOMS to 12 months postpartum. DMAS submitted its waiver amendment application to CMS March 31, 2021, and waiver negotiations between Virginia and CMS are in progress.

FAMIS Select

Enrollment in FAMIS Select does not require a cost-versus-benefit comparison of FAMIS with the individual applicant's private or employer-sponsored insurance. Currently, DMAS does not request or receive information about FAMIS Select participants' private or employer-sponsored health insurance benefits, coverage, or cost-sharing. At this time, DMAS also does not gather complete information regarding household members who may receive incidental coverage under the private or employer-sponsored plan. In addition, DMAS has no method in place to identify instances where an individual may have access to lower cost and/or better coverage through a parent or guardian's employer or private plan. Access to and affordability of employer-sponsored health insurance continues to decline; as a result, FAMIS Select participation has shown a declining trend.

The revised evaluation plan for FAMIS Select includes focus groups with participating families to gather qualitative data and feedback to help improve the program.

Performance Metrics

Birth Outcomes: FAMIS MOMS

The most recent data on birth outcomes available at this time is preliminary data from calendar year 2019, reported in detail in the *2019-20 Prenatal Care and Birth Outcomes Focused Study*, completed in January 2021 by Health Services Advisory Group (HSAG). The next annual study, which will cover calendar year 2020 data, is underway and is scheduled for publication in early 2022.

DMAS contracted with HSAG to evaluate the quality of prenatal care provided to women enrolled in the Title XIX and XXI programs serving pregnant women. The *2019-20 Prenatal Care and Birth Outcomes Focused Study* evaluated FAMIS MOMS on several measures, summarized here:

- **Adequacy of prenatal care** -- The HSAG study found that 79.1% of FAMIS MOMS participants in the study population giving birth in 2019 received early and adequate prenatal care. Among the Medicaid pregnant women study population, the rate was 75.7%; and among the study population overall, 72.5%.

- **Birth weight** -- The HSAG study found that low birth weight (<2,500 grams) affected 6.8% of infants in the FAMIS MOMS study population, as compared to 8.8% in the Medicaid pregnant women study group, and 9.0% in the study population overall.

- **Preterm births** -- Preterm births (< 37 weeks completed gestation) occurred in 7.5% of the FAMIS MOMS study population according to the HSAG study, compared to 9.2% of the Medicaid pregnant women study population, and 9.8% of the study population overall.

Women who enter prenatal care late or who deliver prematurely are at higher risk for delivering an infant with low birth weight. The data demonstrate that, on all three measures, birth outcomes for women enrolled in FAMIS MOMS for a substantial length of time during their pregnancy were better than for women enrolled in Medicaid or in the study population overall.

The national benchmarks for these measures identified in DMAS' revised demonstration evaluation plan are as follows: Births with early and adequate prenatal care (Healthy People 2030 baseline)[5] – 76.4%; low birth weight – 9.5% (FFY2019 Core

[5] Healthy People 2030. "Increase the proportion of pregnant women who receive early and adequate prenatal care – MICH-08." U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Available at https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth/increase-proportion-pregnant-women-who-receive-early-and-adequate-prenatal-care-mich-08.

Set Benchmark)[6] and preterm births – 9.4% (Healthy People 2030).[7] Compared to these benchmarks, the FAMIS MOMS population's outcomes were favorable all three measures. For early and adequate prenatal care, FAMIS MOMS' rates were 2.7 percentage points higher than the benchmark. The FAMIS MOMS population's rate of low birth weight births was lower than the Core Set benchmark by 2.7 points; and on rates of preterm births, the FAMIS MOMS population's rates compared favorably to the benchmark, at 1.9 percentage points lower.

The full *2019-20 Prenatal Care and Birth Outcomes Focused Study* is submitted as an attachment to this annual report.

Cost-Benefit of FAMIS Select

As required in STC 22 and consistent with 2105(c)(3) of the Social Security Act, DMAS monitors FAMIS Select program expenditures to ensure cost effectiveness. Specifically, DMAS compares the agency's cost to subsidize the purchase of employer-sponsored insurance to the amount of expenditures, including administrative expenditures, that the state would have made to provide comparable coverage to the targeted low-income child or family involved under the state child health plan, FAMIS.

Despite declining participation, FAMIS Select continues to be a cost-effective alternative. The table below presents the state fiscal year 2021 analysis of FAMIS Select expenses and offsetting savings based on FAMIS expenses. The average per enrollee, per month cost under FAMIS was $226. The maximum monthly FAMIS Select premium subsidy was $100 per enrollee, while the average subsidy per enrollee was $89.19. Factoring in administrative expenses, the average monthly cost associated with a FAMIS Select enrollee was $95.66. This resulted in a savings per FAMIS Select enrollee of $130.34, which translates to an annual estimated savings of $79,767.

DMAS Cost Analysis of the FAMIS Select program (State Fiscal Year 2021)	
Program Expense Categories	**Costs**
Premium Subsidies	$54,582
Administration	$3,962
Total	**$58,544**
Cost Effectiveness Comparison	

[6] "Performance on the Child Core Set Measures, FFY 2019." Child Health Care Quality Measures, Centers of Medicare & Medicaid Services, Oct. 2020. Available at: https://www.medicaid.gov/medicaid/quality-of-care/performance-measurement/adult-and-child-health-care-quality-measures/childrens-health-care-quality-measures/index.html.

[7] Healthy People 2030. "Reduce preterm births— MICH-07." U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Available at https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth/reduce-preterm-births-mich-07. Healthy People 2030 baseline is derived from NVSS reports. Martin JA, Hamilton BE, Osterman MJK, et al. Births: Final Data for 2018. National Vital Statistics Reports. 2019; 68(13). Hyattsville, MD: National Center for Health Statistics. 2019. Available at https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_13-508.pdf.

Average per Enrollee per Month Cost for FAMIS	$226.00
Maximum FAMIS Select Premium Assistance Subsidy Per Enrollee	$100.00
Actual Average Monthly Premium Subsidy Per Enrollee	$89.19
Actual Average Monthly Cost for FAMIS Select Enrollee with administrative and other costs	$95.66
Savings Per FAMIS Select Enrollee	**$130.34**
Estimated Average Annual Savings	***$79,767***

The revised evaluation plan for FAMIS Select will include additional qualitative data gathered through focus groups with participating families. In future semi-annual reports, Virginia will report on this data and describe how we plan to use this feedback to improve the program.

Budget and Expenditures

The following table summarizes financial information for the Demonstration for the most recent completed demonstration years. Costs represent actual expenditures during the demonstration year, as required by STC 29(c). Additionally, an allotment neutrality worksheet is included as an attachment to this report.

COST OF DEMONSTRATION (CHIP SECTION 1115)	**SFY 2020 (DY1)**	**SFY 2021 (DY2)**
Benefit Costs for Demonstration Population #1 (FAMIS Select)		
Insurance Payments	$54,991	$54,582
Per member/per month rate @ # of eligibles	$89.85 @51 avg elig/mo	$89.19 @51 avg elig/mo
Total Benefit Costs for Waiver Population #1	***$54,991***	***$54,582***
Benefit Costs for Demonstration Population #2 (FAMIS MOMS)		
Managed care	$19,609,790	$18,620,945
Per member/per month rate @ # of eligibles	$1,029.71 @1,587	$949.08 @1,635
Fee for Service	$3,078,957	$2,030,083
Total Benefit Costs for Waiver Population #2	***$22,688,747***	***$20,651,028***
Total Benefit Costs	***$22,743,738***	***$20,705,610***
Total Administration Costs	***$1,427,370***	***$1,591,364***
Federal Title XXI Share	**$19,711,539**	**$16,102,874**
State Share	**$4,459,569**	**$6,194,099**
TOTAL COSTS OF DEMONSTRATION	***$24,171,108***	***$22,296,974***

Evaluation Update

DMAS submitted a revised draft evaluation plan, as required by the Special Terms and Conditions (STCs) for the demonstration renewal period, on June 18, 2020. The Centers for Medicare and Medicaid Services (CMS) provided feedback on November 20, 2020. Based on CMS' feedback, DMAS completed several rounds of revision to the evaluation plan. The evaluation plan was formally approved on October 4, 2021, after the close of the demonstration year covered by this monitoring report.

DMAS is submitting this annual monitoring report for year 2 of the demonstration period based upon the performance metrics proposed in the revised evaluation plan as of June 2021. Future reports will incorporate the performance metrics adopted in the final evaluation plan formally adopted by CMS and Virginia.

Conclusion

FAMIS MOMS and FAMIS Select continue to help meet health care coverage needs in Virginia by providing options that would otherwise not exist for two vulnerable populations: pregnant women and children in low-income families not eligible for Medicaid. Although serving comparatively small numbers, these programs are an important part of the health care safety net for residents of the Commonwealth. DMAS looks forward to building on these established programs as we work with CMS in the months and years ahead to introduce innovations with the goal of improving the lives of our FAMIS MOMS and FAMIS Select enrollees.

Commonwealth of Virginia Department of Medical Assistance Services

2019–20 Prenatal Care and Birth Outcomes Focus Study

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1. Executive Summary

As an optional external quality review (EQR) task under the Centers for Medicare & Medicaid Services (CMS) Medicaid guidelines[1-1], the Commonwealth of Virginia Department of Medical Assistance Services (DMAS) contracted with Health Services Advisory Group, Inc. (HSAG) to conduct a focus study in contract year 2019–20 providing quantitative information about prenatal care and associated birth outcomes among women with births paid by Title XIX or Title XXI, which include the Medicaid, Family Access to Medical Insurance Security (FAMIS), FAMIS MOMS, and Medicaid Expansion programs. The Contract Year 2019–20 Birth Outcomes Focus Study addressed the following questions:

- To what extent do women with births paid by Medicaid receive early and adequate prenatal care?
- What clinical outcomes are associated with Medicaid-paid births?

Methodology and Study Indicators

The study used deterministic and probabilistic data linking to match eligible members with birth registry records to identify births paid by Virginia Medicaid during calendar year (CY) 2019.[1-2] Medicaid member, claims, and encounter data files were used with birth registry data fields for matching members from each of the data linkage processes. All probabilistically or deterministically linked birth registry records were included in the eligible focus study population.

The eligible population consisted of all live births during CY 2019 that were paid by Virginia Medicaid regardless of whether the births occurred in Virginia. Births paid by Virginia Medicaid were assigned to one of four Medicaid program categories based on the mother's program at the time of delivery:

- The FAMIS MOMS program uses Title XXI (Children's Health Insurance Program [CHIP] Demonstration Waiver) funding to serve pregnant women with incomes up to 205 percent[1-3] of the federal poverty level (FPL) and provides benefits similar to Medicaid through the duration of pregnancy and for 60 days postpartum.
- The Medicaid for Pregnant Women program uses Title XIX (Medicaid State Plan) funding to serve pregnant women with incomes up to 143 percent of the FPL.
- The Medicaid Expansion program uses Title XIX funding to serve women 19 years of age and older with incomes up to 138 percent of the FPL.
- The "Other Medicaid"[1-4] programs include births paid by Medicaid that do not fall within the FAMIS MOMS, Medicaid for Pregnant Women, or Medicaid Expansion categories.

[1-1] Department of Health and Human Services, Centers for Medicare & Medicaid Services. Protocol 9: Conducting Focus Studies of Health Care Quality: An Optional EQR-Related Activity. October 2019.

[1-2] Results for CY 2017 and CY 2018, as applicable, were taken from previously published reports and included in the current study for trending purposes.

[1-3] A standard disregard of 5 percent FPL is applied if the woman's income is slightly above the FPL.

[1-4] The "Other Medicaid" category includes births paid by Medicaid that do not fall within the FAMIS MOMS or the Medicaid for Pregnant Women programs (i.e., the pregnancy aid categories).

To examine outcomes among all Virginia Medicaid-paid births, births were grouped into a study population and a comparison group based upon the timing and length of the mother's Medicaid enrollment:

- Study Population: women enrolled in FAMIS MOMS, Medicaid for Pregnant Women, Medicaid Expansion, or Other Medicaid programs on the date of delivery who were enrolled in any Medicaid program or a combination of programs for a minimum of 90 days prior to, and including, the date of delivery.
- Comparison Group: women enrolled in any of the four Medicaid programs (i.e., FAMIS MOMS, Medicaid for Pregnant Women, Medicaid Expansion, or Other Medicaid) on the date of delivery with continuous enrollment of 90 days or less in any Medicaid program prior to the date of delivery.

HSAG calculated the following study indicators to assess the study questions for all singleton, live births paid by Virginia Medicaid during CY 2019:

- *Births with Early and Adequate Prenatal Care*—The percentage of births with an Adequacy of Prenatal Care Utilization (APNCU) Index (i.e., the Kotelchuck Index) score greater than or equal to 80 percent (i.e., women who received at least 80 percent of expected prenatal visits).
  - *Births with Inadequate Prenatal Care*—The percentage of births with inadequate prenatal care is also presented to demonstrate the percentage of births with an APNCU Index score of less than 50 percent (i.e., women who received less than 50 percent of expected prenatal care visits).
- *Preterm Births (<37 Weeks Gestation)*—The percentage of births before 37 completed weeks of gestation.
- *Newborns with Low Birth Weight (<2,500 grams)*—The percentage of newborns with birth weights less than 2,500 grams. This includes birth weights in the very low birth weight category (i.e., birth weights at less than 1,500 grams) and the low birth weight category (i.e., birth weights between 1,500 and 2,499 grams).

Within Section 3 of this report, HSAG presents the study indicators stratified by key maternal demographic characteristics (i.e., race/ethnicity and managed care region of maternal residence) and Medicaid program characteristics (i.e., Medicaid delivery system, managed care organizations [MCOs], and Medicaid program). Further, HSAG presents the CY 2019 singleton births stratified by length of continuous enrollment and the trimester women initiated prenatal care. Where applicable, HSAG also presents comparisons to national benchmarks for the study indicators.[1-5] For national benchmark comparisons, HSAG used the Healthy People 2030 goals, using data derived from the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS), for the *Births with Early and Adequate Prenatal Care* and *Preterm Births (<37 Weeks Gestation)* study indicators.[1-6] HSAG used the Federal Fiscal Year (FFY) 2019 CMS Core

[1-5] In the 2018–19 Birth Outcomes Focus Study, HSAG compared the *Births with Early and Adequate Prenatal Care* study indicator to the Healthy People 2020 goal, excluding the 2019 update and compared the *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* study indicators to the NVSS final data from 2018.

[1-6] Healthy People 2030. Pregnancy and Childbirth. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Available at: https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth. Accessed on: Nov 30, 2020.

Set benchmarks for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator.[1-7] Additional maternal demographic stratifications for the study population are presented in Appendix A and additional stratifications of the study indicators are presented in Appendix B.

Findings

Table 1-1 presents the overall number of births paid by Virginia Medicaid (i.e., Title XIX or Title XXI) during each measurement period, as well as the number and percentage of multiple gestation and singleton births.

Table 1-1—Overall Births Paid by Virginia Medicaid, CY 2017–CY 2019

Overall Births	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Total Births	31,708	100.0%	35,002	100.0%	38,648	100.0%
Multiple Gestation Births	*566*	*1.8%*	*1,276*	*3.6%*	*1,367*	*3.5%*
Singleton Births	*31,142*	*98.2%*	*33,726*	*96.4%*	*37,281*	*96.5%*

HSAG identified an increased number of CY 2019 births over the prior years; however, this change may be partially attributable to variations over time in the level of manual review required for each year's probabilistically linked birth records. Additionally, multiple gestation pregnancies are associated with different patterns of clinical care, and subsequent study findings are limited to singleton births; therefore, multiplate gestation births are only presented for informational purposes.

Births in each measurement period were stratified into four Medicaid programs (i.e., FAMIS MOMS, Medicaid for Pregnancy Women, Medicaid Expansion, and Other Medicaid) and two Medicaid delivery systems (i.e., Fee-for-Service [FFS] and managed care). Table 1-2 presents the overall number and percentage of singleton births for each of these stratifications.

Table 1-2—Singleton Births by Medicaid Program and Medicaid Delivery System, CY 2017–CY 2019

Overall Births	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Singleton Births	31,142	100.0%	33,726	100.0%	37,281	100.0%
Medicaid Program*						
FAMIS MOMS	1,621	5.2%	1,771	5.3%	2,193	5.9%
Medicaid for Pregnant Women	23,618	75.8%	25,860	76.7%	27,071	72.6%
Medicaid Expansion	—	—	—	—	2,247	6.0%

[1-7] "Performance on the Child Core Set Measures, FFY 2019." *Child Health Care Quality Measures*, Centers of Medicare & Medicaid Services, Oct. 2020. Available at: https://www.medicaid.gov/medicaid/quality-of-care/performance-measurement/adult-and-child-health-care-quality-measures/childrens-health-care-quality-measures/index.html. Accessed on: Nov 30, 2020.

Overall Births	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Other Medicaid†	5,903	19.0%	6,095	18.1%	5,770	15.5%
Medicaid Delivery System						
FFS	7,887	25.3%	8,868	26.3%	8,663	23.2%
Managed Care	23,255	74.7%	24,856	73.7%	28,618	76.8%

**Due to rounding, the percentages for the CY 2018 Medicaid Program results do not sum to 100 percent.*

—indicates Medicaid Expansion was not implemented until January 1, 2019; therefore, there were no births covered by the Medicaid Expansion program during CY 2017 or CY 2018.

† Other Medicaid includes births paid by Medicaid, but that do not fall into the FAMIS MOMS, Medicaid for Pregnant Women, and Medicaid Expansion programs.

There was in increase in the number of singleton births during CY 2019 paid by Virginia Medicaid. The increase in the number of births is partially attributed to the implementation of Medicaid Expansion on January 1, 2019, which provided coverage to women previously not eligible for Medicaid and covered approximately 2,200 births during CY 2019.

Table 1-3 presents the study indicator results by measurement period, as well as whether each CY 2019 indicator rate was statistically different from the CY 2018 indicator rate.

Table 1-3—Overall Study Indicator Findings Among Singleton Births, CY 2017–CY 2019

Overall Births	National Benchmark	CY 2017		CY 2018		CY 2019	
		Number	Percent	Number	Percent	Number	Percent
Births with Early and Adequate Prenatal Care	76.4%	21,853	72.4%	22,853	72.3%	25,263	72.5%
*Births with Inadequate Prenatal Care**	NA	*5,211*	*17.3%*	*5,368*	*17.0%*	*6,206*	*17.8%^*
Preterm Births (<37 Weeks Gestation)*	9.4%	2,892	9.3%	3,168	9.4%	3,655	9.8%
Newborns with Low Birth Weight (<2,500g)*	9.5%	2,773	8.9%	3,084	9.1%	3,336	9.0%

**a lower rate indicates better performance for this indicator.*

NA indicates there is not an applicable national benchmark for this indicator.

^indicates the CY 2019 rate is statistically different from the CY 2018 rate.

While the percentage of CY 2019 births with early and adequate prenatal care was consistent with prior years, there was a statistically significant increase in the percentage of CY 2019 births with inadequate prenatal care compared to CY 2018. The CY 2019 rate for the *Newborns with Low Birth Weight (<2,500g)* exceeded the national benchmark, demonstrating strength for Virginia Medicaid.

To facilitate DMAS' program evaluation efforts, Table 1-4, on the next page, presents the CY 2019 study indicator results for the four Medicaid Programs (i.e., FAMIS MOMS, Medicaid for Pregnant Women, Medicaid Expansion, and Other Medicaid) stratified into a study population and comparison group based on the length of continuous enrollment prior to a woman's delivery. The table also

indicates whether each indicator's results were statistically significantly different between the study population (i.e., continuously enrolled for ≥ 90 days prior to delivery) and the comparison group (i.e., continuously enrolled for < 90 days prior to delivery).

Table 1-4—Overall Medicaid Program Study Indicator Findings Among Singleton Births by Comparison Group and Study Population, CY 2019

Overall Births	National Benchmark	Comparison Group		Study Population	
		Number	Percent	Number	Percent
FAMIS MOMS[1]					
Births with Early and Adequate Prenatal Care	76.4%	297	75.0%	1,329	79.1%
*Births with Inadequate Prenatal Care**	*NA*	*67*	*16.9%*	*225*	*13.4%*
Preterm Births (<37 Weeks Gestation)*	9.4%	36	8.5%	132	7.5%
Newborns with Low Birth Weight (<2,500g)*	9.5%	37	8.7%	121	6.8%
Medicaid for Pregnant Women					
Births with Early and Adequate Prenatal Care	76.4%	3,870	63.7%	14,589	75.4%^
Births with Inadequate Prenatal Care	*NA*	*1,523*	*25.1%*	*2,931*	*15.2%^*
Preterm Births (<37 Weeks Gestation)*	9.4%	586	9.0%	1,899	9.2%
Newborns with Low Birth Weight (<2,500g)*	9.5%	477	7.3%	1,806	8.8%^
Medicaid Expansion					
Births with Early and Adequate Prenatal Care	76.4%	202	67.6%	1,307	73.8%^
*Births with Inadequate Prenatal Care**	*NA*	*58*	*19.4%*	*295*	*16.7%*
Preterm Births (<37 Weeks Gestation)*	9.4%	45	13.4%	230	12.0%
Newborns with Low Birth Weight (<2,500g)*	9.5%	30	8.9%	209	10.9%
Other Medicaid†					
Births with Early and Adequate Prenatal Care	76.4%	397	62.8%	3,272	70.2%^
*Births with Inadequate Prenatal Care**	*NA*	*169*	*26.7%*	*938*	*20.1%^*

Overall Births	National Benchmark	Comparison Group		Study Population	
		Number	Percent	Number	Percent
Preterm Births (<37 Weeks Gestation)*	9.4%	82	11.5%	645	12.8%
Newborns with Low Birth Weight (<2,500g)*	9.5%	61	8.5%	595	11.8%^

[1] For FAMIS MOMS, the denominators for Births with Early and Adequate Prenatal Care and Births with Inadequate Prenatal Care were 1,681 for the study population and 396 for the comparison group. For Preterm Births (<37 Weeks Gestation) and Newborns with Low Birth Weight (<2,500g) the denominators were 1,769 for the study population and 424 for the comparison group.

**a lower rate indicates better performance for this indicator.*

NA indicates there is not an applicable national benchmark for this indicator.

^indicates the study population rate is statistically different from the comparison group rate.

† Other Medicaid includes births paid by Medicaid, but that do not fall into the FAMIS MOMS, Medicaid for Pregnant Women, and Medicaid Expansion programs.

Overall, the FAMIS MOMS program demonstrated strength in CY 2019 with the study population exceeding the applicable national benchmark for the three study indicators that could be compared to national benchmarks. Similarly, the study population for the Medicaid for Pregnant Women program exceeded the applicable national benchmarks for the *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500g)* study indicators. Both the Medicaid Expansion and Other Medicaid study populations fell below the national benchmark for the three study indicators that could be compared to national benchmarks. Of note, the Medicaid Expansion and Other Medicaid study population rates for the *Preterm Births (<37 Weeks Gestation)* study indicator fell below the national benchmark by a relative difference of 27 percent and 36 percent, respectively. Women in these populations may not have received all the necessary prenatal care as evidenced by the lower *Births with Early and Adequate Prenatal Care* study indicator rates for the Medicaid Expansion and Other Medicaid populations. Studies have shown that timely prenatal care is associated with fewer preterm births in the United States.[1-8] Given that Medicaid Expansion was first implemented on January 1, 2019, DMAS should continue to closely monitor this population to assess changes in outcomes over time. Women in the Medicaid Expansion program, unlike the Medicaid for Pregnant Women and FAMIS MOMS programs, are typically enrolled in the program before the start of their pregnancy due to federal Medicaid rules. For this reason, it is possible that improvements in outcomes will occur over time as Medicaid Expansion enrollees have the opportunity to benefit from continuous coverage before pregnancy and between pregnancies.

[1-8] Centers for Disease Control and Prevention. Preterm birth. Available at: https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm. Accessed on: Nov 30, 2020.

Conclusions and Recommendations

Conclusions

This study considered three quantitative indicators related to prenatal care and associated birth outcomes among births paid by Virginia Medicaid. Between the CY 2017 and CY 2019 measurement periods, study indicators related to prenatal care, preterm birth, and low birthweight showed opportunities for improvement for Virginia Medicaid members. Specifically, overall results for the *Births with Early and Adequate Prenatal Care* and *Newborns with Low Birth Weight (<2,500g)* indicators remained relatively stable from CY 2017 to CY 2019, while the *Preterm Births (<37 Weeks Gestation)* indicator results have been declining since CY 2017.

DMAS' implementation of the Medicaid Expansion program on January 1, 2019, provided an opportunity for DMAS and the MCOs to provide healthcare coverage to women who were not previously eligible for Medicaid. Research has shown that Medicaid Expansion programs have helped women get better health coverage before and after pregnancy, which leads to improved prenatal and postpartum care. Further, Medicaid Expansion programs also decrease the likelihood of women having fluctuations in their healthcare coverage, which is important for improving health outcomes for moms and babies.[1-9] While the study indicator results for the Medicaid Expansion program for CY 2019 demonstrate a need for improvement for this population, it is important to note that Medicaid Expansion was new in 2019; therefore, DMAS should monitor the population to assess that outcomes improve in the future.

The FAMIS MOMS program continued to outperform other Medicaid programs, though it is important to note that women enrolled in FAMIS MOMS have different income eligibility limits compared to other pregnant women (i.e., FAMIS MOMS covers women with incomes up to 205 percent of the FPL). However, it is beyond the scope of the current study to assess the degree to which study indicator results for women in FAMIS MOMS differ from study indicator results among women in other Medicaid programs on the basis of income-based eligibility requirements. Though limited in number, births to women enrolled in FAMIS MOMS, especially those with continuous enrollment greater than 90 days prior to delivery, had the highest rate of *Births with Early and Adequate Prenatal Care*, and the lowest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500g)*. While these rates remained stable over time, the promising results from this program suggest that it could offer a valuable starting point for assessing beneficiaries' satisfaction with care and underlying social determinants of health (SDoH) that may distinguish these women from other Medicaid beneficiaries.

[1-9] Searing A, Ross DC. Medicaid Expansion Fills Gaps in Maternal Health Coverage Leading to Healthier Mothers and Babies. Georgetown University Health Policy Institute Center for Children and Families. May 2019. Available at: https://ccf.georgetown.edu/wp-content/uploads/2019/05/Maternal-Health_FINAL-1.pdf. Accessed on: Dec 2, 2020.

Study Limitations

Study findings and conclusions may be affected by limitations related to the study design and source data. As such, caveats include, but are not limited to, the following:

- Study indicator and stratification results may be influenced by the accuracy and timeliness of the birth registry data and administrative Medicaid eligibility, enrollment, and demographic data used for calculations.
  - Additionally, study indicators rely on gestational estimate data from the birth registry. Reliability of these data, especially due to data collection practice variations in individual healthcare facilities, may have a disproportionate influence on regional study indicator results.[1-10]
- Healthy People 2030 goals are presented for comparison to Virginia Medicaid results for the *Births with Early and Adequate Prenatal Care* and *Preterm Births (<37 Weeks Gestation)* study indicators. Use caution when comparing study results to national benchmarks, as the benchmarks were derived from birth records covered by all payor types and may not mirror birth outcomes among women with births paid by Title XIX or Title XXI.
- The probabilistic data linkage process allows for manual data reviews to confirm or negate a potential match. The degree of manual review for each measurement period may result in annual differences in the number of birth certificates matched to enrollment data. Affected birth records tend to include women without Social Security Numbers (SSNs) and with differences in the names listed in the Medicaid and birth registry systems (e.g., names that are hyphenated and/or difficult to spell).
- The Commonwealth of Virginia allows presumptive eligibility for pregnant women to receive outpatient services, including prenatal care. However, DMAS does not cover inpatient care under the assumption that a woman will qualify for Title XIX or Title XXI benefits. The Virginia Department of Social Services (VDSS), the agency responsible for determining Medicaid eligibility in Virginia, allows 10 days to process a Medicaid application from a pregnant woman; 45 days is allowed for processing if the pregnant woman applies for additional services beyond Medicaid (e.g., supplemental nutrition assistance). As such, a pregnant woman new to Medicaid may have up to a 45-day waiting period before being eligible to have inpatient services covered by Title XIX or Title XXI benefits. Women's understanding of Medicaid benefits and the timing of coverage may result in delayed initiation or continuation of prenatal care.
- As many pregnant women new to Medicaid may not be covered by Title XIX or Title XXI benefits until their second or third trimester, use caution when interpreting study findings. Due to the multifactorial nature of birth outcomes and the need for pre-pregnancy interventions, a single delivery system or Medicaid program may not have had adequate time to contact new Medicaid beneficiaries and subsequently impact birth outcomes.
- Due to differing methodologies and data sources, study findings are not comparable to the Healthcare Effectiveness Data and Information Set (HEDIS®) *Timeliness of Prenatal Care* indicator results.[1-11] Specifically, the HEDIS *Timeliness of Prenatal Care* indicator does not follow a calendar year measurement period, requires the woman to be continuously enrolled with the health plan for

[1-10] Dietz PM, Bombard JM, Hutchings YL, et. al. Validation of obstetric estimate of gestational age on US birth certificates. AM J Obstet Gynecol. Apr 2014; 2010(4): 335.e1-335.e5. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4560346/. Accessed on: Nov 22, 2019.

[1-11] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

43 days prior to delivery through 60 days after delivery, and only requires one prenatal care visit for numerator compliance.

- Medicaid Expansion started on January 1, 2019, which may have impacted the study indicator results for the Medicaid Expansion program.

Recommendations

HSAG collaborated with DMAS to ensure that this study contributes to existing quality improvement data needs while informing current and future maternal and child health initiatives. As such, HSAG offers the following recommendations, based on the findings detailed in this report:

- Based on the Virginia Pregnancy Risk Assessment Monitoring System (PRAMS) data, Virginia Medicaid women are more likely to be obese prior to pregnancy (30.4 percent), smoke during pregnancy (25.5 percent), and have a prior preterm birth (18.6 percent), and are less likely to receive prenatal care early (70.8 percent) when compared to women with private insurance.[1-12] Given that smoking during pregnancy is a risk factor for preterm births and low birthweight infants, opportunities exist for DMAS to ensure women of childbearing age and pregnant women are receiving tobacco cessation services.[1-13] By helping women of childbearing age stop smoking prior to becoming pregnant, DMAS can help women reduce risk factors for poor birth outcomes like preterm births and low birthweight infants. DMAS should continue to work with the MCOs to ensure robust utilization of tobacco cessation services available to pregnant women through their MCO and to leverage existing public health programs, like the Virginia Department of Health's (VDH's) Quit Now Virginia program, to assist women of childbearing age to stop smoking.[1-14]
  - For future focus studies, DMAS should consider leveraging additional data fields from the vital statistics data (e.g., fields related to the number of cigarettes smoked in the three months prior to pregnancy and during each trimester of pregnancy) to monitor and help determine causes of poor birth outcomes. Additionally, the PRAMS data could be used to monitor and track the percentage of women smoking while pregnant to determine if initiatives to help women stop smoking prior to or while pregnant result in improvements.
- Given that Virginia expanded Medicaid in 2019 and the majority of Medicaid Expansion enrollees are women, DMAS launched a targeted outreach initiative to educate women about Medicaid coverage and benefits. There are opportunities to specifically target eligible women of childbearing age to enroll in Medicaid prior to them becoming pregnant. Research has shown that the Medicaid Expansion program in Ohio led to a 12 percent increase in Medicaid enrollment for first-time mothers prior to them becoming pregnant which resulted in large improvements in the timeliness of prenatal care for these women.[1-15] Further, by ensuring women have healthcare coverage prior to

[1-12] Virginia Department of Health. Pregnancy Risk Assessment Monitoring System Data. Available at: https://www.vdh.virginia.gov/prams/data/. Accessed on: Dec 3, 2020.
[1-13] Medicaid.gov. Pregnancy. Available at: https://www.medicaid.gov/medicaid/quality-of-care/quality-improvement-initiatives/tobacco-cessation/pregnancy/index.html. Accessed on: Dec 3, 2020.
[1-14] Virginia Department of Health. Quit Now Virginia. Available at: https://www.vdh.virginia.gov/tobacco-free-living/quit-now-virginia/. Accessed on: Dec 3, 2020.
[1-15] Searing A, Ross DC. Medicaid Expansion Fills Gaps in Maternal Health Coverage Leading to Healthier Mothers and Babies. Georgetown University Health Policy Institute Center for Children and Families. May 2019. Available at: https://ccf.georgetown.edu/wp-content/uploads/2019/05/Maternal-Health_FINAL-1.pdf. Accessed on: Dec 2, 2020.

becoming pregnant, women can establish a primary care provider or gynecologist and receive necessary preventive care (e.g., taking folic acid) and management of conditions (e.g., diabetes, high blood pressure, obesity) that were previously left untreated or unmanaged. Improving the health of a woman prior to conception will help ensure better outcomes for both the mom and baby.[1-16]

- Approximately 45 percent of annual pregnancies in the United States are unintended and unintended pregnancies are associated with negative health outcomes for both the mom and baby.[1-17] DMAS should evaluate if providers are offering family planning services to all Medicaid women of childbearing age. For women of childbearing age who are not pregnant and not eligible for Medicaid (i.e., above 138 percent FPL but below 205 percent FPL), DMAS should encourage these women take advantage of the free family planning services available through Virginia's Plan First program.[1-18] DMAS should also continue collaborating with other state and community partners facilitating family planning services, such as Title X programs provided through VDH.
- For future focus studies, DMAS should consider leveraging additional data fields in the vital statistics data to better understand the factors contributing to poor birth outcomes in Virginia. These fields include risk factors (pre-pregnancy and gestational diabetes and hypertension, and previous preterm births and poor pregnancy outcomes), mother's substance use before and during pregnancy (smoking, alcohol, and drug use), and mother's body mass index (BMI) before pregnancy and at delivery (i.e., the height and weight data can be used to determine the mother's BMI before and after the baby is born). Although data fields may be incomplete, HSAG can assess the data fields and leverage available data to help understand and provide additional context to the study indicator results.

DMAS' Input on Prior Focused Study Recommendations

In addition to the recommendations noted above, DMAS provided the following detailed feedback to HSAG regarding quality improvement actions and initiatives related to the 2018–19 Birth Outcomes Focused Study.

DMAS is committed to providing access to comprehensive care for pregnant and postpartum women and their babies enrolled in any one of Virginia Medicaid's health coverage programs. In order to address this goal and address maternal disparities as it relates to Governor Northam's 2025 initiative, DMAS revamped the Healthy Birthday Virginia initiative to Baby Steps Virginia (VA).

The Baby Steps VA program includes six teams that will develop strategies to access and utilize available services, while addressing health disparities. These teams will focus on eligibility and enrollment, outreach and information, connections (provider, community, and agencies), services and policies, and oversight (utilization and evaluation).

[1-16] March of Dimes. Before or Between Pregnancies. Available at: https://www.marchofdimes.org/pregnancy/before-pregnancy.aspx#. Accessed on: Dec 3, 2020.
[1-17] Healthy People 2020. Family Planning. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Available at: https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning. Accessed on: Dec 7, 2020.
[1-18] Cover Virginia. Plan First. Available at: https://www.coverva.org/planfirst/. Accessed on: Dec 7, 2020.

Past and Current Activities

- Under Medicaid expansion, more women have sustained health coverage before, during and after pregnancy. The expanded coverage allows parenting women to continue Medicaid coverage past 60 days.
- Partnered with VDSS to streamline the enrollment process and give pregnant women near real time eligibility determinations so they are connected with doctors and other medical care without delay. DMAS will partner with VDSS and the Virginia Hospital and Healthcare Association (VHHA) to investigate ways to quickly enroll newborns before the mother is discharged from the hospital.
- Collaborated with stakeholders on a variety of projects supporting pregnant and parenting people. Collaboration was geared towards furthering maternity program quality outcomes and engagement with a variety of partners such as VDH, VDSS, the Virginia Department of Behavioral Health and Developmental Services (DBHDS), VHHA, and the Virginia Neonatal Perinatal Collaborative (VNPC).
- Increased the percentage of pregnant and parenting Medicaid members with substance use disorder (SUD) who are receiving treatment. The DMAS Addiction and Recovery Treatment Services (ARTS) team partnered with VDH to facilitate a training about the need to obtain a waiver to prescribe buprenorphine. Forty-three providers utilized this training across the commonwealth including obstetrician-gynecologist (OB/GYN) providers, a target group for the series.
- Partnered with the Early Impact Virginia Leadership Council to determine how to implement a home visiting benefit into Virginia Medicaid. The program was funded through the Governor's budget; however, the funds were unallotted due to the coronavirus disease 2019 (COVID-19) public health emergency.
- Launched a targeted outreach initiative to educate women about coverage and benefits through radio spots, and digital and social media. Increased utilization of social media platforms to share photos and videos that will raise awareness about various initiatives and campaigns related to maternal and infant health.
- Established a workgroup to explore Medicaid reimbursement for doula support services by reviewing federal requirements and permissibility, commonwealth regulations, and determining estimated cost to the commonwealth for the next six years. DMAS submitted the report in December 2020.
- Participating in the monthly Center for Health Care Strategies, Inc. (CHCS) Leveraging Midwifery-Led Care to Address Disparities and Equity in Medicaid Learning series.[1-19]
- Hosting monthly meetings with external speakers to learn about programs available. Developed monthly Baby Steps VA newsletter to keep agency and external partners abreast of activities.
- Continuing participation in the National Academy for State Health Policy (NASHP) Maternal and Child Health Policy Innovation Program (MCH PIP) policy academy that will help to identify, promote, and advance innovative, state-level policy initiatives to improve access to care for Medicaid-eligible pregnant and parenting women with or at risk of SUD through healthcare delivery

[1-19] Center for Health Care Strategies, Inc. Leveraging Midwifery-Led Care to Address Disparities and Equity in Medicaid, July 2020. Available at: https://www.chcs.org/project/leveraging-midwifery-led-care-to-address-disparities-and-equity-in-medicaid/. Accessed on: Dec 7, 2020.

system transformation.[1-20] Focus is on two pilot sites; one in the Southwest region with Ballad Health and one in Richmond City with Virginia Commonwealth University (VCU) Health, to gain information on best practices that can be applied to programs throughout the commonwealth.

[1-20] Bonzon, E. New Eight-State Policy Academy Advances Access to Care for Pregnant/Parenting Women with SUD. National Academy for State Health Policy, April 2019. Available at: https://www.nashp.org/new-eight-state-policy-academy-advances-access-to-care-for-pregnant-parenting-women-with-sud/. Accessed on: Dec 7, 2020.

2. Overview and Methodology

Overview

As an optional activity under the CMS EQR Protocols,[2-1] the Commonwealth of Virginia DMAS contracted with HSAG to conduct a focus study in contract year 2019–2020 to provide quantitative information about prenatal care and associated birth outcomes among women with births paid by Title XIX or Title XXI, which include the Medicaid, FAMIS, FAMIS MOMS, and Medicaid Expansion (Expansion) programs. The 2019–2020 Birth Outcomes Focus Study addressed the following questions:

- To what extent do women with births paid by Medicaid receive early and adequate prenatal care?
- What clinical outcomes are associated with Medicaid-paid births?

Methodology

The study included all singleton births paid by Virginia Medicaid during CY 2019. A birth was considered paid by Virginia Medicaid if the member was enrolled in Virginia Medicaid on the date of delivery. From Medicaid member demographic and eligibility data provided by DMAS, HSAG assembled a list of female members between the ages of 10 and 55 years with any Medicaid eligibility during CY 2019 who were eligible for the focus study. This list was submitted to DMAS for linkage to VDH birth registry. Members eligible for the data linkage included Virginia Medicaid members with a live birth paid by Title XIX or Title XXI during the measurement period, regardless of whether the birth occurred in Virginia.[2-2] Deterministic and probabilistic data linkage methods were used by DMAS to match HSAG's list of potential study members to birth registry records.[2-3] DMAS returned a data file to HSAG containing the information from HSAG's original member list and selected birth registry data fields for matched members from both data linkage processes.

[2-1] Department of Health and Human Services, Centers for Medicare & Medicaid Services. Protocol 9: Conducting Focus Studies of Health Care Quality: An Optional EQR-Related Activity. October 2019.

[2-2] The Virginia birth registry contains records of live births; other pregnancy outcomes are not included in this study.

[2-3] The deterministic data linkage sought to match potential study members with birth registry records using only the maternal SSN. The probabilistic data linkage used the Link Plus software program to probabilistically match study members with birth registry records using the following maternal information: last name, first name, SSN, residential street address, city of residence, and five-digit residential ZIP Code.

All probabilistically or deterministically linked birth registry records were included in the overall eligible population for this focus study. Variations in demographic indicators over time may be attributed to probabilistic data linkage considerations in each measurement period, in addition to changes in the demographics of women with births paid by Virginia Medicaid.[2-4]

The eligible population was further classified by Medicaid program and service delivery system as follows:

- The FAMIS MOMS program uses Title XXI (CHIP Demonstration Waiver) funding to serve pregnant women with incomes up to 200 percent of the FPL. FAMIS MOMS provides benefits similar to Medicaid through the duration of pregnancy and for 60 days postpartum.
- The Medicaid for Pregnant Women program uses Title XIX (Medicaid State Plan) funding to serve pregnant women with incomes up to 143 percent of the FPL.
- The Medicaid Expansion program uses Title XIX funding to serve pregnant women 19 years of age and older with incomes up to 138 percent of the FPL.
- The Other Medicaid category includes births paid by Medicaid that do not fall within the Medicaid for Pregnant Women, FAMIS MOMS, or Medicaid Expansion categories.

While the term "Medicaid" is used throughout the report, this term refers to all programs included in the Birth Outcomes Focused Study regardless of funding source (i.e., Title XIX or Title XXI).

Births to women enrolled in any Medicaid program (i.e., FAMIS MOMS, Medicaid for Pregnant Women, Medicaid Expansion, and Other Medicaid) at delivery were further categorized into a study population and a comparison group depending on the timing and length of enrollment. The study population included women covered by any of the four Medicaid Programs on the date of delivery and continuously enrolled in any Medicaid program for a minimum of 90 days prior to, and including, the date of delivery. The comparison group consisted of women covered by any of the four Medicaid Programs on the date of delivery with continuous enrollment of 90 days or less in any Medicaid program prior to the date of delivery.

Where applicable, HSAG also presents comparisons to national benchmarks for the study indicators. HSAG used the Healthy People 2030 goals, using data derived from the CDC, NCHS, NVSS, for the *Births with Early and Adequate Prenatal Care* and *Preterm Births (<37 Weeks Gestation)* study indicators. HSAG used the FFY 2019 CMS Core Set benchmarks for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator.

Additionally, HSAG presents comparisons to prior years' results, when applicable. Results for CY 2017 and CY 2018 were taken from a previously published report and included in the current study for trending purposes. However, CY 2019 is the first year that members part of Medicaid Expansion received services paid by Virginia. Therefore, caution should be exercised when comparing CY 2019

[2-4] HSAG provided standard instructions for probabilistically linking data during each study period. However, different individuals from DMAS and VDH conducted the probabilistic linkages for the 2017–18, 2018–19, and 2019–20 studies, resulting in a variable percentage of probable birth record linkages that were manually reviewed for each measurement period. As a result, the 2017–18 measurement period (i.e., births occurring in CY 2017) have fewer probabilistically linked records that may have been confirmed through manual review. Affected birth records tend to include women without SSNs and with differences in the names listed in the Medicaid and birth registry systems (e.g., hyphenated and/or difficult to spell names).

results to CY 2017 and CY 2018 results given that Medicaid Expansion members are only included in the CY 2019 results.

Study Indicators

HSAG calculated the following three study indicators for singleton, live births during CY 2019 paid by Virginia Medicaid:

- Percentage of births with early and adequate prenatal care
- Percentage of preterm births (i.e., births prior to 37 weeks of gestation)
- Percentage of births with low birth weight (i.e., birth weights less than 2,500 grams)

The following subsections define the three indicators used to assess the study questions among singleton, live births paid by Virginia Medicaid during the measurement period, as well as provide brief background information in support of each indicator as a birth outcome.

Early and Adequate Prenatal Care

The percentage of births with an APNCU Index (i.e., the Kotelchuck Index) score in the "Adequate" or "Adequate Plus" categories.

The adequacy of prenatal care received during pregnancy has been associated with lower incidence of poor birth outcomes, such as preterm delivery and low-birth-weight births.[2-5] The APNCU Index (i.e., the Kotelchuck Index) uses birth certificate information to assess prenatal care in relation to two separate and distinct components. The first component measures initiation of care using the month that prenatal care began. The second component measures adequacy of received services measured by the number of prenatal visits. The two components are combined into a single prenatal care utilization composite score. Higher composite scores on the APNCU Index are assigned to women who initiate prenatal care early in pregnancy and complete at least 80 percent of the visits expected based on the time frame, adjusted for gestational age at prenatal care initiation and the infant's gestational age at delivery.[2-6] Table 2-1 shows the composite score categories and criteria defining each category.

Table 2-1—APNCU Index Criteria for Adequacy of Prenatal Care Visits

APNCU Index Category	Number of Prenatal Care Visits
Missing Information	Information on the number of prenatal care visits is unavailable
Inadequate Prenatal Care	Less than 50% of expected visits

[2-5] Krueger PM, Scholl TO. Adequacy of prenatal care and pregnancy outcome. *The Journal of the American Osteopathic Association*. 2000; 100(8):485–492.

[2-6] Kotelchuck M. An evaluation of the Kessner Adequacy of Prenatal Care Index and a proposed Adequacy of Prenatal Care Utilization Index. *American Journal of Public Health*. 1994; 84(9):1414–1420.

APNCU Index Category	Number of Prenatal Care Visits
Intermediate Prenatal Care	50% to 79% of expected visits
Adequate Prenatal Care	80% to 109% of expected visits
Adequate Plus Prenatal Care	110% or more of expected visits

In 2003, a revised version of the nationally standard birth certificate was released, which captured prenatal care information, including the month prenatal care was initiated and the number of visits up to delivery. Virginia implemented the 2003 Revised Standard Certificate of Live Birth in 2012, and national benchmarks for assessing adequacy of prenatal care were established for those states that initiated consistent reporting of this information.[2-7] Healthy People 2030 published a national baseline in which 76.4 percent of women received early and adequate prenatal care during 2018, with an initial goal of 80.5 percent and a 1 percentage point improvement for each year.[2-8] DMAS opted to compare study indicator findings to the Healthy People 2030 baseline goal of 76.4 percent and will assess the benchmark value on an annual basis. Note that this goal is assessed nationally using NVSS data that do not consistently report birth statistics by payor.

Preterm Births[2-9]

The percentage of births occurring before 37 completed weeks of gestation.

In 2019, preterm delivery affected approximately one in 10 infants born in the United States. Preterm delivery (births prior to 37 weeks of gestation) is a leading cause of infant mortality, and 17 percent of United States infant deaths in 2018 were attributable to causes related to preterm birth and low birth weight (LBW). Additionally, in 2019, preterm birth rates in the United States were 50 percent higher among African American women compared to the rates for White or Hispanic or Latino women. Infants born prematurely are also at higher risk for persistent and life-long health issues, such as developmental disabilities, cerebral palsy, respiratory problems, hearing and vision problems, and

2-7 March of Dimes Perinatal Data Center. Prenatal Care. Available at: https://www.marchofdimes.org/peristats/popup.aspx?width=50%&height=40%&s=calc&reg=&top=&id=23. Accessed on: Dec 1, 2020.

2-8 Healthy People 2030. Increase the proportion of pregnant women who receive early and adequate prenatal care – MICH-08. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Available at: https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth/increase-proportion-pregnant-women-who-receive-early-and-adequate-prenatal-care-mich-08. Accessed on: Nov 23, 2020.

2-9 Newborns' estimated gestational age for this indicator is based on the Clinical Estimate of Gestation (CEG) provided on the birth certificate. Birth certificate records with missing CEG values were classified as "unknown gestational age" or excluded from analysis based on number of identified cases.

feeding issues. Furthermore, preterm births can result in emotional and financial burdens for families.[2-10]

Although this topic has been studied extensively, the underlying causes of preterm births are not completely understood. The causes of preterm birth are multifactorial and include genetic, social, and environmental circumstances, as well as multiple gestations (twins, triplets, etc.), which have increased due to the increasing prevalence of assisted reproductive technology.[2-11] Some studies have found that among multiparous women, regardless of demographic factors and excluding multiple gestation births, a previous preterm birth has been found as the most influential risk factor for a woman to have a subsequent preterm birth.[2-12]

Although demographic and genetic factors associated with preterm delivery cannot be completely mitigated through clinical intervention, preconception care (i.e., care prior to the start of a pregnancy) and prenatal care may provide clinicians opportunities to monitor and address potential causes of preterm delivery.[2-13]

Healthy People 2030 published a national baseline in which 10.0 percent of live births were preterm in 2018, with an initial goal of 9.4 percent of live births being preterm.[2-14] DMAS opted to compare study indicator findings to the Healthy People 2030 goal of 9.4 percent and will assess the benchmark value on an annual basis. Note that this goal is assessed nationally using NVSS data that do not consistently report birth statistics by payor.

Low Birth Weight

The percentage of newborns weighing less than 2,500 grams at birth.

Infants born weighing less than 2,500 grams (5 pounds, 8 ounces) are considered LBW infants and, compared to normal weight infants, may be at a higher risk for health problems. Common health complications that LBW infants may experience include underdeveloped lungs and respiratory

[2-10] Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. Preterm birth. Available at: https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm. Accessed on: Nov 25, 2020.

[2-11] Dunietz GL, Holzman C, McKane P, et al. Assisted reproductive technology and the risk of preterm birth among primiparas. *Fertility and Sterility*. 2015; 103(4):974-979.e1. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4515958/#:~:text=Conclusion(s),infertility%20included%20the%20earliest%20deliveries. Accessed on: Dec 4, 2020.

[2-12] Stubblefield PG, Coonrod DV, Reddy UM, et al. The clinical content of preconception care: Reproductive history. *American Journal of Obstetrics and Gynecology*. 2008; 10.048(suppl):S373–S383.

[2-13] Dean SV, Mason E, Howson CP, et al. Born too soon: care before and between pregnancy to prevent preterm births: from evidence to action. Reprod Health. 2013; 10 Suppl 1 (Supple 1):S3.

[2-14] Healthy People 2030. Increase the proportion of pregnant women who receive early and adequate prenatal care – MICH-08. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Available at: https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth/increase-proportion-pregnant-women-who-receive-early-and-adequate-prenatal-care-mich-08. Accessed on: Nov 23, 2020.

problems, an inability to maintain body temperature, difficulty feeding and gaining weight, and infection. Additionally, these LBW infants may experience long-term issues, such as delayed motor and social development and learning disabilities, and they may have a higher risk of health conditions, such as diabetes and high blood pressure, later in life.[2-15] LBW affects approximately one in 12 babies born in the United States.[2-16]

Infants weighing less than 1,500 grams (3 pounds, 5 ounces) are considered to be very low birth weight (VLBW) infants and have a greater risk for multiple health problems, including cerebral palsy, developmental delay, intellectual disability, visual and hearing impairments, chronic lung disease, neurological problems, and sudden infant death syndrome (SIDS).[2-17] Nearly all infants born with VLBW will need specialized care in a neonatal intensive care unit (NICU) until they are healthy enough to be released. NICU care is associated with a financial burden; although VLBW births account for approximately 1.5 percent of all live births in the United States, these births represent 30 percent of newborn healthcare costs and are among the most expensive of all patients.[2-18]

The CMS Core Set benchmarks for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator is released annually and includes data for all 50 states and Washington, D.C. for a Medicaid/CHIP population.[2-19] DMAS opted to use the FFY 2019 benchmark of 9.5 percent for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator.[2-20]

Study Indicator Results

Study indicator results were limited to singleton births, defined using the Plurality field in the birth registry data. Since multiple gestation births are subject to different clinical guidelines, results for multiple births are limited to introductory findings and the analytic dataset supplied to DMAS.

Results for each study indicator were calculated among demographic categories for the CY 2019 measurement period. HSAG used Chi-square tests to assess statistically significant differences between the CY 2019 study population and comparison group for each indicator within the Medicaid Programs. In addition, Chi-square tests were used to determine if statistically significant differences were observed between overall CY 2018 to CY 2019 study indicator results.

2-15 National Center for Environmental Health, Environmental Health Tracking Branch. Centers for Disease Control and Prevention. Low birthweight and the environment. Available at: https://ephtracking.cdc.gov/showRbLBWGrowthRetardationEnv. Accessed on: Dec 4, 2020.

2-16 March of Dimes. Low birthweight. Available at: http://www.marchofdimes.org/baby/low-birthweight.aspx. Accessed on: Nov 25, 2020.

2-17 McCallie KR, Lee HC, Mayer O, et al. Improved outcomes with a standardized feeding protocol for very low birth weight infants. *Journal of Perinatology*. 2011; 31:S61–S67.

2-18 Johnson TJ, Patel AL, Jegier B, et al. The cost of morbidities in very low birth weight infants. *The Journal of Pediatrics*. 2013; 162(2):243–49.

2-19 "Performance on the Child Core Set Measures, FFY 2019." *Child Health Care Quality Measures*, Centers of Medicare & Medicaid Services, Oct. 2020. Available at: https://www.medicaid.gov/medicaid/quality-of-care/performance-measurement/adult-and-child-health-care-quality-measures/childrens-health-care-quality-measures/index.html. Accessed on: Nov 30, 2020.

2-20 Ibid.

3. Findings

Overall Births Paid by Virginia Medicaid

Table 3-1 presents the overall number of births paid by Virginia Medicaid (i.e., Title XIX or Title XXI) during each measurement period, as well as the number and percentage of multiple gestation and singleton births.

Table 3-1—Overall Births Paid by Virginia Medicaid, CY 2017–2019

Overall Births	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Total Births	31,708	100.0%	35,002	100.0%	38,648	100.0%
Multiple Gestation Births	*566*	*1.8%*	*1,276*	*3.6%*	*1,367*	*3.5%*
Singleton Births	*31,142*	*98.2%*	*33,726*	*96.4%*	*37,281*	*96.5%*

Overall Singleton Births Paid by Virginia Medicaid

Table 3-2 presents the overall number of singleton births paid by Virginia Medicaid from CY 2017 through CY 2019, as well as the number and percentage of births by key stratifications.

Table 3-2—Singleton Births by Medicaid Program and Medicaid Delivery System, CY 2017–CY 2019

Overall Births	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Singleton Births	31,142	100.0%	33,726	100.0%	37,281	100.0%
Medicaid Program*						
FAMIS MOMS	1,621	5.2%	1,771	5.3%	2,193	5.9%
Medicaid for Pregnant Women	23,618	75.8%	25,860	76.7%	27,071	72.6%
Medicaid Expansion	—	—	—	—	2,247	6.0%
Other Medicaid†	5,903	19.0%	6,095	18.1%	5,770	15.5%
Medicaid Delivery System						
FFS	7,887	25.3%	8,868	26.3%	8,663	23.2%
Managed Care	23,255	74.7%	24,856	73.7%	28,618	76.8%

**Due to rounding, the percentages for the CY 2018 Medicaid Program results do not sum to 100 percent.*

—indicates Medicaid Expansion was not implemented until January 1, 2019; therefore, there were no births covered by the Medicaid Expansion program during CY 2017 or CY 2018.

† Other Medicaid includes births paid by Medicaid, but that do not fall into the FAMIS MOMS, Medicaid for Pregnant Women, and Medicaid Expansion programs.

There was in increase in the number of singleton births during CY 2019 paid by Virginia Medicaid. The increase in the number of births is partially attributed to the implementation of Medicaid Expansion on January 1, 2019, which provided coverage to women previously not eligible for Medicaid and covered approximately 2,200 births during CY 2019.

Detailed information on maternal demographic characteristics by Medicaid program and service delivery system are presented in Appendix A.

Study Indicator Results

Table 3-3 presents the study indicator results by measurement period, as well as whether each CY 2019 indicator rate was statistically different from the CY 2018 indicator rate.

Table 3-3—Overall Study Indicator Findings Among Singleton Births, CY 2017–CY 2019

Overall Births	National Benchmark	CY 2017		CY 2018		CY 2019	
		Number	Percent	Number	Percent	Number	Percent
Births with Early and Adequate Prenatal Care	76.4%	21,853	72.4%	22,853	72.3%	25,263	72.5%
*Births with Inadequate Prenatal Care**	*NA*	*5,211*	*17.3%*	*5,368*	*17.0%*	*6,206*	*17.8%^*
Preterm Births (<37 Weeks Gestation)*	9.4%	2,892	9.3%	3,168	9.4%	3,655	9.8%
Newborns with Low Birth Weight (<2,500g)*	9.5%	2,773	8.9%	3,084	9.1%	3,336	9.0%

**a lower rate indicates better performance for this indicator.*

NA indicates there is not an applicable national benchmark for this indicator.

^indicates the CY 2019 rate is statistically different from the CY 2018 rate.

While the percentage of CY 2019 births with early and adequate prenatal care was consistent with prior years, there was a statistically significant increase in the percentage of CY 2019 births with inadequate prenatal compared to CY 2018. The CY 2019 rate for the *Newborns with Low Birth Weight (<2,500g)* was better than the national benchmark, demonstrating overall strength for Virginia Medicaid.

Study Indicators Stratifed by Select Demographic Characteristics

Table 3-4 and Table 3-5 present the study indicator results stratified by race/ethnicity and geographic managed care region, respectively, for each measurement period.

Table 3-4—Overall Study Indicator Findings Among Singleton Births by Race/Ethnicity, CY 2017–CY 2019

Overall Births	National Benchmark	CY 2017		CY 2018		CY 2019	
		Number	Percent	Number	Percent	Number	Percent
White, Non-Hispanic							
Births with Early and Adequate Prenatal Care	76.4%	9,572	75.6%	9,665	75.3%	9,983	76.1%
*Births with Inadequate Prenatal Care**	*NA*	*1,938*	*15.3%*	*1,942*	*15.1%*	*1,973*	*15.0%*
Preterm Births (<37 Weeks Gestation)*	9.4%	1,109	8.4%	1,167	8.3%	1,252	8.7%
Newborns with Low Birth Weight (<2,500g)*	9.5%	962	7.3%	1,079	7.7%	1,066	7.4%
Black, Non-Hispanic							
Births with Early and Adequate Prenatal Care	76.4%	8,231	70.4%	8,375	71.0%	8,899	72.7%
*Births with Inadequate Prenatal Care**	*NA*	*2,098*	*18.0%*	*2,079*	*17.6%*	*2,091*	*17.1%*
Preterm Births (<37 Weeks Gestation)*	9.4%	1,340	11.3%	1,421	11.5%	1,562	12.1%
Newborns with Low Birth Weight (<2,500g)*	9.5%	1,436	12.1%	1,521	12.3%	1,623	12.6%
Hispanic, Any Race							
Births with Early and Adequate Prenatal Care	76.4%	2,484	67.3%	3,707	68.4%	5,165	66.3%
*Births with Inadequate Prenatal Care**	*NA*	776	21.0%	1,065	19.7%	1,803	23.2%
Preterm Births (<37 Weeks Gestation)*	9.4%	295	7.8%	446	7.8%	673	8.1%
Newborns with Low Birth Weight (<2,500g)*	9.5%	238	6.3%	350	6.1%	490	5.9%
Other/Unknown							
Births with Early and Adequate Prenatal Care	76.4%	1,566	72.7%	1,106	71.6%	1,216	70.3%
*Births with Inadequate Prenatal Care**	*NA*	*399*	*18.5%*	*282*	*18.3%*	*339*	*19.6%*

Overall Births	National Benchmark	CY 2017		CY 2018		CY 2019	
		Number	Percent	Number	Percent	Number	Percent
Preterm Births (<37 Weeks Gestation)*	9.4%	148	6.7%	134	8.3%	168	9.2%
Newborns with Low Birth Weight (<2,500g)*	9.5%	137	6.2%	134	8.3%	157	8.6%

**a lower rate indicates better performance for this indicator.*

NA indicates there is not an applicable national benchmark for this indicator.

Consistent with national birth data[3-1], study indicator results showed poor outcomes for Black, Non-Hispanic women, with lower rates of *Early and Adequate Prenatal Care*, and the highest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500g)* compared to women of other races/ethnicities. White, Non-Hispanic women had the highest rate of *Early and Adequate Prenatal Care* compared to women of other races/ethnicities. For Hispanic women of any race, rates of both preterm births and low birthweight infants exceeded the national benchmarks, despite having the largest percentage of women with inadequate prenatal care.

Table 3-5—Overall Study Indicator Findings Among Singleton Births by Managed Care Region of Maternal Residence, CY 2019

Managed Care Region of Maternal Residence	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Central	6,360	73.1%	1,280	14.7%	921	10.2%	881	9.7%
Charlottesville/ Western	3,398	79.1%	664	15.5%	375	8.5%	376	8.5%
Northern & Winchester	6,377	67.2%	2,273	23.9%	915	9.0%	728	7.1%
Roanoke/ Alleghany	2,321	74.0%	445	14.2%	286	8.6%	275	8.3%
Southwest	851	70.8%	205	17.1%	172	9.0%	168	8.8%
Tidewater	5,921	74.2%	1,330	16.7%	982	11.8%	904	10.9%
All Regions†	**25,263**	**72.5%**	**6,206**	**17.8%**	**3,655**	**9.8%**	**3,336**	**9.0%**

**a lower rate indicates better performance for this indicator.*

† Unknown managed care regions of maternal residence are included in the All Regions Totals.

[3-1] Martin JA, Hamilton BE, Osterman MJK, et al. Births: Final Data for 2018. *National Vital Statistics Reports*. 2019; 68(13). Available at: https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_13-508.pdf. Accessed on: Nov 30, 2020.

The Charlottesville/Western region had the highest rate of *Births with Early and Adequate Prenatal Care* and some of the lowest rates of *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500g)*. This may be attributed to the fact that approximately 57 percent of the births in the Charlottesville/Western were to White, non-Hispanic women, which aligns with the findings for White, Non-Hispanic women as displayed in Table 3-4. The Northern & Winchester region had the lowest rate of *Early and Adequate Prenatal Care* and the highest rate of *Births with Inadequate Prenatal Care*; however, women in this region had some of the lowest rates of *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500g)*. The Central and Tidewater regions had the highest rates of *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500g)* and had the highest percentage of women of Black, non-Hispanic race (approximately 47 percent and 58 percent, respectively). As shown in Table 3-4 women of Black, Non-Hispanic race have the highest rates of *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500g)* at 12.1 percent and 12.6 percent, respectively.

Detailed study indicator findings by maternal demographic characteristics, including maternal age at delivery, race/ethnicity, and geographic region of residence are presented in Appendix B. HSAG also delivered an analytic dataset to DMAS containing beneficiary-level study indicator results and stratification categories to support ad hoc analyses and ongoing quality improvement initiatives.

Study Indicator Findings by Medicaid Characteristics

The current study indicator results are influenced by a woman's ability to access prenatal care, a fact affected by her enrollment. Analytic stratifications in this study reflect the Medicaid delivery system, MCO, and Medicaid program in which the woman was enrolled at the time of delivery. Table 3-6 through Table 3-12 present the study indicators stratified by Medicaid delivery system, MCO, and Medicaid program.

Study Indicator Findings by Medicaid Delivery System

Table 3-6 presents the study indicator results by Medicaid delivery system within each measurement period, as well as whether each CY 2019 indicator rate was statistically different from the CY 2018 indicator rate.

Table 3-6—Overall Study Indicator Findings Among Singleton Births by Medicaid Delivery System, CY 2017–CY 2019

Study Indicator	National Benchmark	CY 2017		CY 2018		CY 2019	
		Number	Percent	Number	Percent	Number	Percent
FFS							
Births with Early and Adequate Prenatal Care	76.4%	5,366	70.5%	5,731	70.1%	5,227	65.4%^
*Births with Inadequate Prenatal Care**	*NA*	*1,449*	*19.1%*	*1,516*	*18.6%*	*1,856*	*23.2%^*

Study Indicator	National Benchmark	CY 2017		CY 2018		CY 2019	
		Number	Percent	Number	Percent	Number	Percent
Preterm Births (<37 Weeks Gestation)*	9.4%	810	10.3%	852	9.6%	880	10.2%
Newborns with Low Birth Weight (<2,500g)*	9.5%	726	9.2%	779	8.8%	723	8.3%
Managed Care							
Births with Early and Adequate Prenatal Care	76.4%	16,487	73.0%	17,122	73.1%	20,036	74.6%^
*Births with Inadequate Prenatal Care**	*NA*	*3,762*	*16.7%*	*3,851*	*16.4%*	*4,350*	*16.2%*
Preterm Births (<37 Weeks Gestation)*	9.4%	2,082	9.0%	2,316	9.3%	2,775	9.7%
Newborns with Low Birth Weight (<2,500g)*	9.5%	2,047	8.8%	2,305	9.3%	2,613	9.1%

**a lower rate indicates better performance for this indicator.*

NA indicates there is not an applicable national benchmark for this indicator.

^indicates the CY 2019 rate is statistically different from the CY 2018 rate.

With the exception of the *Newborns with Low Birth Weight (<2,500 grams)* study indicator, women enrolled in managed care had better outcomes than women in the FFS population in CY 2019. The CY 2019 rate for women in managed care demonstrated a significant improvement from CY 2018 for the *Births with Early and Adequate Prenatal Care* study indicator; however, the CY 2019 rate fell below the national benchmark. The CY 2019 rate for women in FFS demonstrated a significant decline in performance from CY 2018 for the *Births with Early and Adequate Prenatal Care* and *Births with Inadequate Prenatal Care* study indicators. Of note, both the managed care and FFS rates for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator exceeded the national benchmark in CY 2019.

Table 3-7 presents the study indicator results by Medicaid delivery system and MCO during CY 2019. Please note, study indicator results are limited to the MCO a woman was enrolled with at the time of delivery and does not consider any other MCO(s) that may have been responsible for her prenatal care.

Table 3-7—Study Indicator Findings Among Singleton Births by Medicaid Delivery System and MCO, CY 2019

	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Delivery System								
FFS	5,227	65.4%	1,856	23.2%	880	10.2%	723	8.3%

	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Managed Care	20,036	74.6%	4,350	16.2%	2,775	9.7%	2,613	9.1%
Total	**25,263**	**72.5%**	**6,206**	**17.8%**	**3,655**	**9.8%**	**3,336**	**9.0%**
MCOs								
Aetna	2,363	74.1%	522	16.4%	337	9.8%	343	10.0%
HealthKeepers	6,175	75.0%	1,290	15.7%	875	10.0%	755	8.6%
Magellan	1,330	71.6%	344	18.5%	186	9.4%	189	9.6%
Optima	4,438	76.9%	855	14.8%	609	10.1%	598	9.9%
UnitedHealthcare	1,778	71.8%	447	18.1%	231	8.7%	234	8.8%
VA Premier	3,952	73.9%	892	16.7%	537	9.3%	494	8.6%
MCO Total	**20,036**	**74.6%**	**4,350**	**16.2%**	**2,775**	**9.7%**	**2,613**	**9.1%**

**a lower rate indicates better performance for this indicator.*

Optima was the only MCO to exceed the national benchmark for the *Births with Early and Adequate Prenatal Care* study indicator in CY 2019; however, Optima also had the highest rate of preterm births and second highest rate of low birthweight infants. Of note, women enrolled with Optima and receiving adequate plus prenatal care have high *Preterm Births (<37 Weeks of Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* rates (16.6 percent and 15.3 percent, respectively), as shown in Table B-11, suggesting that these women have high-risk pregnancies with birth outcomes that may not have been preventable even with adequate prenatal care. At least half of the MCOs exceeded the national benchmarks for the *Preterm Births (<37 Weeks of Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* study indicators during CY 2019.

Table 3-8 presents the distribution of CY 2019 singleton births by Medicaid delivery system, MCO, and length of the mother's continuous enrollment in any Medicaid program prior to delivery.

Table 3-8—Singleton Births by Medicaid Delivery System, MCO, and Length of Continuous Enrollment Prior to Delivery, CY 2019

	≤ 30 Days		31–90 Days		91–180 Days		> 180 Days		Total
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Delivery System									
FFS	3,007	34.7%	1,177	13.6%	788	9.1%	799	9.2%	8,663
Managed Care	65	0.2%	908	3.2%	3,301	11.5%	24,342	85.1%	28,618
Total	**3,072**	**8.2%**	**2,085**	**5.6%**	**4,089**	**11.0%**	**25,141**	**67.4%**	**37,281**
MCOs									
Aetna	S	S	132	3.9%	486	14.2%	2,794	81.6%	3,422
HealthKeepers	15	0.2%	257	2.9%	968	11.1%	7,508	85.8%	8,749

	≤ 30 Days		31–90 Days		91–180 Days		> 180 Days		Total
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Magellan	S	S	86	4.4%	283	14.3%	1,603	81.2%	1,975
Optima	20	0.3%	147	2.4%	591	9.8%	5,271	87.4%	6,030
United Healthcare	S	S	116	4.3%	396	14.8%	2,153	80.7%	2,667
VA Premier	15	0.3%	170	2.9%	577	10.0%	5,013	86.8%	5,775
MCO Total	**65**	**0.2%**	**908**	**3.2%**	**3,301**	**11.5%**	**24,342**	**85.1%**	**28,618**

S *indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).*

Approximately 85 percent of women with a CY 2019 singleton birth were continuously enrolled in Medicaid for at least 180 days prior to delivery. Approximately 35 percent of women enrolled in FFS at the time of delivery were continuously enrolled in Medicaid for 30 days or less at the time of delivery. Additionally, as shown in Table 3-7, women enrolled in FFS at the time of delivery had lower rates of early and adequate prenatal care, which is expected given the length of time women in FFS were continuously enrolled in any Medicaid program. Of note, Table 3-7 shows that women enrolled in FFS and managed care had rates for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator that exceeded the national benchmark.

Birth registry data and the APNCU metric consider the trimester in which a woman began her prenatal care, regardless of the payor for those services. As such, it is possible that a woman could begin prenatal care during her first trimester of pregnancy but only complete enrollment during the second or third trimester.

Table 3-9 presents the distribution of CY 2019 singleton births by Medicaid delivery system, MCO, and the trimester of prenatal care initiation regardless of payor.

Table 3-9—Singleton Births by Medicaid Delivery System, MCO, and Trimester of Prenatal Care Initiation, CY 2019

	First Trimester		Second Trimester		Third Trimester		No Prenatal Care		Unknown Trimester		Total
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Delivery System											
FFS	5,424	62.6%	1,872	21.6%	703	8.1%	382	4.4%	282	3.3%	8,663
Managed Care	20,436	71.4%	5,064	17.7%	1,386	4.8%	495	1.7%	1,237	4.3%	28,618
Total	**25,860**	**69.4%**	**6,936**	**18.6%**	**2,089**	**5.6%**	**877**	**2.4%**	**1,519**	**4.1%**	**37,281**
MCOs											
Aetna	2,445	71.4%	563	16.5%	181	5.3%	63	1.8%	170	5.0%	3,422
Health Keepers	6,272	71.7%	1,578	18.0%	387	4.4%	170	1.9%	342	3.9%	8,749
Magellan	1,373	69.5%	371	18.8%	114	5.8%	31	1.6%	86	4.4%	1,975

	First Trimester		Second Trimester		Third Trimester		No Prenatal Care		Unknown Trimester		Total
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Optima	4,480	74.3%	1,054	17.5%	243	4.0%	100	1.7%	153	2.5%	6,030
United Healthcare	1,822	68.3%	502	18.8%	152	5.7%	57	2.1%	134	5.0%	2,667
VA Premier	4,044	70.0%	996	17.2%	309	5.4%	74	1.3%	352	6.1%	5,775
MCO Total	**20,436**	**71.4%**	**5,064**	**17.7%**	**1,386**	**4.8%**	**495**	**1.7%**	**1,237**	**4.3%**	**28,618**

Approximately 71 percent of women enrolled in managed care initiated prenatal care during their first trimester, but initiation did vary by MCO, with Optima having the highest percentage of women initiate prenatal care during the first trimester and UnitedHealthcare having the lowest percentage of women initiate prenatal care during the first trimester.

Study Indicator Findings by Medicaid Program

Table 3-10 presents the study indicator results by Medicaid program for each measurement period.

Table 3-10—Overall Study Indicator Findings Among Singleton Births by Medicaid Program, CY 2017–CY 2019

Study Indicator	National Benchmark	CY 2017		CY 2018		CY 2019	
		Number	Percent	Number	Percent	Number	Percent
FAMIS MOMS[1]							
Births with Early and Adequate Prenatal Care	76.4%	1,233	78.3%	1,312	77.5%	1,626	78.3%
*Births with Inadequate Prenatal Care**	*NA*	*212*	*13.5%*	*228*	*13.5%*	*292*	*14.1%*
Preterm Births (<37 Weeks Gestation)*	9.4%	121	7.5%	136	7.7%	168	7.7%
Newborns with Low Birth Weight (<2,500g)*	9.5%	125	7.7%	131	7.4%	158	7.2%
Medicaid for Pregnant Women							
Births with Early and Adequate Prenatal Care	76.4%	16,681	72.9%	17,656	72.7%	18,459	72.6%
*Births with Inadequate Prenatal Care**	*NA*	*3,859*	*16.9%*	*4,079*	*16.8%*	*4,454*	*17.5%*
Preterm Births (<37 Weeks Gestation)*	9.4%	2,039	8.6%	2,285	8.8%	2,485	9.2%

Study Indicator	National Benchmark	CY 2017		CY 2018		CY 2019	
		Number	Percent	Number	Percent	Number	Percent
Newborns with Low Birth Weight (<2,500g)*	9.5%	1,976	8.4%	2,229	8.6%	2,283	8.4%
Medicaid Expansion							
Births with Early and Adequate Prenatal Care	76.4%	—	—	—	—	1,509	72.9%
*Births with Inadequate Prenatal Care**	*NA*	—	—	—	—	*353*	*17.1%*
Preterm Births (<37 Weeks Gestation)*	9.4%	—	—	—	—	275	12.2%
Newborns with Low Birth Weight (<2,500g)*	9.5%	—	—	—	—	239	10.6%
Other Medicaid†							
Births with Early and Adequate Prenatal Care	76.4%	3,939	68.7%	3,885	69.1%	3,669	69.3%
*Births with Inadequate Prenatal Care**	*NA*	*1,140*	*19.9%*	*1,061*	*18.9%*	*1,107*	*20.9%*
Preterm Births (<37 Weeks Gestation)*	9.4%	732	12.4%	747	12.3%	727	12.6%
Newborns with Low Birth Weight (<2,500g)*	9.5%	672	11.4%	724	11.9%	656	11.4%

[1]For FAMIS MOMS, the denominators for Births with Early and Adequate Prenatal Care and Births with Inadequate Prenatal Care were 1,575 (2017), 1,692 (2018), and 2,077 (2019). For Preterm Births (<37 Weeks Gestation) and Newborns with Low Birth Weight (<2,500g) the denominators were 1,621 (2017), 1,769 (2018), and 2,193 (2019).

**a lower rate indicates better performance for this indicator.*

—indicates Medicaid Expansion was not implemented until January 1, 2019; therefore, Medicaid Expansion study indicator results for CY 2017 and CY 2018 are not available.

† Other Medicaid includes births paid by Medicaid, but that do not fall into the FAMIS MOMS, Medicaid for Pregnant Women, and Medicaid Expansion programs.

Study indicator results were generally stable across the measurement periods for the FAMIS MOMS, Medicaid with Pregnant Women, and Other Medicaid programs. While the FAMIS MOMS program covers a limited number of women, these women had the highest rate of *Births with Early and Adequate Prenatal Care* and lowest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500g)* for all three measurement periods and exceeded the national benchmarks for all three measurement periods. Of note, the Medicaid Expansion and Other Medicaid program rates for the *Preterm Births (<37 Weeks Gestation)* study indicator fell below the national benchmark by a relative difference of 27 percent and 36 percent, respectively. Women in these populations may not have received all the necessary prenatal care as evidenced by the lower *Births with Early and Adequate Prenatal Care* study indicator rates for the Medicaid Expansion and Other Medicaid populations. Studies have shown that timely prenatal care is associated with fewer preterm births in the

United States.[3-2] Given that Medicaid Expansion was first implemented on January 1, 2019, DMAS should continue to closely monitor this population to assess changes in outcomes over time. Women in the Medicaid Expansion program, unlike the Medicaid for Pregnant Women and FAMIS MOMS programs, are typically enrolled in the program before the start of their pregnancy due to federal Medicaid rules. For this reason, it is possible that improvements in outcomes will occur over time as Medicaid Expansion enrollees have the opportunity to benefit from continuous coverage before pregnancy and between pregnancies.

Study Indicator Results Among the FAMIS MOMS Program

The FAMIS MOMS program uses Title XXI (CHIP Demonstration Waiver) funding to serve pregnant women with incomes up to 205 percent of the FPL, and these women account for approximately 5 percent of singleton births in each measurement period. Table 3-11 presents the distribution of women enrolled in FAMIS MOMS at delivery by Medicaid delivery system and measurement period.

Table 3-11—Distribution of Singleton Births Among Women in FAMIS MOMS by Medicaid Delivery System, CY 2017–2019

Overall Births	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
FFS	353	21.8%	353	19.9%	375	17.1%
Managed Care	1,268	78.2%	1,418	80.1%	1,818	82.9%
Total FAMIS MOMS Singleton Births	**1,621**	**100.0%**	**1,771**	**100.0%**	**2,193**	**100.0%**

Table 3-12, on the following page, presents the CY 2019 study indicator results for women enrolled in the FAMIS MOMS program at delivery by maternal managed care region of residence. As select regions have a limited number of singleton births, use caution when comparing study indicator findings between regions.

[3-2] Centers for Disease Control and Prevention. Preterm birth. Available at: https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm. Accessed on: Nov 30, 2020.

Table 3-12—Study Indicator Findings Among FAMIS MOMS Singleton Births by Managed Care Region of Maternal Residence, CY 2019

Managed Care Region of Maternal Residence	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Central	421	81.9%	55	10.7%	41	7.8%	39	7.4%
Charlottesville/ Western	193	82.8%	31	13.3%	17	7.1%	18	7.6%
Northern & Winchester	486	70.6%	134	19.5%	62	8.4%	55	7.5%
Roanoke/ Alleghany	131	78.9%	S	S	S	S	S	S
Southwest	48	90.6%	S	S	S	S	S	S
Tidewater	345	81.9%	53	12.6%	35	8.2%	37	8.7%
All Regions†	**1,626**	**78.3%**	**292**	**14.1%**	**168**	**7.7%**	**158**	**7.2%**

**a lower rate indicates better performance for this indicator.*

S *indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).*

† *Unknown managed care regions of maternal residence are included in the All Regions Totals.*

4. Conclusions and Recommendations

Conclusions

This study considered three quantitative indicators related to prenatal care and associated birth outcomes among births paid by Virginia Medicaid. Between the CY 2017 and CY 2019 measurement periods, study indicators related to prenatal care, preterm birth, and low birthweight showed opportunities for improvement for Virginia Medicaid members. Specifically, overall results for the *Births with Early and Adequate Prenatal Care* and *Newborns with Low Birth Weight (<2,500g)* indicators remained relatively stable from CY 2017 to CY 2019, while the *Preterm Births (<37 Weeks Gestation)* indicator results have been declining since CY 2017.

DMAS' implementation of the Medicaid Expansion program on January 1, 2019, provided an opportunity for DMAS and the MCOs to provide healthcare coverage to women who were not previously eligible for Medicaid. Research has shown that Medicaid Expansion programs have helped women get better health coverage before and after pregnancy, which leads to improved prenatal and postpartum care. Further, Medicaid Expansion programs also decrease the likelihood of women having fluctuations in their healthcare coverage, which is important for improving health outcomes for moms and babies.[4-1] While the study indicator results for the Medicaid Expansion program for CY 2019 demonstrate a need for improvement for this population, it is important to note that Medicaid Expansion was new in 2019; therefore, DMAS should monitor the population to assess that outcomes improve in the future.

The FAMIS MOMS program continued to outperform other Medicaid programs, though it is important to note that women enrolled in FAMIS MOMS have different income eligibility limits compared to other pregnant women (i.e., FAMIS MOMS covers women with incomes up to 205 percent of the FPL). However, it is beyond the scope of the current study to assess the degree to which study indicator results for women in FAMIS MOMS differ from study indicator results among women in other Medicaid programs on the basis of income-based eligibility requirements. Though limited in number, births to women enrolled in FAMIS MOMS, especially those with continuous enrollment greater than 90 days prior to delivery, had the highest rate of *Births with Early and Adequate Prenatal Care*, and the lowest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500g)*. While these rates remained stable over time, the promising results from this program suggest that it could offer a valuable starting point for assessing beneficiaries' satisfaction with care and underlying SDoH that may distinguish these women from other Medicaid beneficiaries.

[4-1] Searing A, Ross DC. Medicaid Expansion Fills Gaps in Maternal Health Coverage Leading to Healthier Mothers and Babies. Georgetown University Health Policy Institute Center for Children and Families. May 2019. Available at: https://ccf.georgetown.edu/wp-content/uploads/2019/05/Maternal-Health_FINAL-1.pdf. Accessed on: Dec 2, 2020.

Study Limitations

Study findings and conclusions may be affected by limitations related to the study design and source data. As such, caveats include, but are not limited to, the following:

- Study indicator and stratification results may be influenced by the accuracy and timeliness of the birth registry data and administrative Medicaid eligibility, enrollment, and demographic data used for calculations.
  - Additionally, study indicators rely on gestational estimate data from the birth registry. Reliability of these data, especially due to data collection practice variations in individual healthcare facilities, may have a disproportionate influence on regional study indicator results.[4-2]
- Healthy People 2030 goals are presented for comparison to Virginia Medicaid results for the *Births with Early and Adequate Prenatal Care* and *Preterm Births (<37 Weeks Gestation)* study indicators. Use caution when comparing study results to national benchmarks, as the benchmarks were derived from birth records covered by all payor types and may not mirror birth outcomes among women with births paid by Title XIX or Title XXI.
- The probabilistic data linkage process allows for manual data reviews to confirm or negate a potential match. The degree of manual review for each measurement period may result in annual differences in the number of birth certificates matched to enrollment data. Affected birth records tend to include women without SSNs and with differences in the names listed in the Medicaid and birth registry systems (e.g., names that are hyphenated and/or difficult to spell).
- The Commonwealth of Virginia allows presumptive eligibility for pregnant women to receive outpatient services, including prenatal care. However, DMAS does not cover inpatient care under the assumption that a woman will qualify for Title XIX or Title XXI benefits. VDSS, the agency responsible for determining Medicaid eligibility in Virginia, allows 10 days to process a Medicaid application from a pregnant woman; 45 days is allowed for processing if the pregnant woman applies for additional services beyond Medicaid (e.g., supplemental nutrition assistance). As such, a pregnant woman new to Medicaid may have up to a 45-day waiting period before being eligible to have inpatient services covered by Title XIX or Title XXI benefits. Women's understanding of Medicaid benefits and the timing of coverage may result in delayed initiation or continuation of prenatal care.
- As many pregnant women new to Medicaid may not be covered by Title XIX or Title XXI benefits until their second or third trimester, use caution when interpreting study findings. Due to the multifactorial nature of birth outcomes and the need for pre-pregnancy interventions, a single delivery system or Medicaid program may not have had adequate time to contact new Medicaid beneficiaries and subsequently impact birth outcomes.
- Due to differing methodologies and data sources, study findings are not comparable to the HEDIS *Timeliness of Prenatal Care* indicator results. Specifically, the HEDIS *Timeliness of Prenatal Care* indicator does not follow a calendar year measurement period, requires the woman to be continuously enrolled with the health plan for 43 days prior to delivery through 60 days after delivery, and only requires one prenatal care visit for numerator compliance.

[4-2] Dietz PM, Bombard JM, Hutchings YL, et. al. Validation of obstetric estimate of gestational age on US birth certificates. AM J Obstet Gynecol. Apr 2014; 2010(4): 335.e1-335.e5. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4560346/. Accessed on: Nov 22, 2019.

- Medicaid Expansion started on January 1, 2019, which may have impacted the study indicator results for the Medicaid Expansion program.

Recommendations

HSAG collaborated with DMAS to ensure that this study contributes to existing quality improvement data needs while informing current and future maternal and child health initiatives. As such, HSAG offers the following recommendations, based on the findings detailed in this report:

- Based on the Virginia PRAMS data, Virginia Medicaid women are more likely to be obese prior to pregnancy (30.4 percent), smoke during pregnancy (25.5 percent), and have a prior preterm birth (18.6 percent), and are less likely to receive prenatal care early (70.8 percent) when compared to women with private insurance.[4-3] Given that smoking during pregnancy is a risk factor for preterm births and low birthweight infants, opportunities exist for DMAS to ensure women of childbearing age and pregnant women are receiving tobacco cessation services.[4-4] By helping women of childbearing age stop smoking prior to becoming pregnant, DMAS can help women reduce risk factors for poor birth outcomes like preterm births and low birthweight infants. DMAS should continue to work with the MCOs to ensure robust utilization of tobacco cessation services available to pregnant women through their MCO and to leverage existing public health programs, like VDH's Quit Now Virginia program, to assist women of childbearing age to stop smoking.[4-5]
  - For future focus studies, DMAS should consider leveraging additional data fields from the vital statistics data (e.g., fields related to the number of cigarettes smoked in the three months prior to pregnancy and during each trimester of pregnancy) to monitor and help determine causes of poor birth outcomes. Additionally, the PRAMS data could be used to monitor and track the percentage of women smoking while pregnant to determine if initiatives to help women stop smoking prior to or while pregnant result in improvements.
- Given that Virginia expanded Medicaid in 2019 and the majority of Medicaid Expansion enrollees are women, DMAS launched a targeted outreach initiative to educate women about Medicaid coverage and benefits. There are opportunities to specifically target eligible women of childbearing age to enroll in Medicaid prior to them becoming pregnant. Research has shown that the Medicaid Expansion program in Ohio led to a 12 percent increase in Medicaid enrollment for first-time mothers prior to them becoming pregnant which resulted in large improvements in the timeliness of prenatal care for these women.[4-6] Further, by ensuring women have healthcare coverage prior to becoming pregnant, women can establish a primary care provider or gynecologist and receive necessary preventive care (e.g., taking folic acid) and management of conditions (e.g., diabetes, high blood pressure, obesity) that were previously left untreated or unmanaged. Improving the

[4-3] Virginia Department of Health. Pregnancy Risk Assessment Monitoring System Data. Available at: https://www.vdh.virginia.gov/prams/data/. Accessed on: Dec 3, 2020.

[4-4] Medicaid.gov. Pregnancy. Available at: https://www.medicaid.gov/medicaid/quality-of-care/quality-improvement-initiatives/tobacco-cessation/pregnancy/index.html. Accessed on: Dec 3, 2020.

[4-5] Virginia Department of Health. Quit Now Virginia. Available at: https://www.vdh.virginia.gov/tobacco-free-living/quit-now-virginia/. Accessed on: Dec 3, 2020.

[4-6] Searing A, Ross DC. Medicaid Expansion Fills Gaps in Maternal Health Coverage Leading to Healthier Mothers and Babies. Georgetown University Health Policy Institute Center for Children and Families. May 2019. Available at: https://ccf.georgetown.edu/wp-content/uploads/2019/05/Maternal-Health_FINAL-1.pdf. Accessed on: Dec 2, 2020.

health of a woman prior to conception will help ensure better outcomes for both the mom and baby.[4-7]

- Approximately 45 percent of annual pregnancies in the United States are unintended and unintended pregnancies are associated with negative health outcomes for both the mom and baby.[4-8] DMAS should evaluate if providers are offering family planning services to all Medicaid women of childbearing age. For women of childbearing age who are not pregnant and not eligible for Medicaid (i.e., above 138 percent FPL but below 205 percent FPL), DMAS should encourage these women take advantage of the free family planning services available through Virginia's Plan First program.[4-9] DMAS should also continue collaborating with other state and community partners facilitating family planning services, such as Title X programs provided through VDH.
- For future focus studies, DMAS should consider leveraging additional data fields in the vital statistics data to better understand the factors contributing to poor birth outcomes in Virginia. These fields include risk factors (pre-pregnancy and gestational diabetes and hypertension, and previous preterm births and poor pregnancy outcomes), mother's substance use before and during pregnancy (smoking, alcohol, and drug use), and mother's BMI before pregnancy and at delivery (i.e., the height and weight data can be used to determine the mother's BMI before and after the baby is born). Although data fields may be incomplete, HSAG can assess the data fields and leverage available data to help understand and provide additional context to the study indicator results.

DMAS' Input on Prior Focused Study Recommendations

In addition to the recommendations noted above, DMAS provided the following detailed feedback to HSAG regarding quality improvement actions and initiatives related to the 2018–19 Birth Outcomes Focused Study.

DMAS is committed to providing access to comprehensive care for pregnant and postpartum women and their babies enrolled in any one of Virginia Medicaid's health coverage programs. In order to address this goal and address maternal disparities as it relates to Governor Northam's 2025 initiative, DMAS revamped the Healthy Birthday Virginia initiative to Baby Steps VA.

The Baby Steps VA program includes six teams that will develop strategies to access and utilize available services, while addressing health disparities. These teams will focus on eligibility and enrollment, outreach and information, connections (provider, community and agencies), services and policies, and oversight (utilization and evaluation).

4-7 March of Dimes. Before or Between Pregnancies. Available at: https://www.marchofdimes.org/pregnancy/before-pregnancy.aspx#. Accessed on: Dec 3, 2020.

4-8 Healthy People 2020. Family Planning. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Available at: https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning. Accessed on: Dec 7, 2020.

4-9 Cover Virginia. Plan First. Available at: https://www.coverva.org/planfirst/. Accessed on: Dec 7, 2020.

Past and Current Activities

- Under Medicaid expansion, more women have sustained health coverage before, during and after pregnancy. The expanded coverage allows parenting women to continue Medicaid coverage past 60 days.
- Partnered with VDSS to streamline the enrollment process and give pregnant women near real time eligibility determinations so they are connected with doctors and other medical care without delay. DMAS will partner with VDSS and VHHA to investigate ways to quickly enroll newborns before the mother is discharged from the hospital.
- Collaborated with stakeholders on a variety of projects supporting pregnant and parenting people. Collaboration was geared towards furthering maternity program quality outcomes and engagement with a variety of partners such as VDH, VDSS, the Virginia DBHDS, VHHA, and VNPC.
- Increased the percentage of pregnant and parenting Medicaid members with SUD who are receiving treatment. The DMAS ARTS team partnered with VDH to facilitate a training about the need to obtain a waiver to prescribe buprenorphine. Forty-three providers utilized this training across the commonwealth including OB/GYN providers, a target group for the series.
- Partnered with the Early Impact Virginia Leadership Council to determine how to implement a home visiting benefit into Virginia Medicaid. The program was funded through the Governor's budget; however, the funds were unallotted due to the COVID-19 public health emergency.
- Launched a targeted outreach initiative to educate women about coverage and benefits through radio spots, and digital and social media. Increased utilization of social media platforms to share photos and videos that will raise awareness about various initiatives and campaigns related to maternal and infant health.
- Established a workgroup to explore Medicaid reimbursement for doula support services by reviewing federal requirements and permissibility, commonwealth regulations, and determining estimated cost to the commonwealth for the next six years. DMAS submitted the report in December 2020.
- Participating in the monthly CHCS Leveraging Midwifery-Led Care to Address Disparities and Equity in Medicaid Learning series.[4-10]
- Hosting monthly meetings with external speakers to learn about programs available. Developed monthly Baby Steps VA newsletter to keep agency and external partners abreast of activities.
- Continuing participation in the NASHP MCH PIP policy academy that will help to identify, promote, and advance innovative, state-level policy initiatives to improve access to care for Medicaid-eligible pregnant and parenting women with or at risk of SUD through healthcare delivery system transformation.[4-11] Focus is on two pilot sites; one in the Southwest region with Ballad Health and one in Richmond City with VCU Health, to gain information on best practices that can be applied to programs throughout the commonwealth.

[4-10] Center for Health Care Strategies, Inc. Leveraging Midwifery-Led Care to Address Disparities and Equity in Medicaid, July 2020. Available at: https://www.chcs.org/project/leveraging-midwifery-led-care-to-address-disparities-and-equity-in-medicaid/. Accessed on: Dec 7, 2020.

[4-11] Bonzon, E. New Eight-State Policy Academy Advances Access to Care for Pregnant/Parenting Women with SUD. National Academy for State Health Policy, April 2019. Available at: https://www.nashp.org/new-eight-state-policy-academy-advances-access-to-care-for-pregnant-parenting-women-with-sud/. Accessed on: Dec 7, 2020.

Appendix A: Demographic Characteristics of Study Members

Appendix A presents the demographic characteristics of women with singleton births during each measurement period from CY 2017 through CY 2019. Results for CY 2017 and CY 2018 were identified from the 2018–19 Prenatal Care and Birth Outcomes Focused Study, where applicable.[A-1] Use caution when comparing results over time due to variations in the level of manual review required for each year's probabilistically linked birth records.

Table A-1—Distribution of Singleton Births by Medicaid Characteristics, CY 2017–CY 2019

Overall Births	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Singleton Births Paid by Medicaid	31,142	100.0%	33,726	100.0%	37,281	100.0%
Medicaid Program*						
FAMIS MOMS	1,621	5.2%	1,771	5.3%	2,193	5.9%
Medicaid for Pregnant Women	23,618	75.8%	25,860	76.7%	27,071	72.6%
Medicaid Expansion	—	—	—	—	2,247	6.0%
Other Medicaid	5,903	19.0%	6,095	18.1%	5,770	15.5%
Medicaid Delivery System						
Fee-for-Service	7,887	25.3%	8,868	26.3%	8,663	23.2%
Managed Care	23,255	74.7%	24,856	73.7%	28,618	76.8%

**Due to rounding, the percentages for the CY 2018 Medicaid Program results do not sum to 100 percent. —indicates Medicaid Expansion was not implemented until January 1, 2019; therefore, there were no births covered by the Medicaid Expansion program during CY 2017 or CY 2018.*

Table A-2—Distribution of Singleton Births by Demographic Category, CY 2017–CY 2019

Demographic Category	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Singleton Births Paid by Medicaid	31,142	100.0%	33,726	100.0%	37,281	100.0%
Maternal Age Category						
15 Years and Younger	73	0.2%	96	0.3%	100	0.3%
16–17 Years	471	1.5%	516	1.5%	565	1.5%
18–20 Years	3,663	11.8%	3,855	11.4%	4,118	11.0%

[A-1] Health Services Advisory Group, Inc. *2018–19 Prenatal Care and Birth Outcomes Focused Study*. Commonwealth of VA, Department of Medical Assistance Services; October 2020.

Demographic Category	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
21–24 Years	8,219	26.4%	8,258	24.5%	8,778	23.5%
25–29 Years	9,862	31.7%	10,431	30.9%	11,292	30.3%
30–34 Years	5,715	18.4%	6,685	19.8%	7,773	20.8%
35–39 Years	2,586	8.3%	3,140	9.3%	3,735	10.0%
40–44 Years	517	1.7%	696	2.1%	835	2.2%
45 Years and Older	S	S	34	0.1%	54	0.1%
Unknown	S	S	15	0.0%	31	0.1%
Maternal Race/Ethnicity Category						
White, Non-Hispanic	13,265	42.6%	14,095	41.8%	14,320	38.4%
Black, Non-Hispanic	11,910	38.2%	12,333	36.6%	12,865	34.5%
Asian, Non-Hispanic	1,212	3.9%	1,272	3.8%	1,282	3.4%
Hispanic, Any Race	3,763	12.1%	5,692	16.9%	8,259	22.2%
Other/Unknown	992	3.2%	334	1.0%	555	1.5%

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).

Table A-3—Distribution of Singleton Births by Medicaid Delivery System and Program, CY 2017–CY 2019

Medicaid Delivery System	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
FAMIS MOMS						
Fee-for-Service	353	21.8%	353	19.9%	375	17.1%
Managed Care	1,268	78.2%	1,418	80.1%	1,818	82.9%
Total Singleton Births	1,621	100.0%	1,771	100.0%	2,193	100.0%
Medicaid for Pregnant Women						
Fee-for-Service	6,108	25.9%	7,312	28.3%	6,960	25.7%
Managed Care	17,510	74.1%	18,548	71.7%	20,111	74.3%
Total Singleton Births	23,618	100.0%	25,860	100.0%	27,071	100.0%
Medicaid Expansion						
Fee-for-Service	—	—	—	—	323	14.4%
Managed Care	—	—	—	—	1,924	85.6%
Total Singleton Births	—	—	—	—	2,247	100.0%
Other Medicaid Program						

Medicaid Delivery System	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Fee-for-Service	1,426	24.2%	2,049	33.6%	1,005	17.4%
Managed Care	4,477	75.8%	4,046	66.4%	4,765	82.6%
Total Singleton Births	5,903	100.0%	6,095	100.0%	5,770	100.0%

—indicates Medicaid Expansion was not implemented until January 1, 2019; therefore, there were no births covered by the Medicaid Expansion program during CY 2017 or CY 2018.

Table A-4—Distribution of Singleton Births by Medicaid Program and Demographic Category, CY 2017–CY 2019

Demographic Category	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
FAMIS MOMS						
Singleton Births Paid by Medicaid	1,621	100.0%	1,771	100.0%	2,193	100.0%
Maternal Age Category						
15 Years and Younger	S	S	0	0.0%	S	S
16–17 Years	S	S	12	0.7%	12	0.5%
18–20 Years	80	4.9%	90	5.1%	106	4.8%
21–24 Years	362	22.3%	375	21.2%	460	21.0%
25–29 Years	596	36.8%	648	36.6%	740	33.7%
30–34 Years	366	22.6%	389	22.0%	556	25.4%
35–39 Years	172	10.6%	208	11.7%	246	11.2%
40–44 Years	34	2.1%	47	2.7%	66	3.0%
45 Years and Older	S	S	S	S	S	S
Unknown	S	S	S	S	0	0.0%
Maternal Race/Ethnicity Category						
White, Non-Hispanic	701	43.2%	793	44.8%	949	43.3%
Black, Non-Hispanic	495	30.5%	552	31.2%	687	31.3%
Asian, Non-Hispanic	135	8.3%	128	7.2%	166	7.6%
Hispanic, Any Race	238	14.7%	271	15.3%	343	15.6%
Other/Unknown	52	3.2%	27	1.5%	48	2.2%
Medicaid for Pregnant Women						
Singleton Births Paid by Medicaid	23,618	100.0%	25,860	100.0%	27,071	100.0%
Maternal Age Category						

Demographic Category	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
15 Years and Younger	S	S	S	S	S	S
16–17 Years	16	0.1%	18	0.1%	S	S
18–20 Years	2,542	10.8%	2,688	10.4%	2,704	10.0%
21–24 Years	6,691	28.3%	6,778	26.2%	6,844	25.3%
25–29 Years	7,593	32.1%	8,113	31.4%	8,385	31.0%
30–34 Years	4,353	18.4%	5,224	20.2%	5,647	20.9%
35–39 Years	1,990	8.4%	2,445	9.5%	2,751	10.2%
40–44 Years	401	1.7%	552	2.1%	643	2.4%
45 Years and Older	30	0.1%	28	0.1%	40	0.1%
Unknown	S	S	S	S	28	0.1%
Maternal Race/Ethnicity Category						
White, Non-Hispanic	10,335	43.8%	10,925	42.2%	10,208	37.7%
Black, Non-Hispanic	8,475	35.9%	8,876	34.3%	8,630	31.9%
Asian, Non-Hispanic	990	4.2%	1,051	4.1%	968	3.6%
Hispanic, Any Race	3,033	12.8%	4,756	18.4%	6,852	25.3%
Other/Unknown	785	3.3%	252	1.0%	413	1.5%
Medicaid Expansion						
Singleton Births Paid by Medicaid	—	—	—	—	2,247	100.0%
Maternal Age Category						
15 Years and Younger	—	—	—	—	S	S
16–17 Years	—	—	—	—	S	S
18–20 Years	—	—	—	—	193	8.6%
21–24 Years	—	—	—	—	508	22.6%
25–29 Years	—	—	—	—	695	30.9%
30–34 Years	—	—	—	—	528	23.5%
35–39 Years	—	—	—	—	271	12.1%
40–44 Years	—	—	—	—	47	2.1%
45 Years and Older	—	—	—	—	S	S
Unknown	—	—	—	—	S	S
Maternal Race/Ethnicity Category						
White, Non-Hispanic	—	—	—	—	944	42.0%
Black, Non-Hispanic	—	—	—	—	920	40.9%

Demographic Category	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Asian, Non-Hispanic	—	—	—	—	90	4.0%
Hispanic, Any Race	—	—	—	—	267	11.9%
Other/Unknown	—	—	—	—	26	1.2%
Other Medicaid Program						
Singleton Births Paid by Medicaid	5,903	100.0%	6,095	100.0%	5,770	100.0%
Maternal Age Category						
15 Years and Younger	70	1.2%	93	1.5%	95	1.6%
16–17 Years	448	7.6%	486	8.0%	527	9.1%
18–20 Years	1,041	17.6%	1,077	17.7%	1,115	19.3%
21–24 Years	1,166	19.8%	1,105	18.1%	966	16.7%
25–29 Years	1,673	28.3%	1,670	27.4%	1,472	25.5%
30–34 Years	996	16.9%	1,072	17.6%	1,042	18.1%
35–39 Years	424	7.2%	487	8.0%	467	8.1%
40–44 Years	82	1.4%	97	1.6%	79	1.4%
45 Years and Older	S	S	S	S	S	S
Unknown	S	S	S	S	S	S
Maternal Race/Ethnicity Category						
White, Non-Hispanic	2,229	37.8%	2,377	39.0%	2,219	38.5%
Black, Non-Hispanic	2,940	49.8%	2,905	47.7%	2,628	45.5%
Asian, Non-Hispanic	87	1.5%	93	1.5%	58	1.0%
Hispanic, Any Race	492	8.3%	665	10.9%	797	13.8%
Other/Unknown	155	2.6%	55	0.9%	68	1.2%

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).
—indicates Medicaid Expansion was not implemented until January 1, 2019; therefore, there were no births covered by the Medicaid Expansion program during CY 2017 or CY 2018.

Table A-5—Distribution of Singleton Births by Medicaid Delivery System and Demographic Category, CY 2017–CY 2019

Demographic Category	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
Fee-for-Service						
Singleton Births Paid by Medicaid	7,887	100.0%	8,868	100.0%	8,663	100.0%
Maternal Age Category						
15 Years and Younger	12	0.2%	19	0.2%	S	S
16–17 Years	84	1.1%	95	1.1%	141	1.6%
18–20 Years	1,004	12.7%	1,024	11.5%	935	10.8%
21–24 Years	2,166	27.5%	2,158	24.3%	1,741	20.1%
25–29 Years	2,355	29.9%	2,515	28.4%	2,296	26.5%
30–34 Years	1,372	17.4%	1,795	20.2%	1,997	23.1%
35–39 Years	730	9.3%	979	11.0%	1,188	13.7%
40–44 Years	153	1.9%	265	3.0%	309	3.6%
45 Years and Older	S	S	S	S	S	S
Unknown	S	S	S	S	S	S
Maternal Race/Ethnicity Category						
White, Non-Hispanic	3,233	41.0%	3,126	35.3%	1,767	20.4%
Black, Non-Hispanic	2,559	32.4%	2,223	25.1%	1,322	15.3%
Asian, Non-Hispanic	276	3.5%	269	3.0%	265	3.1%
Hispanic, Any Race	1,596	20.2%	3,161	35.6%	5,158	59.5%
Other/Unknown	223	2.8%	89	1.0%	151	1.7%
Managed Care						
Singleton Births Paid by Medicaid	23,255	100.0%	24,856	100.0%	28,618	100.0%
Maternal Age Category						
15 Years and Younger	61	0.3%	77	0.3%	77	0.3%
16–17 Years	387	1.7%	420	1.7%	424	1.5%
18–20 Years	2,659	11.4%	2,831	11.4%	3,183	11.1%
21–24 Years	6,053	26.0%	6,099	24.5%	7,037	24.6%
25–29 Years	7,507	32.3%	7,916	31.8%	8,996	31.4%
30–34 Years	4,343	18.7%	4,890	19.7%	5,776	20.2%
35–39 Years	1,856	8.0%	2,161	8.7%	2,547	8.9%
40–44 Years	364	1.6%	431	1.7%	526	1.8%

Demographic Category	CY 2017		CY 2018		CY 2019	
	Number	Percent	Number	Percent	Number	Percent
45 Years and Older	S	S	18	0.1%	31	0.1%
Unknown	S	S	13	0.1%	21	0.1%
Maternal Race/Ethnicity Category						
White, Non-Hispanic	10,032	43.1%	10,968	44.1%	12,553	43.9%
Black, Non-Hispanic	9,351	40.2%	10,109	40.7%	11,543	40.3%
Asian, Non-Hispanic	936	4.0%	1,003	4.0%	1,017	3.6%
Hispanic, Any Race	2,167	9.3%	2,531	10.2%	3,101	10.8%
Other/Unknown	769	3.3%	245	1.0%	404	1.4%

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).

Table A-6—Distribution of CY 2019 Singleton Births by Maternal Managed Care Characteristics

Medicaid Characteristics	CY 2019	
	Number	Percent
Singleton Births Paid by Medicaid	37,281	100.0%
Delivery System		
Fee-for-Service	8,663	23.2%
Managed Care	28,618	76.8%
Managed Care		
Program		
Medallion 4.0	25,850	69.3%
FAMIS	1,859	5.0%
CCC Plus	909	2.4%
MCO		
Aetna	3,422	9.2%
HealthKeepers	8,749	23.5%
Magellan	1,975	5.3%
Optima	6,030	16.2%
UnitedHealthcare	2,667	7.2%
VA Premier	5,775	15.5%
Managed Care Enrollment Category		
Not Enrolled with an MCO Prior to Delivery	7,976	21.4%
Enrolled with one MCO Prior to Delivery	26,398	70.8%

Medicaid Characteristics	CY 2019	
	Number	Percent
Enrolled with More than One MCO Prior to Delivery	2,907	7.8%
Length of Continuous Enrollment Prior to Delivery		
Not Continuously Enrolled Prior to Delivery	2,894	7.8%
≤30 Days	3,072	8.2%
31–90 Days	2,085	5.6%
91–180 Days	4,089	11.0%
≥180 Days	25,141	67.4%

Note: Due to rounding, the percentages in each column may not sum to 100 percent.

Table A-7—Distribution of CY 2019 Singleton Births by Selected Demographic Categories

Demographic Category	CY 2019	
	Number	Percent
Singleton Births Paid by Medicaid	37,281	100.0%
Region		
Central	9,050	24.3%
Charlottesville/Western	4,419	11.9%
Northern & Winchester	10,207	27.4%
Roanoke/Alleghany	3,326	8.9%
Southwest	1,901	5.1%
Tidewater	8,322	22.3%
No Region Listed	56	0.2%
Maternal Gravidity		
No Prior Pregnancy	10,910	29.3%
Had Prior Pregnancy	26,366	70.7%
Trimester of Prenatal Care Initiation		
1st	25,860	69.4%
2nd	6,936	18.6%
3rd	2,089	5.6%
No Prenatal Care	877	2.4%
Unknown Trimester	1,519	4.1%

Note: Due to rounding, the percentages in each column may not sum to 100 percent.

Appendix B: Detailed Findings by Study Indicator

Study Indicators by Additional Populations

Table B-1—Overall Study Indicator Findings Among Singleton Births for Primigravida† Women, CY 2019

Overall Births	National Benchmark	CY 2019	
		Number	Percent
Births with Early and Adequate Prenatal Care	76.4%	7,532	73.6%
*Births with Inadequate Prenatal Care**	*NA*	*1,705*	*16.7%*
Preterm Births (<37 Weeks Gestation)*	9.4%	1,000	9.2%
Newborns with Low Birth Weight (<2,500g)*	9.5%	1,088	10.0%

† Primigravida refers to women with no prior pregnancies.

**a lower rate indicates better performance for this indicator.*

NA indicates there is not an applicable national benchmark for this indicator.

Detailed Findings—Adequacy of Prenatal Care

Figure B-1—Percentage of Singleton Births with Early and Adequate Prenatal Care by Managed Care Region, CY 2019

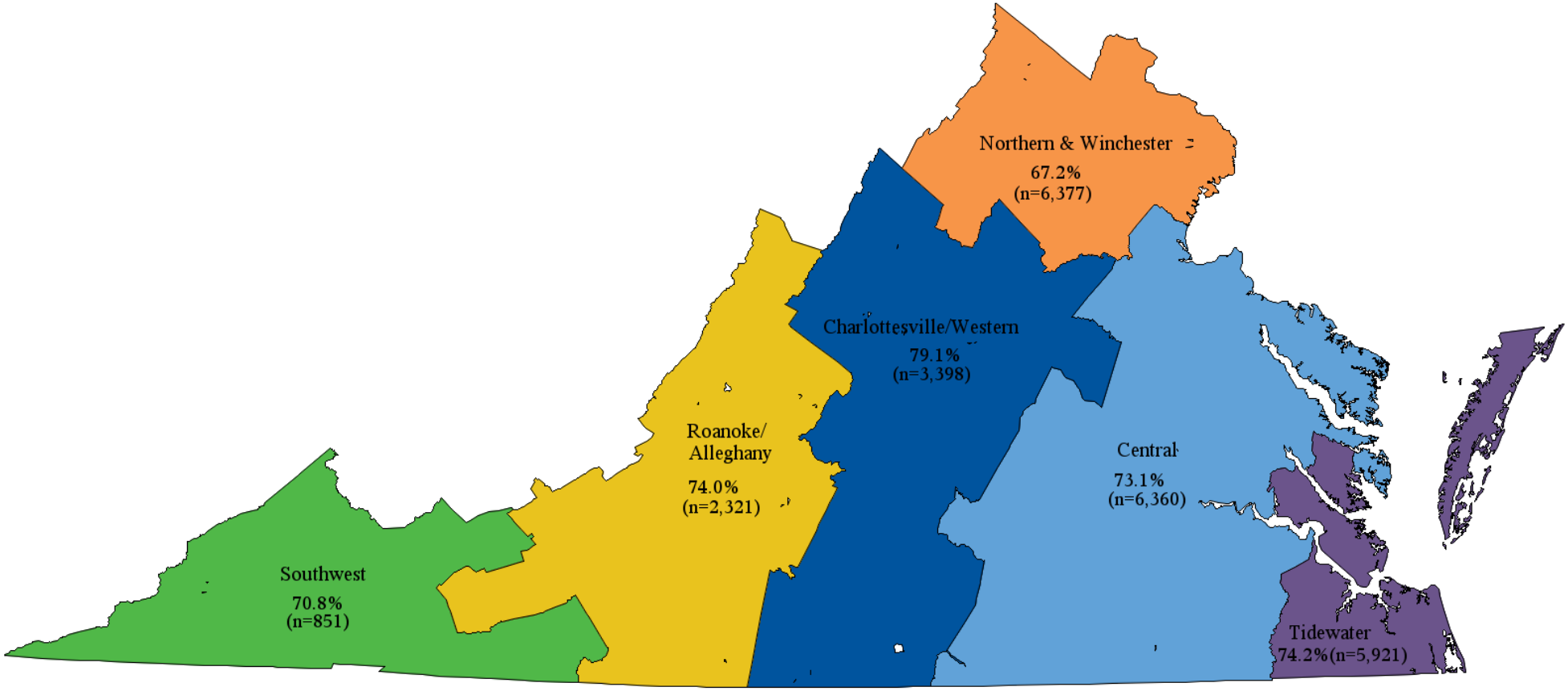
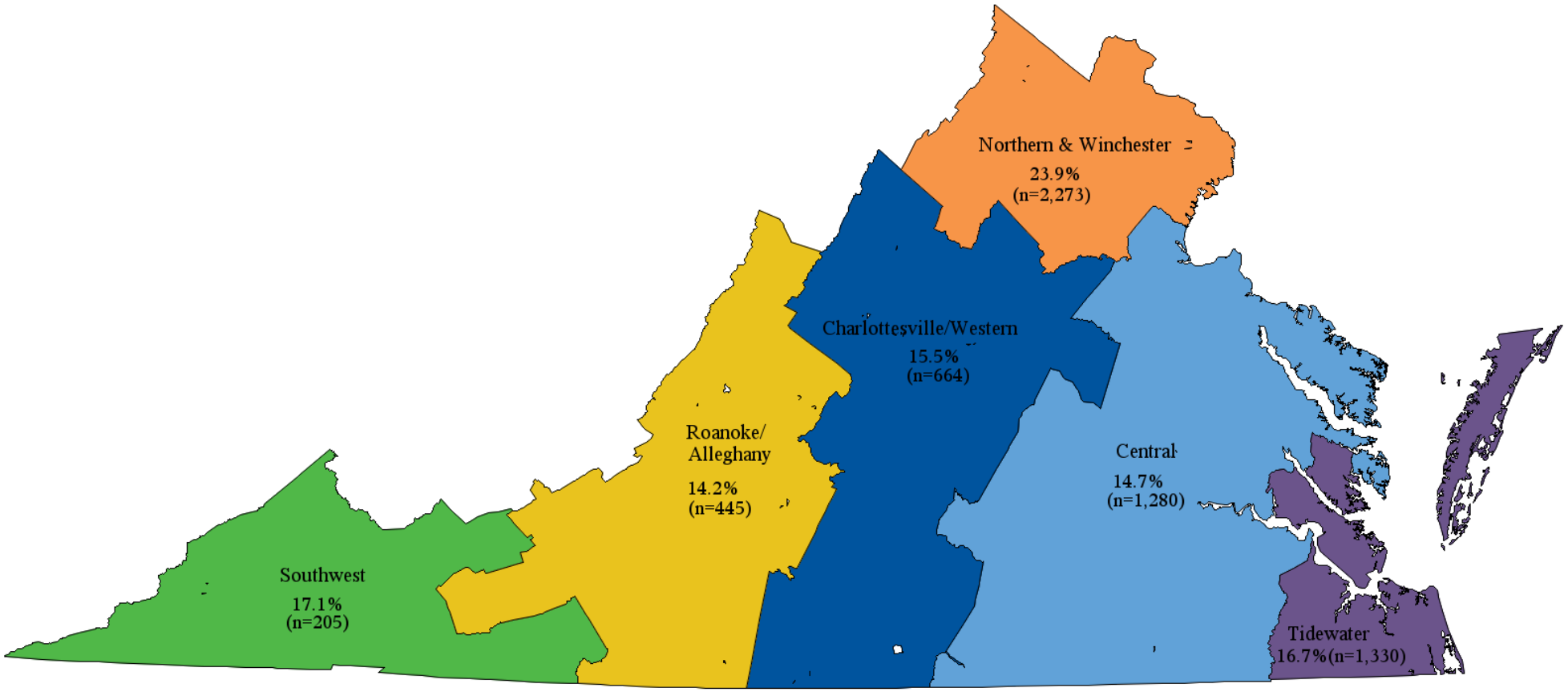


Figure B-2—Percentage of Singleton Births with Inadequate Prenatal Care by Managed Care Region, CY 2019*



**a lower rate indicates better performance for this indicator.*

Table B-2—Distribution of Singleton Births by Prenatal Care (PNC) Indicator and Maternal Age at Delivery, CY 2017–CY 2019

Maternal Age at Delivery	Missing Information			Inadequate PNC			Intermediate PNC			Adequate PNC			Adequate Plus PNC			Total		
	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019
Singleton Births (n)	**957**	**2,133**	**2,422**	**5,211**	**5,368**	**6,206**	**3,121**	**3,372**	**3,390**	**12,567**	**13,274**	**13,965**	**9,286**	**9,579**	**11,298**	**31,142**	**33,726**	**37,281**
≤15 Years	S	S	S	0.4%	0.6%	0.5%	S	S	S	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	**0.2%**	**0.3%**	**0.3%**
16–17 Years	1.8%	1.8%	1.5%	1.8%	2.1%	2.3%	1.8%	1.8%	1.6%	1.5%	1.3%	1.3%	1.3%	1.4%	1.4%	**1.5%**	**1.5%**	**1.5%**
18–20 Years	14.9%	13.6%	12.9%	13.1%	12.2%	11.7%	12.0%	12.6%	12.2%	11.5%	11.1%	11.1%	10.9%	10.5%	9.9%	**11.8%**	**11.4%**	**11.0%**
21–24 Years	25.3%	24.8%	25.8%	26.4%	24.4%	23.2%	27.2%	24.6%	24.7%	26.9%	25.4%	24.0%	25.5%	23.2%	22.3%	**26.4%**	**24.5%**	**23.5%**
25–29 Years	29.4%	29.5%	28.1%	30.7%	30.0%	28.6%	30.4%	30.0%	30.6%	32.1%	31.5%	31.0%	32.3%	31.3%	30.7%	**31.7%**	**30.9%**	**30.3%**
30–34 Years	17.3%	17.7%	19.7%	17.8%	19.3%	20.7%	18.5%	19.9%	19.1%	18.3%	19.7%	20.7%	18.7%	20.7%	21.9%	**18.4%**	**19.8%**	**20.8%**
35–39 Years	8.5%	10.0%	9.2%	8.1%	9.1%	10.0%	8.0%	9.0%	9.5%	8.0%	8.8%	9.8%	8.9%	10.1%	10.7%	**8.3%**	**9.3%**	**10.0%**
40–44 Years	2.1%	2.1%	2.3%	1.5%	2.1%	2.5%	1.7%	1.7%	1.9%	1.4%	1.8%	1.8%	2.0%	2.5%	2.7%	**1.7%**	**2.1%**	**2.2%**
≥45 Years	S	0.0%	S	S	S	0.3%	S	S	S	0.1%	S	0.1%	S	S	0.2%	**0.1%**	**S**	**0.1%**
Unknown	0.0%	S	S	S	S	S	0.0%	S	S	0.0%	S	S	S	S	S	**0.0%**	**S**	**0.1%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).

Table B-3—Distribution of Singleton Births by PNC Indicator and Maternal Race/Ethnicity, CY 2017–CY 2019

Maternal Race/ Ethnicity	Missing Information			Inadequate PNC			Intermediate PNC			Adequate PNC			Adequate Plus PNC			Total		
	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019
Singleton Births (n)	**957**	**2,133**	**2,422**	**5,211**	**5,368**	**6,206**	**3,121**	**3,372**	**3,390**	**12,567**	**13,274**	**13,965**	**9,286**	**9,579**	**11,298**	**31,142**	**33,726**	**37,281**
White, Non-Hispanic	63.8%	59.4%	49.9%	37.2%	36.2%	31.8%	36.7%	36.2%	34.1%	44.1%	42.5%	40.1%	43.5%	42.0%	38.8%	**42.6%**	**41.8%**	**38.4%**
Black, Non-Hispanic	23.4%	24.9%	26.1%	40.3%	38.7%	33.7%	43.5%	39.9%	36.7%	35.9%	35.2%	33.4%	40.1%	38.6%	37.5%	**38.2%**	**36.6%**	**34.5%**
Asian, Non-Hispanic	3.4%	1.7%	2.9%	4.1%	4.3%	3.8%	3.5%	3.8%	3.2%	4.5%	4.2%	3.7%	3.1%	3.4%	3.1%	**3.9%**	**3.8%**	**3.4%**
Hispanic, Any Race	7.4%	12.8%	19.5%	14.9%	19.8%	29.1%	13.8%	19.2%	24.1%	12.1%	17.0%	21.4%	10.3%	15.2%	19.2%	**12.1%**	**16.9%**	**22.2%**
Other/ Unknown	1.9%	1.2%	1.6%	3.6%	1.0%	1.7%	2.6%	0.9%	1.9%	3.4%	1.1%	1.4%	3.0%	0.8%	1.4%	**3.2%**	**1.0%**	**1.5%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.

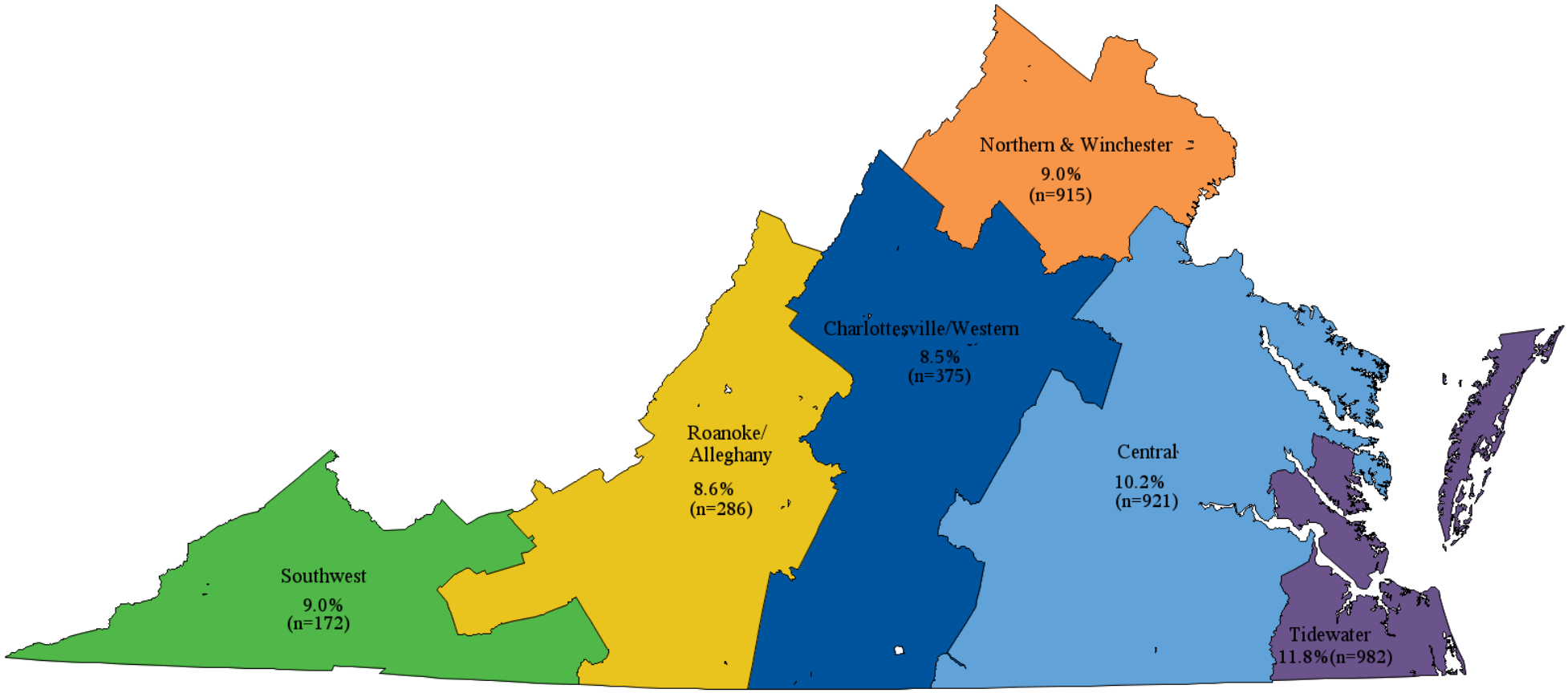
Table B-4—Distribution of Singleton Births by PNC Indicator and Maternal Managed Care Region of Residence, CY 2019

Maternal Region of Residence	Missing Information	Inadequate PNC	Intermediate PNC	Adequate PNC	Adequate Plus PNC	Total
Singleton Births (n)	**2,422**	**6,206**	**3,390**	**13,965**	**11,298**	**37,281**
Central	14.3%	20.6%	31.4%	27.2%	22.7%	**24.3%**
Charlottesville/Western	5.2%	10.7%	6.8%	12.7%	14.4%	**11.9%**
Northern & Winchester	29.6%	36.6%	24.8%	26.8%	23.3%	**27.4%**
Roanoke/Alleghany	7.8%	7.2%	10.9%	10.5%	7.6%	**8.9%**
Southwest	28.9%	3.3%	4.3%	3.5%	3.2%	**5.1%**
Tidewater	14.1%	21.4%	21.5%	19.2%	28.6%	**22.3%**
No Region Listed	S	S	S	0.1%	0.2%	**0.2%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).

Detailed Findings—Preterm Births

Figure B-3—Percentage of Preterm Singleton Births (<37 Weeks) by Managed Care Region, CY 2019*



**a lower rate indicates better performance for this indicator.*

Table B-5—Distribution of Singleton Births by Preterm Birth Indicator and Maternal Age at Delivery, CY 2017–CY 2019

Maternal Age at Delivery	Preterm Births (<37 Weeks)			Early-Term Births (37–38 Weeks)			Full/Late-Term Births (39–41 Weeks)			Post-Term Births (≥42 Weeks)			Unknown			Total		
	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019
Singleton Births (n)	**2,892**	**3,168**	**3,655**	**8,182**	**9,331**	**10,482**	**19,935**	**21,109**	**23,050**	**86**	**83**	**90**	**47**	**35**	**S**	**31,142**	**33,726**	**37,281**
≤15 Years	0.4%	0.3%	0.4%	0.2%	0.3%	0.2%	0.2%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	S	S	**0.2%**	**0.3%**	**0.3%**
16–17 Years	1.8%	1.9%	1.6%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	0.0%	S	0.0%	S	S	S	**1.5%**	**1.5%**	**1.5%**
18–20 Years	10.4%	10.9%	10.2%	11.0%	10.7%	10.3%	12.2%	11.8%	11.5%	15.1%	S	S	S	S	S	**11.8%**	**11.4%**	**11.0%**
21–24 Years	21.7%	21.4%	20.7%	25.8%	23.2%	22.8%	27.4%	25.5%	24.3%	20.9%	26.5%	28.9%	23.4%	S	S	**26.4%**	**24.5%**	**23.5%**
25–29 Years	31.5%	29.4%	28.0%	31.1%	30.9%	29.7%	31.9%	31.2%	30.9%	32.6%	28.9%	34.4%	36.2%	28.6%	S	**31.7%**	**30.9%**	**30.3%**
30–34 Years	19.8%	20.7%	23.4%	19.3%	20.4%	21.8%	17.7%	19.4%	20.0%	20.9%	24.1%	16.7%	25.5%	S	S	**18.4%**	**19.8%**	**20.8%**
35–39 Years	11.3%	12.6%	11.8%	8.7%	10.2%	10.8%	7.7%	8.4%	9.4%	S	S	S	S	S	S	**8.3%**	**9.3%**	**10.0%**
40–44 Years	2.9%	2.7%	3.6%	2.1%	2.6%	2.5%	1.3%	1.7%	1.9%	2.3%	0.0%	S	S	S	S	**1.7%**	**2.1%**	**2.2%**
≥45 Years	S	S	S	0.2%	S	0.2%	0.1%	0.1%	0.1%	S	0.0%	0.0%	0.0%	0.0%	S	**0.1%**	**0.1%**	**0.1%**
Unknown	S	S	S	0.0%	S	0.1%	0.0%	0.1%	0.1%	S	0.0%	0.0%	0.0%	0.0%	S	**0.0%**	**0.0%**	**0.1%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).

Table B-6—Distribution of Singleton Births by Preterm Birth Indicator and Maternal Race/Ethnicity, CY 2017–CY 2019

Maternal Race/ Ethnicity	Preterm Births (<37 Weeks)			Early-Term Births (37–38 Weeks)			Full/Late-Term Births (39–41 Weeks)			Post-Term Births (≥42 Weeks)			Unknown			Total		
	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019
Singleton Births (n)	**2,892**	**3,168**	**3,655**	**8,182**	**9,331**	**10,482**	**19,935**	**21,109**	**23,050**	**86**	**83**	**90**	**47**	**35**	**S**	**31,142**	**33,726**	**37,281**
White, Non-Hispanic	38.3%	36.8%	34.3%	39.4%	38.8%	36.6%	44.5%	43.8%	39.8%	57.0%	61.4%	55.6%	34.0%	48.6%	S	**42.6%**	**41.8%**	**38.4%**
Black, Non-Hispanic	46.3%	44.9%	42.7%	41.4%	39.7%	36.5%	35.8%	34.0%	32.3%	29.1%	24.1%	24.4%	55.3%	45.7%	S	**38.2%**	**36.6%**	**34.5%**

Maternal Race/ Ethnicity	Preterm Births (<37 Weeks)			Early-Term Births (37–38 Weeks)			Full/Late-Term Births (39–41 Weeks)			Post-Term Births (≥42 Weeks)			Unknown			Total		
	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019
Asian, Non-Hispanic	2.6%	3.3%	2.9%	4.0%	3.8%	3.2%	4.1%	3.9%	3.6%	S	S	S	0.0%	0.0%	S	**3.9%**	**3.8%**	**3.4%**
Hispanic, Any Race	10.2%	14.1%	18.4%	12.4%	16.7%	22.4%	12.3%	17.4%	22.6%	S	S	15.6%	S	S	S	**12.1%**	**16.9%**	**22.2%**
Other/ Unknown	2.6%	0.9%	1.7%	2.9%	1.0%	1.3%	3.4%	1.0%	1.5%	S	S	S	S	S	S	**3.2%**	**1.0%**	**1.5%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S *indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).*

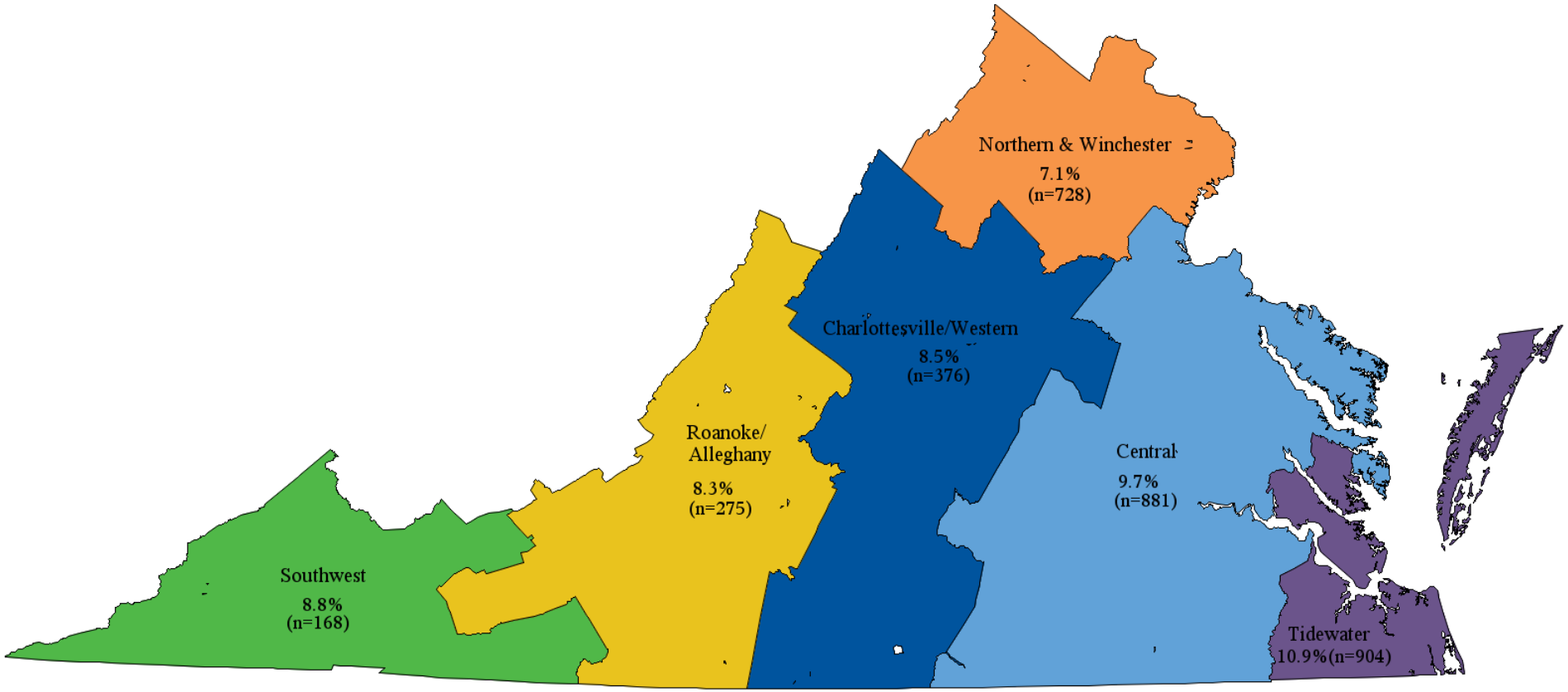
Table B-7—Distribution of Singleton Births by Preterm Birth Indicator and Maternal Managed Care Region of Residence, CY 2019

Maternal Region of Residence	Preterm Births (<37 weeks)	Early-Term Births (37–38 Weeks)	Full/Late-Term Births (39–41 Weeks)	Post-Term Births (≥42 Weeks)	Total
Singleton Births (n)	**3,655**	**10,482**	**23,050**	**90**	**37,281**
Central	25.2%	25.9%	23.4%	22.2%	**24.3%**
Charlottesville/Western	10.3%	11.0%	12.4%	30.0%	**11.9%**
Northern & Winchester	25.0%	25.8%	28.5%	21.1%	**27.4%**
Roanoke/Alleghany	7.8%	8.5%	9.3%	S	**8.9%**
Southwest	4.7%	5.8%	4.8%	S	**5.1%**
Tidewater	26.9%	22.7%	21.5%	14.4%	**22.3%**
No Region Listed	S	0.2%	0.1%	0.0%	**0.2%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S *indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).*

Detailed Findings—Birth Weight

Figure B-4—Percentage of Low Birth Weight Singleton Births (<2,500 Grams) by Managed Care Region, CY 2019*



**a lower rate indicates better performance for this indicator.*

Table B-8—Distribution of Singleton Births by Birth Weight Indicator and Maternal Age at Delivery, CY 2017–CY 2019

Maternal Age at Delivery	Very Low Birth Weight (<1,500g)			Moderately Low Birth Weight (1,500g–2,499g)			Normal Birth Weight (≥2,500g)			Total		
	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019
Singleton Births (n)	**500**	**538**	**603**	**2,273**	**2,546**	**2,733**	**28,366**	**30,631**	**33,937**	**31,142**	**33,726**	**37,281**
≤15 Years	S	0.2%	S	S	S	0.5%	0.2%	0.3%	0.2%	**0.2%**	**0.3%**	**0.3%**
16–17 Years	S	S	1.8%	1.6%	1.8%	2.2%	1.5%	1.5%	1.5%	**1.5%**	**1.5%**	**1.5%**
18–20 Years	11.8%	12.3%	10.4%	11.3%	11.8%	11.4%	11.8%	11.4%	11.0%	**11.8%**	**11.4%**	**11.0%**
21–24 Years	21.8%	20.6%	22.7%	24.5%	22.9%	23.6%	26.6%	24.7%	23.6%	**26.4%**	**24.5%**	**23.5%**
25–29 Years	28.8%	26.4%	27.5%	32.9%	29.1%	27.3%	31.6%	31.2%	30.6%	**31.7%**	**30.9%**	**30.3%**
30–34 Years	21.0%	22.5%	21.7%	18.2%	20.0%	21.4%	18.3%	19.8%	20.8%	**18.4%**	**19.8%**	**20.8%**
35–39 Years	11.0%	11.2%	12.1%	8.8%	11.9%	10.4%	8.2%	9.1%	9.9%	**8.3%**	**9.3%**	**10.0%**
40–44 Years	3.2%	4.8%	3.0%	2.2%	2.3%	2.9%	1.6%	2.0%	2.2%	**1.7%**	**2.1%**	**2.2%**
≥45 Years	S	S	S	S	0.0%	S	0.1%	0.1%	0.1%	**0.1%**	**0.1%**	**0.1%**
Unknown	0.0%	0.0%	0.0%	0.0%	S	S	0.0%	0.0%	0.1%	**0.0%**	**0.0%**	**0.1%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).

Table B-9—Distribution of Singleton Births by Birth Weight Indicator and Maternal Race/Ethnicity, CY 2017–CY 2019

Maternal Race/ Ethnicity	Very Low Birth Weight (<1,500g)			Moderately Low Birth Weight (1,500g–2,499g)			Normal Birth Weight (≥2,500g)			Total		
	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019
Singleton Births (n)	500	538	603	2,273	2,546	2,733	28,366	30,631	33,937	31,142	33,726	37,281
White, Non-Hispanic	25.4%	28.8%	26.9%	36.7%	36.3%	33.1%	43.4%	42.5%	39.0%	42.6%	41.8%	38.4%
Black, Non-Hispanic	60.8%	53.2%	51.9%	49.8%	48.5%	47.9%	36.9%	35.3%	33.1%	38.2%	36.6%	34.5%
Asian, Non-Hispanic	2.8%	S	2.8%	2.4%	3.6%	3.3%	4.0%	3.8%	3.5%	3.9%	3.8%	3.4%

Maternal Race/ Ethnicity	Very Low Birth Weight (<1,500g)			Moderately Low Birth Weight (1,500g–2,499g)			Normal Birth Weight (≥2,500g)			Total		
	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019	CY 2017	CY 2018	CY 2019
Hispanic, Any Race	8.4%	14.1%	16.7%	8.6%	10.8%	14.2%	12.4%	17.4%	22.9%	12.1%	16.9%	22.2%
Other/Unknown	2.6%	S	S	2.5%	0.8%	1.5%	3.3%	1.0%	1.5%	3.2%	1.0%	1.5%

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).

Table B-10—Distribution of Singleton Births by Birth Weight Indicator and Maternal Managed Care Region of Residence, CY 2019

Maternal Region of Residence	Very Low Birth Weight (<1,500g)	Moderately Low Birth Weight (1,500g–2,499g)	Normal Birth Weight (≥2,500g)	Total
Singleton Births (n)	**603**	**2,733**	**33,937**	**37,281**
Central	28.4%	26.0%	24.1%	**24.3%**
Charlottesville/Western	10.4%	11.5%	11.9%	**11.9%**
Northern & Winchester	26.0%	20.9%	27.9%	**27.4%**
Roanoke/Alleghany	7.3%	8.5%	9.0%	**8.9%**
Southwest	2.2%	5.7%	5.1%	**5.1%**
Tidewater	25.7%	27.4%	21.9%	**22.3%**
No Region Listed	0.0%	S	0.2%	**0.2%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).

Cross Measure Findings

Table B-11—Distribution of Adequacy of Prenatal Care by Birth Outcomes (Preterm Births and Low Birth Weight) and MCO, CY 2019

MCO	Study Indicator	Missing Information	Inadequate PNC	Intermediate PNC	Adequate PNC	Adequate Plus PNC
Aetna	Preterm Births (<37 Weeks Gestation)	21.6%	6.4%	8.9%	3.1%	17.2%
	Newborns with Low Birth Weight (<2,500 grams)	15.6%	7.2%	7.9%	5.1%	16.5%
HealthKeepers	Preterm Births (<37 Weeks Gestation)	19.4%	8.3%	4.4%	3.4%	18.5%
	Newborns with Low Birth Weight (<2,500 grams)	16.6%	8.4%	4.3%	4.3%	13.6%
Magellan	Preterm Births (<37 Weeks Gestation)	15.3%	9.2%	S	3.0%	17.9%
	Newborns with Low Birth Weight (<2,500 grams)	12.6%	11.3%	7.1%	4.2%	14.8%
Optima	Preterm Births (<37 Weeks Gestation)	17.6%	9.6%	5.9%	3.9%	16.6%
	Newborns with Low Birth Weight (<2,500 grams)	13.0%	8.2%	2.9%	4.5%	15.3%
UnitedHealthcare	Preterm Births (<37 Weeks Gestation)	14.6%	7.5%	S	3.3%	17.0%
	Newborns with Low Birth Weight (<2,500 grams)	13.0%	8.2%	S	4.5%	15.3%
VA Premier	Preterm Births (<37 Weeks Gestation)	18.0%	8.1%	3.3%	2.8%	16.4%
	Newborns with Low Birth Weight (<2,500 grams)	14.6%	8.6%	5.1%	4.0%	12.5%

S *indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).*

Additional Stratifications for Study Indicators

Table B-12— Study Indicators Stratified by MCO and Managed Care Program, CY 2019

MCO	Managed Care Program	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care		Preterm Births (<37 Weeks Gestation)		Newborns with Low Birth Weight (<2,500g)	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate
Aetna	CCC Plus	89	72.4%	22	17.9%	22	15.8%	21	15.1%
	FAMIS	160	77.7%	28	13.6%	11	5.2%	12	5.6%
	Medallion 4.0	2,114	73.9%	472	16.5%	304	9.9%	310	10.1%
	Total	2,363	74.1%	522	16.4%	337	9.8%	343	10.0%
HealthKeepers	CCC Plus	136	73.1%	29	15.6%	26	13.1%	23	11.6%
	FAMIS	517	81.8%	70	11.1%	54	8.0%	47	6.9%
	Medallion 4.0	5,522	74.5%	1,191	16.1%	795	10.1%	685	8.7%
	Total	6,175	75.0%	1,290	15.7%	875	10.0%	755	8.6%
Magellan	CCC Plus	65	67.0%	18	18.6%	S	S	S	S
	FAMIS	91	78.4%	17	14.7%	S	S	S	S
	Medallion 4.0	1,174	71.4%	309	18.8%	165	9.4%	162	9.2%
	Total	1,330	71.6%	344	18.5%	186	9.4%	189	9.6%
Optima	CCC Plus	128	79.0%	25	15.4%	28	15.5%	28	15.5%
	FAMIS	252	81.6%	36	11.7%	25	7.8%	24	7.5%
	Medallion 4.0	4,058	76.5%	794	15.0%	556	10.1%	546	9.9%
	Total	4,438	76.9%	855	14.8%	609	10.1%	598	9.9%
UnitedHealthcare	CCC Plus	54	62.8%	22	25.6%	14	15.1%	17	18.3%
	FAMIS	164	77.4%	34	16.0%	15	6.8%	14	6.4%
	Medallion 4.0	1,560	71.7%	391	18.0%	202	8.6%	203	8.6%
	Total	1,778	71.8%	447	18.1%	231	8.7%	234	8.8%
VA Premier	CCC Plus	125	71.8%	35	20.1%	33	17.1%	32	16.6%
	FAMIS	210	72.4%	56	19.3%	24	7.7%	19	6.1%
	Medallion 4.0	3,617	74.1%	801	16.4%	480	9.1%	443	8.4%
	Total	3,952	73.9%	892	16.7%	537	9.3%	494	8.6%
Total	**CCC Plus**	**597**	**72.1%**	**151**	**18.2%**	**138**	**15.2%**	**139**	**15.3%**
	FAMIS	**1,394**	**79.0%**	**241**	**13.7%**	**135**	**7.3%**	**125**	**6.7%**
	Medallion 4.0	**18,045**	**74.3%**	**3,958**	**16.3%**	**2,502**	**9.7%**	**2,349**	**9.1%**
	Total	**20,036**	**74.6%**	**4,350**	**16.2%**	**2,775**	**9.7%**	**2,613**	**9.1%**

Note: Due to rounding, the percentages in each column may not sum to 100 percent.
S indicates that the data were suppressed due to a small numerator (i.e., fewer than 11).

Table B-13—Study Indicators Stratified by Delivery System and MCO and Managed Care Region of Maternal Residence, CY 2019

	Managed Care Region of Maternal Residence	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Delivery System									
FFS	Central	1,085	66.0%	265	16.1%	178	10.3%	153	8.8%
	Charlottesville/Western	490	72.0%	157	23.1%	63	8.8%	61	8.5%
	Northern & Winchester	2,515	63.5%	1,086	27.4%	411	9.6%	306	7.1%
	Roanoke/Alleghany	342	71.5%	76	15.9%	59	11.4%	53	10.2%
	Southwest	69	69.0%	23	23.0%	19	11.0%	17	9.9%
	Tidewater	720	64.2%	247	22.0%	149	12.1%	132	10.8%
	Total	5,227	65.4%	1,856	23.2%	880	10.2%	723	8.3%
Managed Care	Central	5,275	74.7%	1,015	14.4%	743	10.2%	728	9.9%
	Charlottesville/Western	2,908	80.5%	507	14.0%	312	8.4%	315	8.5%
	Northern & Winchester	3,862	69.8%	1,187	21.5%	504	8.5%	422	7.1%
	Roanoke/Alleghany	1,979	74.5%	369	13.9%	227	8.1%	222	7.9%
	Southwest	782	71.0%	182	16.5%	153	8.8%	151	8.7%
	Tidewater	5,201	75.8%	1,083	15.8%	833	11.7%	772	10.9%
	Total	20,036	74.6%	4,350	16.2%	2,775	9.7%	2,613	9.1%
Total	**Central**	**6,360**	**73.1%**	**1,280**	**14.7%**	**921**	**10.2%**	**881**	**9.7%**
	Charlottesville/Western	**3,398**	**79.1%**	**664**	**15.5%**	**375**	**8.5%**	**376**	**8.5%**
	Northern & Winchester	**6,377**	**67.2%**	**2,273**	**23.9%**	**915**	**9.0%**	**728**	**7.1%**
	Roanoke/Alleghany	**2,321**	**74.0%**	**445**	**14.2%**	**286**	**8.6%**	**275**	**8.3%**
	Southwest	**851**	**70.8%**	**205**	**17.1%**	**172**	**9.0%**	**168**	**8.8%**
	Tidewater	**5,921**	**74.2%**	**1,330**	**16.7%**	**982**	**11.8%**	**904**	**10.9%**
	Total	**25,263**	**72.5%**	**6,206**	**17.8%**	**3,655**	**9.8%**	**3,336**	**9.0%**

	Managed Care Region of Maternal Residence	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
MCO									
Aetna	Central	861	76.9%	150	13.4%	127	11.0%	133	11.5%
	Charlottesville/Western	300	83.3%	48	13.3%	24	6.5%	31	8.4%
	Northern & Winchester	289	65.1%	119	26.8%	36	7.5%	37	7.7%
	Roanoke/Alleghany	313	72.8%	60	14.0%	42	9.2%	42	9.2%
	Southwest	125	74.9%	26	15.6%	27	9.9%	22	8.0%
	Tidewater	471	71.0%	118	17.8%	80	11.7%	78	11.4%
	Total	2,363	74.1%	522	16.4%	337	9.8%	343	10.0%
HealthKeepers	Central	1,807	76.5%	308	13.0%	251	10.3%	234	9.6%
	Charlottesville/Western	468	77.9%	91	15.1%	53	8.6%	46	7.4%
	Northern & Winchester	1,862	72.3%	486	18.9%	243	8.8%	191	6.9%
	Roanoke/Alleghany	282	77.5%	40	11.0%	41	10.7%	31	8.1%
	Southwest	127	65.8%	30	15.5%	20	6.3%	29	9.2%
	Tidewater	1,619	76.3%	332	15.6%	266	12.1%	223	10.2%
	Total	6,175	75.0%	1,290	15.7%	875	10.0%	755	8.6%
Magellan	Central	380	70.4%	92	17.0%	54	9.7%	66	11.8%
	Charlottesville/Western	191	76.7%	46	18.5%	25	9.8%	20	7.9%
	Northern & Winchester	140	63.3%	66	29.9%	20	8.3%	15	6.2%
	Roanoke/Alleghany	231	72.2%	51	15.9%	26	7.8%	27	8.1%
	Southwest	83	76.9%	15	13.9%	18	11.8%	15	9.8%
	Tidewater	304	72.7%	74	17.7%	43	9.9%	46	10.6%
	Total	1,330	71.6%	344	18.5%	186	9.4%	189	9.6%

	Managed Care Region of Maternal Residence	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Optima	Central	1,039	76.3%	187	13.7%	137	9.6%	138	9.7%
	Charlottesville/Western	875	80.6%	142	13.1%	85	7.6%	96	8.6%
	Northern & Winchester	218	70.1%	72	23.2%	29	8.6%	27	8.0%
	Roanoke/Alleghany	259	70.2%	67	18.2%	28	7.4%	25	6.6%
	Southwest	112	71.8%	22	14.1%	23	10.9%	20	9.5%
	Tidewater	1,926	77.8%	364	14.7%	306	12.0%	291	11.4%
	Total	4,438	76.9%	855	14.8%	609	10.1%	598	9.9%
UnitedHealthcare	Central	340	68.4%	95	19.1%	52	10.2%	47	9.2%
	Charlottesville/Western	172	75.4%	43	18.9%	18	7.8%	18	7.8%
	Northern & Winchester	675	71.0%	190	20.0%	81	7.9%	69	6.7%
	Roanoke/Alleghany	240	76.4%	38	12.1%	29	8.8%	32	9.8%
	Southwest	104	66.7%	33	21.2%	12	5.5%	20	9.3%
	Tidewater	246	75.2%	48	14.7%	39	11.1%	48	13.7%
	Total	1,778	71.8%	447	18.1%	231	8.7%	234	8.8%
VA Premier	Central	848	71.7%	183	15.5%	122	10.0%	110	9.0%
	Charlottesville/Western	902	82.8%	137	12.6%	107	9.6%	104	9.4%
	Northern & Winchester	678	65.8%	254	24.7%	95	8.9%	83	7.8%
	Roanoke/Alleghany	654	76.0%	113	13.1%	61	6.6%	65	7.0%
	Southwest	231	71.7%	56	17.4%	53	9.5%	45	8.1%
	Tidewater	635	74.5%	147	17.3%	99	11.3%	86	9.8%
	Total	3,952	73.9%	892	16.7%	537	9.3%	494	8.6%

**a lower rate indicates better performance for this indicator.*

Table B-14 through Table B-19 present the CY 2019 study indicator results stratified by MCO and race/ethnicity for each managed care region of maternal residence.

Table B-14—Central Region Study Indicator Results Stratified by MCO and Race/Ethnicity, CY 2019

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White, Non-Hispanic								
Aetna	311	79.5%	43	11.0%	31	7.7%	25	6.2%
HealthKeepers	703	78.8%	98	11.0%	80	8.8%	64	7.0%
Magellan	157	75.1%	31	14.8%	19	8.8%	17	7.9%
Optima	385	79.5%	58	12.0%	39	7.8%	32	6.4%
UnitedHealthcare	129	70.9%	28	15.4%	22	12.0%	14	7.6%
VA Premier	300	74.3%	64	15.8%	32	7.7%	23	5.5%
Black, Non-Hispanic								
Aetna	450	75.6%	85	14.3%	87	14.2%	101	16.4%
HealthKeepers	895	74.8%	181	15.1%	146	11.7%	150	12.0%
Magellan	187	68.0%	52	18.9%	31	10.9%	46	16.1%
Optima	557	74.8%	109	14.6%	88	11.2%	94	11.9%
UnitedHealthcare	170	68.5%	47	19.0%	27	10.5%	30	11.7%
VA Premier	466	71.0%	103	15.7%	84	12.3%	80	11.7%
Asian, Non-Hispanic								
Aetna	30	81.1%	S	S	S	S	S	S
HealthKeepers	37	82.2%	S	S	S	S	S	S
Magellan	S	*S*	S	S	0	0.0%	S	S
Optima	14	70.0%	S	S	S	S	S	S
UnitedHealthcare	S	*S*	S	S	0	0.0%	0	0.0%
VA Premier	13	68.4%	S	S	S	S	S	S

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hispanic, Any Race								
Aetna	60	73.2%	13	15.9%	S	S	S	S
HealthKeepers	151	76.3%	23	11.6%	16	7.7%	10	4.8%
Magellan	25	61.0%	S	S	S	S	S	S
Optima	69	74.2%	14	15.1%	S	S	S	S
UnitedHealthcare	33	64.7%	15	29.4%	S	S	S	S
VA Premier	59	68.6%	S	S	S	S	S	S
Other/Unknown								
Aetna	S	S	S	S	S	S	S	S
HealthKeepers	21	72.4%	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	14	70.0%	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	0	0.0%	S	S

**a lower rate indicates better performance for this indicator.*

S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).

Table B-15—Charlottesville/Western Region Study Indicator Results Stratified by MCO and Race/Ethnicity, CY 2019

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White, Non-Hispanic								
Aetna	183	82.8%	30	13.6%	12	5.3%	16	7.1%
HealthKeepers	306	78.9%	62	16.0%	30	7.5%	23	5.8%

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Magellan	107	75.4%	29	20.4%	15	10.3%	S	S
Optima	495	82.2%	73	12.1%	39	6.4%	37	6.0%
UnitedHealthcare	112	74.7%	28	18.7%	S	S	S	S
VA Premier	575	85.3%	70	10.4%	61	8.8%	48	7.0%
Black, Non-Hispanic								
Aetna	96	85.0%	14	12.4%	S	S	12	10.2%
HealthKeepers	115	72.8%	21	13.3%	17	10.6%	17	10.6%
Magellan	66	77.6%	14	16.5%	S	S	S	S
Optima	316	79.4%	54	13.6%	42	10.0%	56	13.4%
UnitedHealthcare	43	79.6%	S	S	S	S	S	S
VA Premier	249	78.5%	50	15.8%	41	12.7%	50	15.5%
Asian, Non-Hispanic								
Aetna	S	S	S	S	S	S	S	S
HealthKeepers	S	S	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S
Hispanic, Any Race								
Aetna	17	89.5%	S	S	S	S	S	S
HealthKeepers	40	88.9%	S	S	S	S	S	S
Magellan	13	81.3%	S	S	S	S	S	S
Optima	48	72.7%	13	19.7%	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	0	0.0%

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
VA Premier	66	80.5%	14	17.1%	S	S	S	S
Other/Unknown								
Aetna	S	S	S	S	S	S	S	S
HealthKeepers	S	S	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S

**a lower rate indicates better performance for this indicator.*

S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).

Table B-16—Northern & Winchester Region Study Indicator Results Stratified by MCO and Race/Ethnicity, CY 2019

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White, Non-Hispanic								
Aetna	107	66.0%	39	24.1%	14	8.1%	12	7.0%
HealthKeepers	546	73.9%	130	17.6%	67	8.5%	41	5.2%
Magellan	58	60.4%	34	35.4%	S	S	S	S
Optima	106	68.8%	38	24.7%	18	11.0%	15	9.1%
UnitedHealthcare	206	72.8%	59	20.8%	27	8.9%	22	7.2%
VA Premier	299	68.7%	95	21.8%	40	8.8%	32	7.0%
Black, Non-Hispanic								
Aetna	62	57.9%	33	30.8%	11	9.3%	12	10.2%

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
HealthKeepers	461	70.0%	135	20.5%	55	7.7%	52	7.3%
Magellan	35	67.3%	13	25.0%	S	S	S	S
Optima	52	73.2%	14	19.7%	S	S	S	S
UnitedHealthcare	171	71.3%	43	17.9%	20	7.6%	21	8.0%
VA Premier	139	57.9%	81	33.8%	24	9.8%	23	9.3%
Asian, Non-Hispanic								
Aetna	35	68.6%	13	25.5%	S	S	S	S
HealthKeepers	228	73.5%	60	19.4%	35	10.3%	32	9.4%
Magellan	12	57.1%	S	S	S	S	0	0.0%
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	76	78.4%	15	15.5%	S	S	S	S
VA Premier	101	71.6%	27	19.1%	11	7.7%	13	9.1%
Hispanic, Any Race								
Aetna	77	68.1%	33	29.2%	S	S	S	S
HealthKeepers	587	72.8%	148	18.4%	81	9.3%	63	7.2%
Magellan	34	66.7%	13	25.5%	S	S	S	S
Optima	51	72.9%	15	21.4%	S	S	S	S
UnitedHealthcare	210	67.1%	68	21.7%	28	8.3%	21	6.2%
VA Premier	124	62.9%	50	25.4%	16	7.8%	S	S
Other/Unknown								
Aetna	S	S	S	S	0	0.0%	0	0.0%
HealthKeepers	40	65.6%	13	21.3%	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
UnitedHealthcare	12	66.7%	S	S	S	S	0	0.0%
VA Premier	15	88.2%	S	S	S	S	S	S

**a lower rate indicates better performance for this indicator.*

S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).

Table B-17—Roanoke/Alleghany Region Study Indicator Results Stratified by MCO and Race/Ethnicity, CY 2019

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White, Non-Hispanic								
Aetna	222	75.3%	39	13.2%	28	8.9%	27	8.6%
HealthKeepers	202	77.1%	28	10.7%	25	9.1%	21	7.7%
Magellan	163	72.8%	33	14.7%	13	5.6%	14	6.0%
Optima	203	74.4%	41	15.0%	17	6.1%	17	6.1%
UnitedHealthcare	158	79.0%	24	12.0%	20	9.6%	22	10.5%
VA Premier	509	77.0%	79	12.0%	46	6.5%	51	7.2%
Black, Non-Hispanic								
Aetna	61	62.9%	17	17.5%	11	10.7%	13	12.6%
HealthKeepers	60	75.9%	S	S	15	17.9%	S	S
Magellan	56	67.5%	18	21.7%	12	13.8%	11	12.6%
Optima	46	57.5%	21	26.3%	11	13.6%	S	S
UnitedHealthcare	60	71.4%	11	13.1%	S	S	S	S
VA Premier	120	74.1%	28	17.3%	13	7.4%	11	6.3%

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Asian, Non-Hispanic								
Aetna	S	S	S	S	0	0.0%	0	0.0%
HealthKeepers	S	S	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S
Hispanic, Any Race								
Aetna	17	77.3%	S	S	S	S	S	S
HealthKeepers	S	S	S	S	0	0.0%	0	0.0%
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	16	76.2%	S	S	S	S	S	S
VA Premier	20	71.4%	S	S	S	S	S	S
Other/Unknown								
Aetna	S	S	S	S	S	S	S	S
HealthKeepers	S	S	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S

**a lower rate indicates better performance for this indicator.*

S *indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).*

Table B-18—Southwest Region Study Indicator Results Stratified by MCO and Race/Ethnicity, CY 2019

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White, Non-Hispanic								
Aetna	117	73.6%	26	16.4%	27	10.3%	22	8.4%
HealthKeepers	121	66.1%	27	14.8%	20	6.7%	28	9.4%
Magellan	76	76.0%	15	15.0%	18	12.4%	15	10.3%
Optima	105	71.4%	22	15.0%	22	10.9%	19	9.4%
UnitedHealthcare	98	65.8%	32	21.5%	S	S	19	9.3%
VA Premier	223	71.2%	55	17.6%	50	9.3%	43	8.0%
Black, Non-Hispanic								
Aetna	S	S	S	S	S	S	S	S
HealthKeepers	S	S	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S
Asian, Non-Hispanic								
Aetna	S	S	S	S	S	S	S	S
HealthKeepers	S	S	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S
Hispanic, Any Race								
Aetna	S	S	S	S	S	S	S	S

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
HealthKeepers	S	S	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S
Other/Unknown								
Aetna	S	S	S	S	S	S	S	S
HealthKeepers	S	S	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	S	S	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S

**a lower rate indicates better performance for this indicator.*

S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).

Table B-19—Tidewater Region Study Indicator Results Stratified by MCO and Race/Ethnicity, CY 2019

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White, Non-Hispanic								
Aetna	160	75.1%	38	17.8%	24	11.0%	19	8.7%
HealthKeepers	515	81.1%	80	12.6%	64	9.8%	49	7.5%
Magellan	102	82.3%	15	12.1%	S	S	13	10.2%
Optima	530	79.7%	95	14.3%	57	8.4%	45	6.6%

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
UnitedHealthcare	74	72.5%	15	14.7%	11	10.1%	11	10.1%
VA Premier	178	78.4%	37	16.3%	21	8.9%	17	7.2%
Black, Non-Hispanic								
Aetna	260	69.1%	63	16.8%	51	13.0%	52	13.3%
HealthKeepers	934	73.5%	221	17.4%	178	13.4%	161	12.2%
Magellan	169	67.6%	51	20.4%	27	10.3%	30	11.5%
Optima	1,208	77.3%	230	14.7%	219	13.6%	225	13.9%
UnitedHealthcare	152	77.6%	30	15.3%	24	11.5%	34	16.3%
VA Premier	385	72.9%	91	17.2%	68	12.5%	63	11.6%
Asian, Non-Hispanic								
Aetna	S	S	S	S	S	S	S	S
HealthKeepers	33	91.7%	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	30	78.9%	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	S	S	S	S	S	S	S	S
Hispanic, Any Race								
Aetna	40	76.9%	S	S	S	S	S	S
HealthKeepers	103	75.2%	22	16.1%	16	11.3%	S	S
Magellan	26	76.5%	S	S	S	S	S	S
Optima	116	75.3%	27	17.5%	19	12.0%	11	7.0%
UnitedHealthcare	16	69.6%	S	S	S	S	S	S
VA Premier	52	73.2%	16	22.5%	S	S	S	S

	Early and Adequate Prenatal Care		Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Other/Unknown								
Aetna	S	S	S	S	0	0.0%	0	0.0%
HealthKeepers	34	79.1%	S	S	S	S	S	S
Magellan	S	S	S	S	S	S	S	S
Optima	42	75.0%	S	S	S	S	S	S
UnitedHealthcare	S	S	S	S	S	S	S	S
VA Premier	14	82.4%	S	S	S	S	S	S

**a lower rate indicates better performance for this indicator.*

S *indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).*

Table B-20—Study Indicators Stratified by Managed Care Region of Maternal Residence and Race/Ethnicity, CY 2019

Managed Care Region of Maternal Residence	Race/Ethnicity	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Central	White, Non-Hispanic	2,242	77.2%	362	12.5%	267	8.9%	208	6.9%
	Black, Non-Hispanic	2,996	73.3%	632	15.5%	536	12.5%	576	13.5%
	Asian, Non-Hispanic	131	77.1%	23	13.5%	13	7.4%	15	8.5%
	Hispanic, Any Race	917	64.4%	243	17.1%	90	6.1%	67	4.6%
	Total	6,360	73.1%	1,280	14.7%	921	10.2%	881	9.7%
Charlottesville/Western	White, Non-Hispanic	1,992	80.9%	347	14.1%	193	7.6%	167	6.6%
	Black, Non-Hispanic	954	77.7%	189	15.4%	137	10.8%	167	13.2%
	Asian, Non-Hispanic	39	73.6%	12	22.6%	S	S	S	S
	Hispanic, Any Race	387	74.9%	112	21.7%	39	7.3%	36	6.7%
	Total	3,398	79.1%	664	15.5%	375	8.5%	376	8.5%

Managed Care Region of Maternal Residence	Race/Ethnicity	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Northern & Winchester	White, Non-Hispanic	1,535	70.3%	460	21.1%	219	9.3%	161	6.9%
	Black, Non-Hispanic	1,073	66.2%	383	23.6%	157	8.9%	160	9.1%
	Asian, Non-Hispanic	549	68.4%	177	22.0%	79	9.2%	78	9.1%
	Hispanic, Any Race	3,109	65.9%	1,217	25.8%	440	8.7%	314	6.2%
	Total	6,377	67.2%	2,273	23.9%	915	9.0%	728	7.1%
Roanoke/Alleghany	White, Non-Hispanic	1,652	75.9%	281	12.9%	184	8.0%	184	8.0%
	Black, Non-Hispanic	446	68.5%	115	17.7%	79	11.4%	70	10.1%
	Asian, Non-Hispanic	39	83.0%	S	S	0	0.0%	S	S
	Hispanic, Any Race	172	72.3%	37	15.5%	20	8.0%	17	6.8%
	Total	2,321	74.0%	445	14.2%	286	8.6%	275	8.3%
Southwest	White, Non-Hispanic	796	70.6%	192	17.0%	164	9.1%	160	8.9%
	Black, Non-Hispanic	17	73.9%	S	S	S	S	S	S
	Asian, Non-Hispanic	S	S	S	S	S	S	S	S
	Hispanic, Any Race	30	71.4%	S	S	S	S	S	S
	Total	851	70.8%	205	17.1%	172	9.0%	168	8.8%
Tidewater	White, Non-Hispanic	1,752	78.4%	329	14.7%	224	9.7%	184	8.0%
	Black, Non-Hispanic	3,394	73.8%	765	16.6%	644	13.4%	642	13.4%
	Asian, Non-Hispanic	104	78.2%	18	13.5%	S	S	S	S
	Hispanic, Any Race	549	65.0%	183	21.7%	82	9.2%	54	6.0%
	Total	5,921	74.2%	1,330	16.7%	982	11.8%	904	10.9%
Missing/Unknown	White, Non-Hispanic	14	70.0%	S	S	S	S	S	S
	Black, Non-Hispanic	19	70.4%	S	S	S	S	S	S
	Asian, Non-Hispanic	S	S	S	S	S	S	S	S
	Hispanic, Any Race	S	S	S	S	S	S	S	S

Managed Care Region of Maternal Residence	Race/Ethnicity	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
	Total	35	67.3%	S	S	S	S	S	S
Total	**White, Non-Hispanic**	**9,983**	**76.1%**	**1,973**	**15.0%**	**1,252**	**8.7%**	**1,066**	**7.4%**
	Black, Non-Hispanic	**8,899**	**72.7%**	**2,091**	**17.1%**	**1,562**	**12.1%**	**1,623**	**12.6%**
	Asian, Non-Hispanic	**867**	**71.5%**	**236**	**19.5%**	**105**	**8.2%**	**107**	**8.3%**
	Hispanic, Any Race	**5,165**	**66.3%**	**1,803**	**23.2%**	**673**	**8.1%**	**490**	**5.9%**
	Total	**25,263**	**72.5%**	**6,206**	**17.8%**	**3,655**	**9.8%**	**3,336**	**9.0%**

**a lower rate indicates better performance for this indicator.*

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Table B-21—MCO Adverse Events (Preterm Birth or Low Birth Weight Infant) Stratified by Prenatal Care, CY 2019

Prenatal Care	Aetna		HealthKeepers		Magellan		Optima		United Healthcare		VA Premier	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Inadequate/Missing Prenatal Care	80	13.7%	214	14.6%	60	16.0%	151	15.7%	64	12.7%	147	15.2%
No Prenatal Care in the 1st Trimester	109	13.5%	291	13.6%	76	14.7%	203	14.5%	85	12.0%	187	13.6%
Both Inadequate/Missing Prenatal Care and No Prenatal Care in the 1st Trimester	70	13.1%	200	15.1%	57	16.5%	144	16.5%	59	12.8%	134	15.5%
Total	**456**	**14.0%**	**1,077**	**12.8%**	**250**	**13.2%**	**811**	**13.8%**	**293**	**11.6%**	**699**	**12.9%**

Table B-22—Study Indicators Stratified by Managed Care Program and Race/Ethnicity, CY 2019

Managed Care Program	Race/Ethnicity	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
CCC Plus	White, Non-Hispanic	260	73.9%	67	19.0%	56	14.5%	62	16.1%
	Black, Non-Hispanic	312	71.1%	77	17.5%	75	15.6%	73	15.1%
	Asian, Non-Hispanic	S	S	S	S	S	S	S	S
	Hispanic, Any Race	20	69.0%	S	S	S	S	S	S
	Total	597	72.1%	151	18.2%	138	15.2%	139	15.3%
FAMIS	White, Non-Hispanic	607	81.1%	95	12.7%	50	6.3%	33	4.2%
	Black, Non-Hispanic	472	79.9%	79	13.4%	50	8.2%	58	9.5%
	Asian, Non-Hispanic	95	77.9%	14	11.5%	11	8.4%	12	9.2%
	Hispanic, Any Race	190	70.9%	49	18.3%	22	7.6%	20	6.9%
	Total	1,394	79.0%	241	13.7%	135	7.3%	125	6.7%
Medallion 4.0	White, Non-Hispanic	7,986	76.4%	1,550	14.8%	941	8.3%	804	7.1%
	Black, Non-Hispanic	7,289	72.9%	1,697	17.0%	1,227	11.7%	1,274	12.2%
	Asian, Non-Hispanic	620	74.3%	154	18.4%	67	7.6%	66	7.5%
	Hispanic, Any Race	1,909	72.3%	496	18.8%	227	8.2%	176	6.3%
	Total	18,045	74.3%	3,958	16.3%	2,502	9.7%	2,349	9.1%
Total	**White, Non-Hispanic**	**8,853**	**76.6%**	**1,712**	**14.8%**	**1,047**	**8.3%**	**899**	**7.2%**
	Black, Non-Hispanic	**8,073**	**73.2%**	**1,853**	**16.8%**	**1,352**	**11.7%**	**1,405**	**12.2%**
	Asian, Non-Hispanic	**718**	**74.6%**	**170**	**17.7%**	**78**	**7.7%**	**78**	**7.7%**
	Hispanic, Any Race	**2,119**	**72.1%**	**549**	**18.7%**	**255**	**8.2%**	**200**	**6.4%**
	Total	**20,036**	**74.6%**	**4,350**	**16.2%**	**2,775**	**9.7%**	**2,613**	**9.1%**

**a lower rate indicates better performance for this indicator.*

S *indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11).*

Table B-23—Study Indicators Stratified by Managed Care Program and Managed Care Region of Maternal Residence, CY 2019

Managed Care Program	Managed Care Region of Maternal Residence	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
CCC Plus	Central	178	73.0%	37	15.2%	48	18.0%	53	19.9%
	Charlottesville/Western	119	82.1%	21	14.5%	21	13.8%	14	9.2%
	Northern & Winchester	44	62.9%	24	34.3%	11	13.8%	11	13.8%
	Roanoke/Alleghany	68	68.7%	17	17.2%	16	15.0%	16	15.0%
	Southwest	28	63.6%	14	31.8%	S	S	S	S
	Tidewater	158	70.9%	38	17.0%	38	16.0%	36	15.2%
	Total	597	72.1%	151	18.2%	138	15.2%	139	15.3%
FAMIS	Central	369	81.6%	52	11.5%	37	8.1%	34	7.4%
	Charlottesville/Western	171	83.8%	25	12.3%	15	7.2%	14	6.7%
	Northern & Winchester	408	72.0%	105	18.5%	47	7.7%	43	7.1%
	Roanoke/Alleghany	102	76.7%	17	12.8%	S	S	S	S
	Southwest	43	89.6%	S	S	S	S	S	S
	Tidewater	300	83.3%	41	11.4%	24	6.6%	26	7.1%
	Total	1,394	79.0%	241	13.7%	135	7.3%	125	6.7%
Medallion 4.0	Central	4,728	74.3%	926	14.5%	658	10.0%	641	9.7%
	Charlottesville/Western	2,618	80.2%	461	14.1%	276	8.3%	287	8.6%
	Northern & Winchester	3,410	69.7%	1,058	21.6%	446	8.5%	368	7.0%
	Roanoke/Alleghany	1,809	74.6%	335	13.8%	208	8.1%	204	8.0%
	Southwest	711	70.4%	167	16.5%	141	8.9%	137	8.6%
	Tidewater	4,743	75.6%	1,004	16.0%	771	11.9%	710	10.9%
	Total	18,045	74.3%	3,958	16.3%	2,502	9.7%	2,349	9.1%
Total	**Central**	**5,275**	**74.7%**	**1,015**	**14.4%**	**743**	**10.2%**	**728**	**9.9%**
	Charlottesville/Western	**2,908**	**80.5%**	**507**	**14.0%**	**312**	**8.4%**	**315**	**8.5%**

Managed Care Program	Managed Care Region of Maternal Residence	Births with Early and Adequate Prenatal Care		Births with Inadequate Prenatal Care*		Preterm Births (<37 Weeks of Gestation)*		Newborns with Low Birth Weight (<2,500g)*	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
	Northern & Winchester	3,862	69.8%	1,187	21.5%	504	8.5%	422	7.1%
	Roanoke/Alleghany	1,979	74.5%	369	13.9%	227	8.1%	222	7.9%
	Southwest	782	71.0%	182	16.5%	153	8.8%	151	8.7%
	Tidewater	5,201	75.8%	1,083	15.8%	833	11.7%	772	10.9%
	Total	20,036	74.6%	4,350	16.2%	2,775	9.7%	2,613	9.1%

**a lower rate indicates better performance for this indicator.*

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CHIP 1115 Demonstration Waiver Allotment Neutrality Spreadsheet

VIRGINIA FFY 2021-2029	FFY 2019	FFY2020	FFY2021	FFY2022	FFY2023	FFY2024	FFY2025	FFY2026	FFY2027	FFY2028	FFY2029
State's Allotment	$378,405,500	$399,647,474	$378,056,844	$389,398,549	$401,080,506	$413,112,921	$425,506,309	$438,271,498	$451,419,643	$464,962,232	$478,911,099
Funds Carried Over From Prior Year(s)	$32,832,053	$33,298,885	$74,119,249	$136,356,573	$181,443,221	$222,407,164	$255,440,945	$267,527,753	$264,321,920	$247,320,844	$211,121,831
SUBTOTAL (Allotment + Funds Carried Over)	$411,237,553	$432,946,359	$452,176,093	$525,755,122	$582,523,727	$635,520,085	$680,947,254	$705,799,251	$715,741,563	$712,283,076	$690,032,930
Reallocated Funds (Redistributed or Retained that are Currently Available)											
TOTAL (Subtotal + Reallocated funds)	$411,237,553	$432,946,359	$452,176,093	$525,755,122	$582,523,727	$635,520,085	$680,947,254	$705,799,251	$715,741,563	$712,283,076	$690,032,930
State's Enhanced FMAP Rate	88.00%	79.76%	69.34%	67.17%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%
COST PROJECTIONS OF APPROVED SCHIP PLAN											
Benefit Costs											
Managed care	$306,436,127	$364,466,575	$332,936,870	$371,672,152	$394,698,836	$409,800,046	$442,522,513	$471,160,801	$499,874,270	$534,116,960	$568,685,112
per member/per month rate @ # of eligibles	$186.97 @ 136,581 avg elig/mo	$201.84 @ 150,477 avg elig/mo	$171.18 @ 162,081 avg elig/mo	$189.46 @ 163,479 avg elig/mo	$197.14 @ 176,476 avg elig/mo	$205.12 @ 190,507 avg elig/mo	$213.43 @ 205,653 avg elig/mo	$222.08 @ 222,004 avg elig/mo	$231.07 @ 239,654 avg elig/mo	$240.44 @ 258,708 avg elig/mo	$250.18 @ 279,277 avg elig/mo
Fee for Service	$82,068,811	$55,724,168	$68,435,999	$81,397,662	$85,028,604	$85,789,404	$93,633,658	$98,995,595	$101,394,431	$106,004,849	$111,792,796
Total Benefit Costs	**$388,504,938**	**$420,190,743**	**$401,372,869**	**$453,069,814**	**$479,727,440**	**$495,589,451**	**$536,156,172**	**$570,156,396**	**$601,268,701**	**$640,121,809**	**$680,477,909**
Net Benefit Costs	**388,504,938**	**420,190,743**	**401,372,869**	**453,069,814**	**479,727,440**	**495,589,451**	**536,156,172**	**570,156,396**	**601,268,701**	**640,121,809**	**680,477,909**
Administration Costs											
Personnel	$3,163,931	$2,739,481	$2,899,711	$2,244,494	$3,170,771	$3,264,021	$3,368,337	$3,484,008	$3,594,759	$3,711,322	$3,832,091
General administration	$421,596	$606,758	$642,247	$497,125	$702,283	$722,936	$746,041	$771,660	$796,190	$822,007	$848,756
Contractors/Brokers (e.g., enrollment contractors)	$16,239,385	$19,083,873	$20,200,077	$15,635,676	$22,088,343	$22,737,943	$23,464,633	$24,270,423	$25,041,940	$25,853,945	$26,695,252
Claims Processing	$1,349,365	$5,955,863	$6,304,218	$4,879,719	$6,893,524	$7,096,257	$7,323,049	$7,574,527	$7,815,309	$8,068,727	$8,331,289
Outreach/marketing costs	$585,016	$495,445	$524,423	$405,925	$573,445	$590,310	$609,176	$630,095	$650,125	$671,206	$693,047
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Administration Costs	**$21,759,294**	**$28,881,420**	**$30,570,676**	**$23,662,938**	**$33,428,367**	**$34,411,467**	**$35,511,235**	**$36,730,712**	**$37,898,322**	**$39,127,206**	**$40,400,434**
10% Administrative Cap	$43,167,215	$46,687,860	$44,596,985	$50,341,090	$53,303,049	$55,065,495	$59,572,908	$63,350,711	$66,807,633	$71,124,645	$75,608,657
Federal Title XXI Share	$361,032,524	$358,179,957	$299,509,654	$320,221,390	$333,551,274	$344,500,596	$371,583,815	$394,476,621	$415,458,565	$441,511,860	$468,570,923
State Share	$49,231,708	$90,892,206	$132,433,891	$156,511,362	$179,604,532	$185,500,321	$200,083,592	$212,410,488	$223,708,458	$237,737,155	$252,307,420
TOTAL COSTS OF APPROVED SCHIP PLAN	**$410,264,232**	**$449,072,163**	**$431,943,545**	**$476,732,752**	**$513,155,807**	**$530,000,917**	**$571,667,407**	**$606,887,109**	**$639,167,023**	**$679,249,015**	**$720,878,343**
Benefit Costs for Demonstration Population #1 (pregnant women < 200% FPL)											
Insurance payments											
Managed care	$13,333,221	$20,515,655	$17,328,917	$29,364,716	$30,218,932	$43,314,878	$51,742,733	$58,495,859	$66,277,510	$74,834,408	$83,812,321
per member/per month rate @ # of eligibles	$932.91 @ 1191 avg elig/mo	$1084.11 @ 1577 avg elig/mo	$867.18 @ 1,665 avg elig/mo	$1391.76 @ 1758 avg elig/mo	$1,390 @1812 avg elig/mo	$1,390 @1812 avg elig/mo	$1,390 @1812 avg elig/mo	$1,390 @1812 avg elig/mo	$1,390 @1812 avg elig/mo	$1,390 @1812 avg elig/mo	$1,390 @1812 avg elig/mo
Fee for Service	$2,863,191	$2,813,502	$4,553,528	$2,579,498	$2,554,407	$2,598,626	$2,666,132	$2,720,854	$2,772,681	$2,830,118	$2,891,153
Total Benefit Costs for Waiver Population #1	**$16,196,412**	**$23,329,157**	**$21,882,445**	**$31,944,214**	**$32,773,339**	**$45,913,504**	**$54,408,865**	**$61,216,713**	**$69,050,191**	**$77,664,525**	**$86,703,475**
Cost of Proposed Demonstration Amendment (Postpartum)											
Insurance payments											
Managed care				$2,307,774	$6,167,977	$6,427,874	$6,741,660	$7,098,267	$7,421,551	$7,759,406	$8,112,380
Per Member / Per Month Avg				$418.47 @ 613 avg elig/mo	$426.43 @ 1205 avg elig/mo	$439.24 @ 1220 avg elig/mo	$452.43 @ 1242 avg elig/mo	$466.00 @ 1269 avg elig/mo	$479.98 @ 1289 avg elig/mo	$494.38 @ 1308 avg elig/mo	$509.21 @ 1328 avg elig/mo
Total Member Months				5,515	14,464	14,634	14,901	15,232	15,462	15,695	15,931
Total Benefit Costs for Waiver Population #3				**$2,307,774**	**$6,167,977**	**$6,427,874**	**$6,741,660**	**$7,098,267**	**$7,421,551**	**$7,759,406**	**$8,112,380**
Benefit Costs for Demonstration Population #2 (children in premium assistance)											
Insurance payments	$58,149	$55,574	$54,867	$52,124	$40,513	$40,513	$40,513	$40,513	$40,513	$40,513	$40,513
Managed care											
per member/per month rate @ # of eligibles	$95.01 @ 51 avg elig/mo	$100.90 @ 46 avg elig/mo	$111.52 @ 41 avg elig/mo	$117.40 @ 37 avg elig/mo	$100.90 @ 33 avg elig/mo	$100.90 @ 33 avg elig/mo	$100.90 @ 33 avg elig/mo	$100.90 @ 33 avg elig/mo	$100.90 @ 33 avg elig/mo	$100.90 @ 33 avg elig/mo	$100.90 @ 33 avg elig/mo
Fee for Service	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Benefit Costs for Waiver Population #2	**$58,149**	**$55,574**	**$54,867**	**$52,124**	**$40,513**	**$40,513**	**$40,513**	**$40,513**	**$40,513**	**$40,513**	**$40,513**
Total Benefit Costs	**$16,254,561**	**$23,384,731**	**$21,937,312**	**$34,304,112**	**$38,981,829**	**$52,381,891**	**$61,191,038**	**$68,355,493**	**$76,512,255**	**$85,464,445**	**$94,856,368**
(Offsetting beneficiary cost sharing payments) * Premium Payments will be net of cost sharing											
Net Benefit Costs	**$16,254,561**	**$23,384,731**	**$21,937,312**	**$34,304,112**	**$38,981,829**	**$52,381,891**	**$61,191,038**	**$68,355,493**	**$76,512,255**	**$85,464,445**	**$94,856,368**
Administration Costs											
Personnel	$82,670	$152,963	$150,272	$148,053	$179,067	$223,315	$300,831	$374,980	$471,227	$597,936	$761,324
General administration	$18,310	$33,879	$33,283	$32,792	$39,661	$49,461	$66,630	$83,053	$104,370	$132,435	$168,623
Contractors/Brokers (e.g., enrollment contractors)	$575,900	$1,065,578	$1,046,834	$1,031,373	$1,247,425	$1,555,662	$2,095,658	$2,612,203	$3,282,676	$4,165,366	$5,303,561
Claims Processing	$179,732	$332,555	$326,705	$321,880	$389,307	$485,505	$654,031	$815,239	$1,024,486	$1,299,964	$1,655,182
Outreach/marketing costs	$14,951	$27,664	$27,177	$26,776	$32,385	$40,387	$54,406	$67,817	$85,223	$108,139	$137,688
Other (specify)											
Total Administration Costs	**$871,563**	**$1,612,639**	**$1,584,272**	**$1,560,874**	**$1,887,846**	**$2,354,330**	**$3,171,556**	**$3,953,292**	**$4,967,982**	**$6,303,839**	**$8,026,377**
10% Administrative Cap	$1,625,456	$2,338,473	$2,193,731	$3,430,411	$3,898,183	$5,238,189	$6,119,104	$6,835,549	$7,651,225	$8,546,444	$9,485,637
Federal Title XXI Share	$15,070,990	$19,937,902	$16,309,866	$24,090,512	$26,565,288	$35,578,543	$41,835,686	$47,000,711	$52,962,154	$59,649,385	$66,873,784
State Share	$2,055,135	$5,059,468	$7,211,718	$11,774,475	$14,304,386	$19,157,677	$22,526,908	$25,308,075	$28,518,083	$32,118,899	$36,008,961
TOTAL COSTS FOR DEMONSTRATION	**$17,126,124**	**$24,997,370**	**$23,521,584**	**$35,864,987**	**$40,869,674**	**$54,736,220**	**$64,362,594**	**$72,308,785**	**$81,480,237**	**$91,768,284**	**$102,882,745**
TOTAL PROGRAM COSTS (State Plan + Demonstration	**$427,390,356**	**$474,069,533**	**$455,465,129**	**$512,597,739**	**$554,025,481**	**$584,737,138**	**$636,030,001**	**$679,195,894**	**$720,647,260**	**$771,017,299**	**$823,761,088**
Total Federal Title XXI Funding Currently Available (Allotme	$411,237,553	$432,946,359	$452,176,093	$525,755,122	$582,523,727	$635,520,085	$680,947,254	$705,799,251	$715,741,563	$712,283,076	$690,032,930
Total Federal Title XXI Program Costs (State Plan + Demor	$376,103,513	$378,117,860	$315,819,520	$344,311,901	$360,116,563	$380,079,139	$413,419,501	$441,477,331	$468,420,719	$501,161,244	$535,444,707
Unused Title XXI Funds Expiring (Allotment or Reallocated)											
Remaining Title XXI Funds to be Carried Over (Equals Avai	$35,134,039	$54,828,499	$136,356,573	$181,443,221	$222,407,164	$255,440,945	$267,527,753	$264,321,920	$247,320,844	$211,121,831	$154,588,223