

**Virginia's Maternal & Child Health Section 1115  
Demonstration: 12 Months Postpartum Coverage,  
FAMIS MOMS, and FAMIS Select**

**Project Nos. 21-W-00058/3 and 11-W-00381/3**

**Year 4 Semi-Annual Report**

**July 1 through Dec. 31, 2022**

**Virginia Department of Medical Assistance Services**

## Background

Virginia's Maternal and Child Health Section 1115 Demonstration has three components. Two of the demonstration programs provide coverage of Title XXI populations, FAMIS MOMS and FAMIS Select. These programs have been in place since the beginning of the demonstration in 2005. The third component is the recently approved 1115 waiver authority enabling Virginia to provide continuous, full-benefit health care coverage through 12 months postpartum for beneficiaries in both Medicaid and CHIP.

Virginia's Title XXI Children's Health Insurance Program (CHIP) is called Family Access to Medical Insurance Security (FAMIS). This program covers children with family income from 143 to 200 percent of the federal poverty level (FPL) who are uninsured and are not eligible for Medicaid. The Maternal and Child Health Section 1115 Demonstration provides coverage for two Title XXI populations:

- The **FAMIS MOMS** program covers uninsured pregnant individuals with family income up to 200 percent FPL who are not eligible for Medicaid.
- The **FAMIS Select** program provides premium assistance for FAMIS-eligible children whose parents/guardians enroll them in private or employer-sponsored health insurance.

The Department of Medical Assistance Services (DMAS) administers Virginia's Maternal and Child Health Section 1115 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.

On November 18, 2021, CMS approved Virginia's request to amend the demonstration to test the effects of providing continuous coverage to postpartum individuals in Medicaid and CHIP with income up to and including 200 percent of the federal poverty level (FPL), for a total of 12 months after the end of the pregnancy. The Commonwealth anticipates that the **12 Months Postpartum** demonstration will improve continuity of coverage and prevent gaps and disruptions in care during the critical postpartum months. Through the amendment, DMAS aims to strengthen overall coverage and support the health of new mothers and infants in Virginia, including reducing rates of maternal mortality and severe morbidity.

### Demonstration Goals

The goals of Virginia's Section 1115 Demonstration for the original FAMIS MOMS and FAMIS Select populations, as outlined in the evaluation plan approved November 3, 2021, are as follows:

For FAMIS MOMS:

- Facilitate access to prenatal care for FAMIS MOMS participants.
- Improve selected birth outcomes of FAMIS MOMS participants and their newborns.

For FAMIS Select:

- Facilitate access to affordable private and employer-sponsored health insurance for low-income families through premium assistance.
- Monitor and ensure member satisfaction with FAMIS Select program.
- Assure the aggregate cost-effectiveness of the FAMIS Select program.

In compliance with the updated terms of the approved amendment (STC #32), on May 17, 2022, Virginia submitted a draft of the revised evaluation plan describing objectives, measures, and evaluation activities for the new 12 months postpartum extended coverage component. CMS provided feedback and the evaluation plan went through two rounds of revisions before it was formally approved July 31, 2023.

The goals of the 12 Months Postpartum demonstration, as outlined in the evaluation plan, are as follows:

- Promote continuous coverage and continuity of care for women in the postpartum period.
- Increase access to medical and behavioral health care services and treatments for women in the postpartum period.
- Improve health and address health-related social needs for postpartum Medicaid and CHIP enrolled women.
- Improve health access and health outcomes for infants of postpartum Medicaid and CHIP enrolled women.
- Advance health equity by reducing racial/ethnic and other disparities in maternal coverage, access, and health outcomes as well as infant health outcomes among postpartum Medicaid and CHIP enrolled women and their infants.

## **Operational Updates**

### **Legislative Activities**

Virginia's 2021 Special Session I Appropriations Act directed DMAS to seek federal authority to provide Medicaid coverage of community doula services to pregnant and postpartum enrollees. In partnership with the Virginia Department of Health, the Commonwealth established training and certification processes as well as a state doula registry. DMAS and its managed care plans developed processes to enroll community doulas as Medicaid providers, and the community doula benefit is now available to members. Because FAMIS MOMS receive the same benefits as Medicaid pregnant women under the state plan, FAMIS MOMS are eligible to receive community doula services.

Virginia's 2022 Special Session I Appropriations Act included a 15 percent rate increase for obstetrics and gynecology covered services, effective July 1, 2022.

## **Regulatory Updates**

Changes to the Virginia Administrative Code (VAC) reflecting the extension of postpartum coverage from 60 days to 12 months postpartum are currently in process. Updates to provider manuals to reflect the new postpartum extended coverage recently took effect. Changes to the VAC and provider manuals and other agency guidance to reflect the new doula benefit are also in process.

DMAS completed a periodic review of the FAMIS and FAMIS MOMS state regulations in spring 2023, and a regulatory action to make technical updates pursuant to the review is underway. Prior to this, the most recent state regulatory action regarding the demonstration programs was the adoption of updates pursuant to the previous periodic review, effective June 26, 2019.<sup>1</sup>

## **Outreach and Communications Activities**

DMAS' Community Outreach and Member Engagement Team (COMET) 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. 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.

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;
- Maintenance of the improved Cover Virginia (<https://coverva.dmas.virginia.gov/>) and Cubre Virginia (<https://cubrevirginia.dmas.virginia.gov/>) websites. 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 relaunch of the websites in March 2021, 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://coverva.dmas.virginia.gov/learn/insurance-for-pregnant-individuals/famis-moms/> and <https://coverva.dmas.virginia.gov/learn/premium-assistance/famis-select/>. The website is available for translation in 48 languages;

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<sup>1</sup> Virginia Register of Regulations, Volume 35, Issue 20, effective June 26, 2019.

- Continued maintenance of the FAMIS MOMS and FAMIS Select pages on CubreVirginia.org, the Spanish-language website at (<https://cubrevirginia.dmas.virginia.gov/learn/insurance-for-pregnant-individuals/famis-moms/> and <https://cubrevirginia.dmas.virginia.gov/learn/premium-assistance/famis-select/>);
- Maintenance of the Cover Virginia Instagram page, 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.dmas.virginia.gov/learn-more/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.dmas.virginia.gov/learn-more/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.

DMAS is updating all FAMIS Select materials to reflect the permanent removal of FAMIS co-payments.

During the reporting period, Virginia continued outreach to promote the launch of the 12 months postpartum coverage, effective July 1, 2022. In particular, DMAS' outreach and messaging is designed to ensure that beneficiaries who are pregnant and within 12 months postpartum at the close of the COVID-19 public health emergency (PHE) and during the “unwinding” period are aware that they are guaranteed 12 months continuous postpartum coverage, apart from the sunset MOE provision.

DMAS' Strategic Communications Team and COMET are coordinating messaging and outreach to include informing applicants and members about important benefits they can access, including the new doula benefit, and ensuring stakeholders understand eligibility rules as Virginia began the process of PHE unwinding. A stakeholder meeting was conducted in June, and DMAS provided updates about the postpartum coverage extension, doula coverage, and other maternal health policy developments at the Children's Health Insurance Program Advisory Committee (CHIPAC) and Member Advisory Committee (MAC) meetings in June.

With support from Virginia's NASHP Maternal Child Health Policy Innovation Project (MCH-PIP) team, DMAS is preparing materials to inform members about their maternity-related benefits, to be distributed through social media and other channels.

DMAS and the MCH-PIP team are working with managed care organizations and stakeholder groups to inform the provider community regarding the benefits and extended eligibility available to pregnant/postpartum Medicaid and FAMIS MOMS members.

### **Enrollment, Managed Care Delivery, and Operations Updates**

#### ***FAMIS MOMS and 12 Months Postpartum Continuous Coverage***

In the spring of 2022, DMAS launched a community doula benefit for pregnant and postpartum members enrolled in Medicaid and FAMIS MOMS. Doulas are trained community-based nonmedical professionals who provide nonclinical support services prenatally, during labor and delivery, and for up to one year postpartum. State-certified doulas began providing services to members this year with the first doula prenatal visit occurring in August 2022. As of November 1, 60 doulas had received state certification. Of those, 26 were Medicaid approved, contracted with two or more health plans, and had begun providing services, and 18 were pending Medicaid enrollment. The first doula-supported birth was in October 2022, and as of November there had been six births.

Virginia's 2022 Special Session I Appropriations Act included a 15 percent rate increase for obstetrics and gynecology covered services, effective July 1, 2022. Through the Baby Steps Virginia cross-agency workgroup and the NASHP MCH-PIP project, DMAS has been working to improve awareness of recent maternal health program and policy changes such as the rate increase, doula benefit, and 12 months postpartum coverage expansion. DMAS boosted outreach efforts to providers and members, and worked through a maternal health MCO collaborative to develop managed care strategies to connect and follow up with members and increase prenatal and postpartum visits.

In September 2022, Governor Glenn Youngkin's office launched the Partnership for Petersburg, an initiative focused on improving quality of life in the City of Petersburg through investments in the community, under six "pillars" of focus. One of the six pillars of focus for the Partnership for Petersburg initiative is improving access to health care in the Petersburg region. As part of the project, DMAS is working with MCOs and community partners to promote awareness of prenatal care by reaching out to members who have not yet received prenatal services and distributing informational materials. Aetna BetterHealth launched a Safe Sleep Initiative by partnering with community organizations to provide education to increase understanding and awareness of safe sleep practices, including targeted resource distribution to mothers without access to safe sleeping environments, and developing comprehensive support programs to improve outcomes. Aetna donated cribs with safe sleep messaging reminders to frontline organizations and distributed safe sleep kits at member baby showers.

DMAS is planning for the merger of the Medallion 4.0 and CCC Plus programs into a unified managed care program called Cardinal Care. The goal of the new streamlined managed care program is to promote a population-based, rather than a program-based approach to care, in order to improve the experience of care for members, add value for providers, and reduce system inefficiencies.

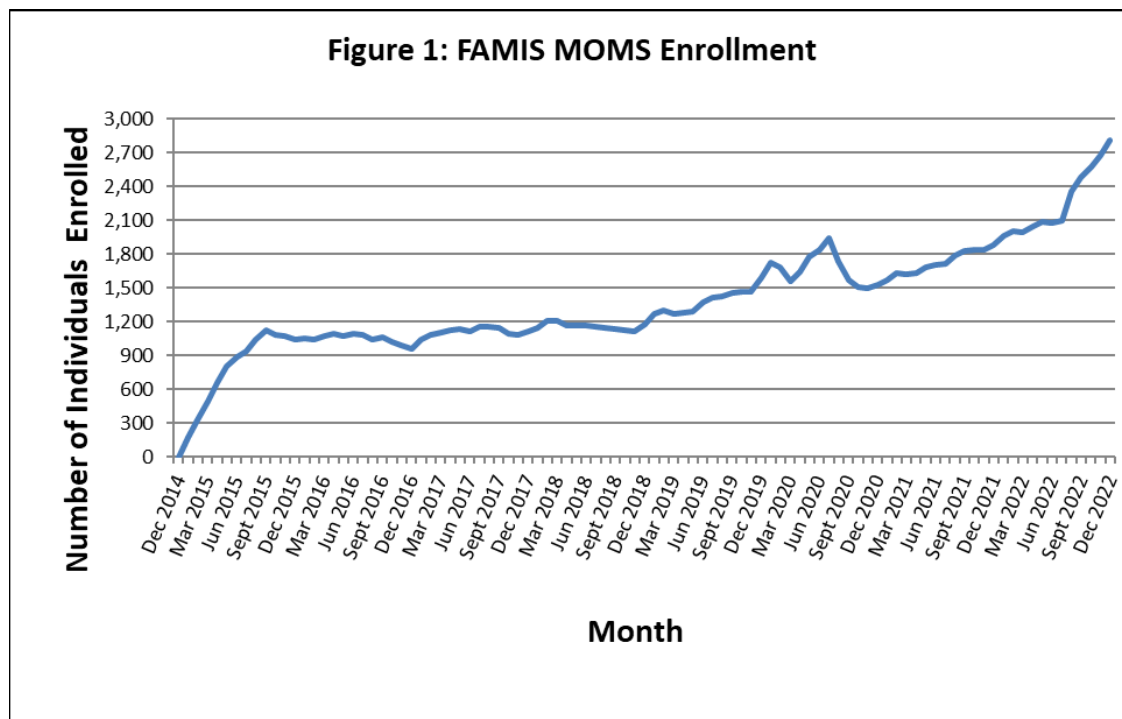
## ***FAMIS Select***

DMAS began updating FAMIS Select materials—including the worksheet that assists prospective FAMIS Select applicants in comparing their benefits and projected expenses under FAMIS to their private or employer-sponsored insurance—to reflect the removal of co-payments in the FAMIS program. FAMIS Select materials will also receive a visual refresh. The FAMIS Select pages on the DMAS and Cover Virginia websites were updated to reflect current policy.

## **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 enrollees 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. The drop in enrollment in the spring of 2020 could be partly related to DMAS' adherence with CMS guidance issued at that time directing that FAMIS MOMS continue to be redetermined at the end of their 60 days postpartum during the PHE, meaning these individuals' coverage would end unless they qualified for or were enrolled in other coverage groups.

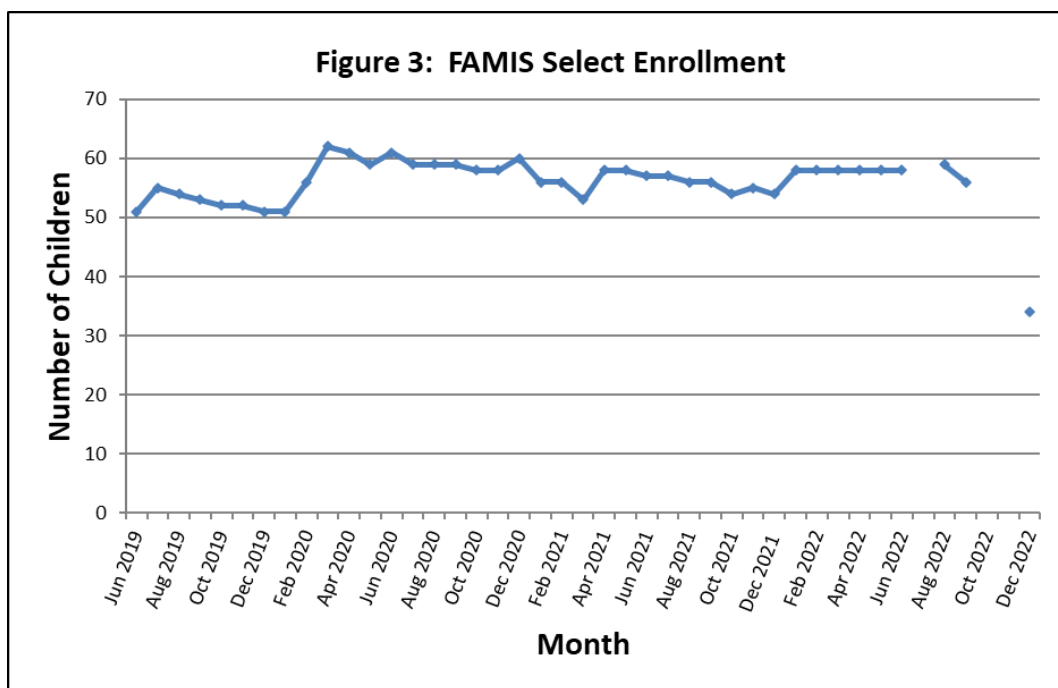
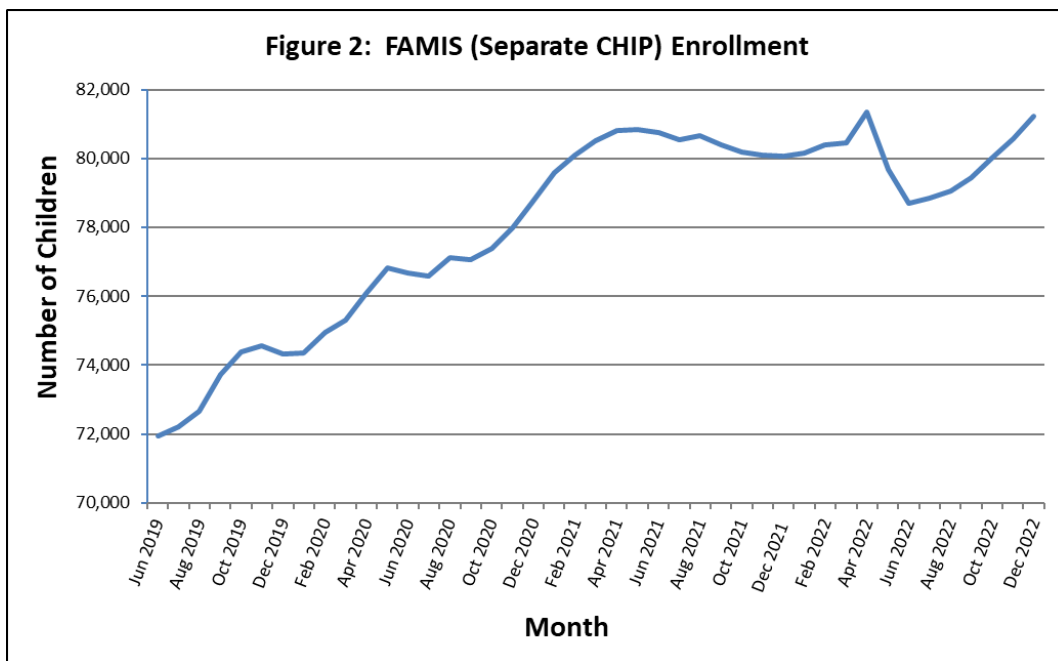
FAMIS MOMS enrollment has steadily grown since the July 1, 2021 launch of the FAMIS Prenatal Coverage program for pregnant individuals previously ineligible due to immigration status (Virginia's new "from conception to end of pregnancy" (FCEP) CHIP State Plan population). It is likely that there has been some spillover of members applying in response to outreach related to the FAMIS Prenatal Coverage launch and ultimately qualifying for and enrolling into FAMIS MOMS.

FAMIS MOMS monthly enrollment as of December 2022 was 2,805—a record high for the program. Average monthly enrollment for SFY 2022 (Demonstration Year 3) was 1,921, up 17.4% from SFY 2021 (DY2). DMAS anticipates that FAMIS MOMS enrollment will begin to decline in the coming year with the start of unwinding from the public health emergency/maintenance of effort; however, the decline may be gradual as FAMIS MOMS members will remain enrolled in the FAMIS MOMS group for an additional 12 months through the postpartum coverage extension.

### **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 three reporting years. Although FAMIS enrollment has increased during this time, enrollment in FAMIS Select has declined. As of December 2022, 34 children were enrolled in FAMIS Select statewide.





Source: DMAS Enrollment Files. Note: FAMIS Select monthly enrollment data for July, October, and November 2022 were not available at the time of this report.

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 April 2022, indicates that the percentages of Virginia employees eligible for and taking up ESHI are declining.<sup>2</sup> In addition, the employee share and employee premium/out of pocket amounts for family coverage have steadily increased both nationally and in Virginia.<sup>3</sup> These trends have likely contributed to declining interest in the FAMIS Select program.

| <b>Percent of Offer, Eligibility, and Take-Up of ESHI Among Virginia Workers</b> |             |             |             |             |             |
|--|-------------|-------------|-------------|-------------|-------------|
|  | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> |
| Offered ESHI   | 85.7        | 86.9        | 84.5        | 84.8        | 86.8        |
| Eligible for ESHI  | 77.0        | 76.9        | 74.2        | 78.4        | 74.2        |
| Taking up ESHI   | 75.6        | 69.3        | 71.4        | 72.5        | 68.6        |

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 Section 1115 Demonstration and the FAMIS Select program, annual insurance premiums for employer-sponsored family coverage in the Commonwealth increased from an average of \$10,367 in 2005 to \$20,458 in 2020. While employers often cover a large share of these premium costs, the share paid by employees has been increasing. Between 2005 and 2020, the employee’s share of the cost of employer-sponsored family coverage increased from 26.5 percent to 31.4 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 and 12 Months Postpartum Continuous Coverage***

FAMIS MOMS enrollment continued to grow, demonstrating the importance of the FAMIS MOMS program as a key component of Virginia’s health care safety net during the COVID-19 public health emergency.

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. On November 18, 2021, CMS approved Virginia’s request, and effective July 1, 2022, DMAS implemented extended postpartum coverage for covered populations. DMAS aims to leverage this new

<sup>2</sup> State Health Access Data Assistance Center (SHADAC), State Health Compare, <http://statehealthcompare.shadac.org/>.

<sup>3</sup> State Health Access Data Assistance Center (SHADAC), “State-level Trends in Employer-sponsored Health Insurance (ESI), 2015-2019,” available at <https://www.shadac.org/ESIReport2020>.

extended coverage to smooth transitions post-PHE and ultimately to improve the health of mothers and infants in Virginia.

Additional recent accomplishments include the launch of Virginia's Medicaid doula benefit, a 15 percent increase in OB-Gyn provider rates, and the launch of the Partnership for Petersburg initiative.

### ***FAMIS Select***

Access to and affordability of employer-sponsored health insurance continues to decline; as a result, FAMIS Select participation has shown a declining trend. A cost-versus-benefit comparison of FAMIS with the individual applicant's private or employer-sponsored insurance is not required in order for a family to enroll their child in FAMIS Select. Currently, DMAS does not request or receive information about FAMIS Select participants' private or employer-sponsored health insurance benefits, coverage, or cost-sharing. DMAS 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.

As part of the revised evaluation plan for FAMIS Select, DMAS will conduct interviews with participating families to gather qualitative data and feedback to help improve the program.

## **Evaluation Update**

The goals of Virginia's Section 1115 Demonstration outlined in the FAMIS MOMS and FAMIS Select Evaluation Plan approved November 3, 2021, are as follows:

For FAMIS MOMS:

- Facilitate access to prenatal care for FAMIS MOMS participants.
- Improve selected birth outcomes of FAMIS MOMS participants and their newborns.

For FAMIS Select:

- Facilitate access to affordable private and employer-sponsored health insurance for low-income families through premium assistance.
- Monitor and ensure member satisfaction with FAMIS Select program.
- Assure the aggregate cost-effectiveness of the FAMIS Select program.

In compliance with the updated terms of the approved amendment (STC #32), on May 17, 2022, Virginia submitted a draft of the revised evaluation plan describing objectives, measures, and evaluation activities for the new 12 months postpartum extended coverage component. CMS provided feedback and the evaluation plan went through two rounds of revisions before it was formally approved July 31, 2023.

The goals of the 12 Months Postpartum demonstration, as outlined in the evaluation plan, are as follows:

- Promote continuous coverage and continuity of care for women in the postpartum period.
- Increase access to medical and behavioral health care services and treatments for women in the postpartum period.
- Improve health and address health-related social needs for postpartum Medicaid and CHIP enrolled women.
- Improve health access and health outcomes for infants of postpartum Medicaid and CHIP enrolled women.
- Advance health equity by reducing racial/ethnic and other disparities in maternal coverage, access, and health outcomes as well as infant health outcomes among postpartum Medicaid and CHIP enrolled women and their infants.

## Performance Metrics

### FAMIS MOMS

The most recent data on prenatal and birth outcomes is from calendar year 2021, reported in detail in the *2021-2022 Medicaid and CHIP Maternal and Child Health Focus Study Report*, completed in January 2023 by Health Services Advisory Group (HSAG).<sup>4</sup> The next annual study, which will cover calendar year 2022 data, is underway and is scheduled for publication in early 2024. The full *2021-22 Medicaid and CHIP Maternal and Child Health Focus Study Report* is submitted as an attachment to this report.

The two demonstration goals for the FAMIS MOMS population and the reporting period's results for the three related measures are described below.

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**Demonstration Goal I:** *Facilitate access to prenatal care for FAMIS MOMS participants.*

**Research Question:** *Is enrollment in FAMIS MOMS enabling pregnant women to obtain better access to adequate prenatal care?*

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**Hypothesis I:** The proportion of pregnant women enrolled in FAMIS MOMS who are receiving adequate or better prenatal care will be maintained or will increase from SFY 2019 to SFY 2029.

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<sup>4</sup> This annual report was previously called the *Prenatal Care and Birth Outcomes Focused Study*.

**Measure I:** Births with Early and Adequate Prenatal Care—The percentage of births with an Adequacy of Prenatal Care Utilization (APNCU) Index score greater than or equal to 80 percent (i.e., births scoring in the “Adequate” or “Adequate Plus” categories)

**CY 2021 Outcomes for Measure I:**

|  | FAMIS MOMS CY2021 | Benchmark<br>(Healthy People 2030) |
|--|-------------------|------------------------------------|
| Births with Early and Adequate Prenatal Care | 79.2%             | 76.4%                              |

FAMIS MOMS outcomes for Measure I during calendar year 2021 demonstrate progress toward demonstration Goal I. The HSAG study found that 79.2% of FAMIS MOMS participants in the study population giving birth in 2021 received early and adequate prenatal care. Among the Medicaid pregnant women study population, the rate was 76.0%, and among the study population overall, 72.7%.

This outcome compared favorably with the identified benchmark, “Births with Early and Adequate Prenatal Care -- Healthy People 2030 Baseline,” which was 76.4%.<sup>5</sup> FAMIS MOMS outcomes for calendar year 2021 also compared favorably with the “Births with Early and Adequate Prenatal Care -- Healthy People 2030 Most Recent Data from 2021” metric, which was 75.6%.

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***Demonstration Goal II: Improve selected birth outcomes of FAMIS MOMS participants and their newborns.***

***Research Question: Is enrollment in FAMIS MOMS improving birth outcomes of participants?***

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**Hypothesis II:** The proportion of individuals enrolled in the FAMIS MOMS program with preterm births (less than 37 weeks gestation) will remain the same or will decrease from SFY 2019 to SFY 2029.

**Measure II:** Preterm Births (< 37 Weeks Gestation)—The percentage of births that occurred before 37 completed weeks of gestation

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<sup>5</sup> Healthy People 2030. “Increase the proportion of pregnant women who receive early and adequate prenatal care – MICH-08.” Baseline is the percent of pregnant women who received early and adequate prenatal care in 2018. 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>. Caution should be used when comparing study results to national benchmarks, as the benchmarks were derived from birth records covered by all payer types and may not mirror birth outcomes among women with births paid by Title XIX or Title XXI.

### CY 2021 Outcomes for Measure II:

|                                       | FAMIS MOMS CY2021 | Benchmark<br>(Healthy People 2030) |
|---------------------------------------|-------------------|------------------------------------|
| Preterm Births (< 37 Weeks Gestation) | 8.7%              | 9.4%                               |

FAMIS MOMS outcomes for Measure II during calendar year 2021 demonstrate progress toward Demonstration Goal II. Preterm births (< 37 weeks completed gestation) occurred in 8.7% of the FAMIS MOMS study population according to the HSAG study, compared to 8.8% of the Medicaid pregnant women study population, and 10.1% of the study population overall.

This outcome compared favorably with the identified benchmark, “Preterm births – Healthy People 2030 Target” which was 9.4%.<sup>6</sup> FAMIS MOMS outcomes for calendar year 2021 also compared favorably with the “Births with Early and Adequate Prenatal Care -- Healthy People 2030 Most Recent Data from 2021” metric, which was 10.5%.

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**Hypothesis III:** The rate of low birth weight births (birth weight less than 5 pounds, 8 ounces (2,500 grams)) among FAMIS MOMS will decline or remain the same over the demonstration period.

**Measure III:** Newborns with Low Birth Weight (<2,500 grams)—The percentage of newborns weighing less than 2,500 grams at birth. This includes birth weights in the very low birth weight category (birth weights less than 1,500 grams) and the low birth weight category (birth weights between 1,500 and 2,499 grams).

### CY 2021 Outcomes for Measure III:

|                                  | FAMIS MOMS CY2021 | Benchmark<br>(Core Set 2021) |
|----------------------------------|-------------------|------------------------------|
| Low Birth Weight (< 2,500 grams) | 8.0%              | 10.0%                        |

FAMIS MOMS outcomes for Measure III during calendar year 2021 demonstrate progress toward Demonstration Goal II. The HSAG study found that low birth weight (<2,500 grams) affected 8.0% of infants in the FAMIS MOMS study population, as compared to 8.3% in the Medicaid pregnant women study group, and 9.3% in the study population overall.

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<sup>6</sup> 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>.

This outcome compared favorably with the identified benchmark, “Low birth weight – FFY2020 Core Set” which was 10.0%.<sup>7</sup>

### **Summary of FAMIS MOMS Performance**

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.

Compared to the identified benchmarks, the FAMIS MOMS population’s outcomes were favorable for all three measures. For early and adequate prenatal care, FAMIS MOMS’ rates were 2.8 percentage points higher than the Healthy People 2030 Baseline and 3.6 points higher than the most recent data. On rates of preterm birth, the FAMIS MOMS population compared favorably to the Healthy People 2030 Target, at 0.7 percentage points lower, and most recent data, at 1.8 percentage points lower. The FAMIS MOMS population’s rate of low birth weight births was lower than the Core Set benchmark by 2.0 percentage points.

### **FAMIS Select**

The revised evaluation plan for FAMIS Select primarily involves analysis of qualitative data gathered through interviews with participating families. These interviews will help Virginia evaluate progress toward the following Demonstration Goals for the FAMIS Select program:

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***Demonstration Goal III: Facilitate access to affordable private and employer-sponsored health insurance for low-income families through premium assistance.***

***Demonstration Goal IV: Monitor and ensure member satisfaction with FAMIS Select program.***

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DMAS’ timeline for conducting FAMIS Select interviews was delayed due to the departure of key agency staff and subject matter experts. In future reports, DMAS will report on this data and describe how we plan to use this feedback to improve the program.

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<sup>7</sup> State Mean, *Table LBW-CH. Live Births Weighing Less Than 2,500 Grams*. 2021 Measure Performance Tables on the Child Core Set Measures (September 2023). Accessed 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>

## **Cost-Benefit of FAMIS Select**

The final Demonstration goal identified in Virginia's approved evaluation plan relates to the cost-effectiveness of the FAMIS Select program.

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***Demonstration Goal V:*** *Assure the aggregate cost-effectiveness of the FAMIS Select program*

***Research Question:*** *Is the FAMIS Select program cost-effective?*

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**Hypothesis VI:** The FAMIS Select program will be cost-effective as compared to the FAMIS program over the course of the demonstration year (state fiscal year)

**Measure VI:** Cost-effectiveness analysis (FAMIS Select-FAMIS comparison)

**Measure VI Description:** Data for Measure VI will come from fee-for-service claims, managed care encounters and capitation payments, and enrollment records.

### **Outcomes for Measure VI:**

As required by the Demonstration terms 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 an analysis of FAMIS Select expenses and offsetting savings based on FAMIS expenses for the most recent completed state fiscal year (SFY22). The average per enrollee, per month cost under FAMIS was \$248.66. The maximum monthly FAMIS Select premium subsidy was \$100 per enrollee, while the average subsidy per enrollee was \$98.64. Factoring in administrative expenses, the average monthly cost associated with a FAMIS Select enrollee was \$102.34. This resulted in a savings per FAMIS Select enrollee of \$146.32, which translates to an annual estimated savings of \$80,768.64.



| <b>Cost Analysis of the FAMIS Select program (State Fiscal Year 2022)</b>                 |                           |
|---|---------------------------|
| <b>Program Expense Categories</b>   | <b>Costs</b>              |
| Premium Subsidies   | \$54,451                  |
| Administration  | \$2,044                   |
| <b>Total</b>  | <b>\$56,495</b>           |
| <b>Cost Effectiveness Comparison</b>  |                           |
| Average per Enrollee per Month Cost for FAMIS   | \$248.66                  |
| Maximum FAMIS Select Premium Assistance Subsidy Per Enrollee                              | \$100.00                  |
| Actual Average Monthly Premium Subsidy Per Enrollee                                       | \$98.64                   |
| Actual Average Monthly Cost for FAMIS Select Enrollee with administrative and other costs | \$102.34                  |
| <b>Savings Per FAMIS Select Enrollee</b>  | <b>\$146.32</b>           |
| <i>Estimated Average Annual Savings</i>   | <i><b>\$80,768.64</b></i> |

## 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.

| <b>COST OF DEMONSTRATION<br/>(CHIP SECTION 1115)</b> | <b>SFY 2021 (DY2)</b> | <b>SFY 2022 (DY3)</b> |
|--|-----------------------|-----------------------|
|--|-----------------------|-----------------------|

### **Benefit Costs for FAMIS Select Demonstration Population**

|  |                            |                            |
|--|----------------------------|----------------------------|
| Insurance Payments                                 | \$54,582                   | \$54,451                   |
| Per member/per month rate @ # of eligibles         | \$89.19<br>@51 avg elig/mo | \$93.21<br>@46 avg elig/mo |
| <b><i>Total Benefit Costs for FAMIS Select</i></b> | <b><i>\$54,582</i></b>     | <b><i>\$54,451</i></b>     |

### **Benefit Costs for FAMIS MOMS Demonstration Population**

|  |                            |                            |
|--|----------------------------|----------------------------|
| Managed care                                     | \$18,620,945               | \$17,844,129               |
| Per member/per month rate @ # of eligibles       | \$931.98 @1,665            | \$710.47 @2,093            |
| Fee for Service                                  | \$2,030,083                | \$2,026,316                |
| <b><i>Total Benefit Costs for FAMIS MOMS</i></b> | <b><i>\$20,651,028</i></b> | <b><i>\$19,870,445</i></b> |

|  |                            |                            |
|--|----------------------------|----------------------------|
| <b><i>Total Benefit Costs</i></b>          | <b><i>\$20,705,610</i></b> | <b><i>\$19,924,896</i></b> |
| <b><i>Total Administration Costs</i></b>   | <b><i>\$1,323,312</i></b>  | <b><i>\$968,170</i></b>    |
| <b>Federal Title XXI Share</b>             | <b>\$15,909,287</b>        | <b>\$14,487,252</b>        |
| <b>State Share</b>                         | <b>\$6,119,634</b>         | <b>\$6,405,814</b>         |
| <b><i>TOTAL COSTS OF DEMONSTRATION</i></b> | <b><i>\$22,028,922</i></b> | <b><i>\$20,893,066</i></b> |

## **Conclusion**

FAMIS MOMS and FAMIS Select continue to help meet health coverage needs in Virginia by providing options that would otherwise not exist for two vulnerable populations: uninsured 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 is building on these established programs as we incorporate into the demonstration the recently implemented component of 12 months extended postpartum coverage for Medicaid and CHIP members.

# Commonwealth of Virginia Department of Medical Assistance Services

## 2021–22 Medicaid and CHIP Maternal and Child Health Focus Study Report



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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,<sup>1-1</sup> the Commonwealth of Virginia Department of Medical Assistance Services (DMAS) contracted with Health Services Advisory Group, Inc. (HSAG) to conduct a focus study during contract year 2021–22, providing quantitative information about prenatal care and associated maternal and birth outcomes among women with births paid by Title XIX or Title XXI, which include the Medicaid, Medicaid Expansion, and Family Access to Medical Insurance Security (FAMIS) MOMS programs. The Contract Year 2021–22 Medicaid and Children’s Health Insurance Program (CHIP) Maternal and Child Health Focus Study addressed the following questions:

- To what extent do women with births paid by Virginia Medicaid receive early and adequate prenatal care during pregnancy?
- What clinical outcomes (e.g., preterm births, low birth weight) are associated with births paid by Virginia Medicaid?
- What maternal health outcomes (e.g., depression) are associated with births paid by Virginia Medicaid?
- What health disparities exist in birth outcomes for births paid by Virginia Medicaid?

## 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) 2021. Medicaid member, claims, and encounter data files were used with birth registry data fields to match members from each data linkage process. 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 2021 paid by Virginia Medicaid regardless of whether the births occurred in Virginia. Births paid by Virginia Medicaid were assigned to one of four program categories based on the mother’s program at the time of delivery:<sup>1-2</sup>

- 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 federal poverty level (FPL).
- The Medicaid Expansion program uses Title XIX funding to serve adults ages 19 to 64 years of age with incomes up to 133 percent of the FPL. Members who become pregnant while already enrolled in the Medicaid Expansion group may remain in that eligibility category during the pregnancy, while

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<sup>1-1</sup> 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. Available at: <https://www.medicaid.gov/medicaid/quality-of-care/downloads/2019-eqr-protocols.pdf>. Accessed on: Jan 3, 2023.

<sup>1-2</sup> A standard disregard of 5 percent FPL is applied to the Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs if the woman’s income is slightly above the household income.

individuals who report that they are pregnant at initial application must be enrolled into a pregnancy category such as Medicaid for Pregnant Women or FAMIS MOMS.

- The FAMIS MOMS program uses Title XXI (CHIP Demonstration Waiver) funding to serve pregnant women with incomes up to 200 percent of the FPL and provides benefits similar to Medicaid.
- The Other Aid Categories include births paid by Medicaid that do not fall within the Medicaid for Pregnant Women, Medicaid Expansion, or FAMIS MOMS programs. Please note, births to women in Plan First and the Department of Corrections (DOC) are excluded.<sup>1-3,1-4</sup>

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 prior to the delivery:

- Study Population: women enrolled in Medicaid for Pregnant Women, Medicaid Expansion, FAMIS MOMS, or Other Aid Categories on the date of delivery, with continuous enrollment in any Medicaid program or combination of programs for 120 or more days (counting the date of delivery).
- Comparison Group: women enrolled in any of the four Medicaid programs (i.e., Medicaid for Pregnant Women, Medicaid Expansion, FAMIS MOMS, or Other Aid Categories) on the date of delivery with continuous enrollment in any Medicaid program or combination of programs for fewer than 120 days (counting the date of delivery).

HSAG calculated the following birth outcomes study indicators to assess the study questions for all singleton, live births paid by Virginia Medicaid during CY 2021:

- ***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 an APNCU Index score of less than 50 percent (i.e., women who received less than 50 percent of expected prenatal care visits).
  - ***Births with No Prenatal Care***—The percentage of births with no prenatal care.
- ***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 less than 1,500 grams) and the low birth weight category (i.e., birth weights between 1,500 and 2,499 grams).

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<sup>1-3</sup> The “Other Aid Categories” include births paid by Medicaid or CHIP as part of the Low Income Families with Children (LIFC) (parents and caretaker adults), disabled individuals, Medicaid Children, Foster Children and Former Foster Youth, Adoption Assistance Children, FAMIS Children, FAMIS Prenatal Coverage, presumptively eligible individuals, and others.

<sup>1-4</sup> Prior to the 2021–22 Medicaid and CHIP Maternal and Child Health Focus Study, births to women in the LIFC program were not included in the Other Aid Categories program. Therefore, HSAG recalculated historical (i.e., CY 2019 and CY 2020) Other Aid Categories program rates to include births for women in LIFC.

Additionally, HSAG calculated the following maternal health outcomes study indicators to assess the study questions for all singleton, live births paid by Virginia Medicaid during CY 2021:

- *Postpartum Emergency Department (ED) Utilization*—The percentage of postpartum women who utilized ED services within 90 days of delivery.
- *Postpartum Ambulatory Care Utilization*—The percentage of postpartum women who utilized ambulatory care services within 90 days of delivery.
- *Prenatal Maternal Depression Screening*—The percentage of women who received a screening for depression during pregnancy.
- *Postpartum Maternal Depression Screening*—The percentage of women who received a screening for depression on or between seven and 84 days after delivery.

Within Section 3 of this report, HSAG presents the overall birth characteristics for key maternal demographic characteristics (i.e., maternal age at delivery, race/ethnicity, and managed care region of maternal residence) and by enrollment and program characteristics (i.e., Medicaid program, managed care program, delivery system, trimester of prenatal care initiation, length of continuous enrollment, and managed care organizations [MCOs]). HSAG also presents the birth outcomes study indicators stratified by key demographic, enrollment, and program characteristics, with comparisons to CY 2019 and CY 2020 results. Additionally, for the birth outcomes study indicator results, HSAG presents the health disparity analysis results for the race/ethnicity stratifications. For national benchmark comparisons, HSAG used the Healthy People 2030 goals, which use data derived from the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), and National Vital Statistics System (NVSS), for the *Births with Early and Adequate Prenatal Care* and *Preterm Births (<37 Weeks Gestation)* study indicators.<sup>1-5</sup> HSAG used the Federal Fiscal Year (FFY) 2020 CMS Core Set benchmarks for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator.<sup>1-6</sup>

Further, HSAG presents the CY 2021 maternal health study indicators stratified by select demographic characteristics (i.e., maternal race/ethnicity and managed care region of maternal residence) and enrollment and program characteristics (i.e., Medicaid program, managed care program at delivery, delivery system, trimester of prenatal care initiation, and length of continuous enrollment). Please note that HSAG developed the maternal health indicators for this study; therefore, national benchmarks are not available. Additional stratifications of the study indicators are presented in Appendix A.

## 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.

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<sup>1-5</sup> U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Healthy People 2030: Pregnancy and childbirth. Available at: <https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth>. Accessed on: Jan 3, 2023.

<sup>1-6</sup> Centers for Medicare & Medicaid Services. 2020 child and adult health care quality measures quality. Available at: <https://data.medicare.gov/dataset/fbbe1734-b448-4e5a-bc94-3f8688534741>. Accessed on: Jan 3, 2023.



**Table 1-1—Overall Births Paid by Virginia Medicaid, CY 2019–CY 2021**

| Overall Births                   | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|----------------------------------|---------|---------|---------|---------|---------|---------|
|                                  | Number  | Percent | Number  | Percent | Number  | Percent |
| <b>Overall Births*</b>           |         |         |         |         |         |         |
| Total Births                     | 38,317  | 100.0%  | 37,316  | 100.0%  | 36,480  | 100.0%  |
| <i>Multiple Gestation Births</i> | 1,350   | 3.5%    | 1,255   | 3.4%    | 1,184   | 3.2%    |
| <i>Singleton Births</i>          | 36,967  | 96.5%   | 36,061  | 96.6%   | 35,296  | 96.8%   |
| <b>Medicaid Births**</b>         |         |         |         |         |         |         |
| Total Births                     | 33,679  | 100.0%  | 33,401  | 100.0%  | 34,150  | 100.0%  |
| <i>Multiple Gestation Births</i> | 1,235   | 3.7%    | 1,171   | 3.5%    | 1,118   | 3.3%    |
| <i>Singleton Births</i>          | 32,444  | 96.3%   | 32,230  | 96.5%   | 33,032  | 96.7%   |

\* Overall Births includes all births paid by Virginia Medicaid.

\*\* Medicaid Births exclude members enrolled in limited benefit programs (e.g., Plan First) and members who are only eligible for emergency only benefits.

The number of overall births identified in the matched vital statistics data slightly declined in CY 2021, while the number of Medicaid births identified in the matched vital statistics data slightly increased in CY 2021. The increase in Medicaid Births in CY 2021 is likely primarily attributed to the implementation of the FAMIS Prenatal Coverage program in July 2021, which resulted in the inclusion of approximately 2,000 more births for CY 2021, while the decrease observed in the overall births is primarily attributed to a decline in emergency only births that were matched to the vital statistics data. Virginia Medicaid's compliance with federal maintenance of effort (MOE) policies during the continuing coronavirus disease 2019 (COVID-19) public health emergency (PHE), which prevented members' coverage from being terminated in most circumstances for the duration of the PHE, was likely also a factor contributing to the higher number of births.

Births in each measurement period were stratified into four Medicaid programs (i.e., Medicaid for Pregnant Women, Medicaid Expansion, FAMIS MOMS, and Other Aid Categories) and two 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 Medicaid programs and delivery systems.

**Table 1-2—Singleton Births by Medicaid Program and Delivery System, CY 2019–CY 2021**

| Overall Births              | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|-----------------------------|---------|---------|---------|---------|---------|---------|
|                             | Number  | Percent | Number  | Percent | Number  | Percent |
| Singleton Births            | 32,444  | 100.0%  | 32,230  | 100.0%  | 33,032  | 100.0%  |
| <b>Medicaid Program</b>     |         |         |         |         |         |         |
| Medicaid for Pregnant Women | 22,978  | 70.8%   | 19,772  | 61.3%   | 15,682  | 47.5%   |
| Medicaid Expansion          | 2,152   | 6.6%    | 4,576   | 14.2%   | 6,548   | 19.8%   |
| FAMIS MOMS                  | 2,193   | 6.8%    | 2,091   | 6.5%    | 1,785   | 5.4%    |
| Other Aid Categories†       | 5,121   | 15.8%   | 5,791   | 18.0%   | 9,017   | 27.3%   |
| <b>Delivery System</b>      |         |         |         |         |         |         |
| FFS                         | 3,827   | 11.8%   | 3,025   | 9.4%    | 3,916   | 11.9%   |
| Managed Care                | 28,617  | 88.2%   | 29,205  | 90.6%   | 29,116  | 88.1%   |

† Other Aid Categories includes all other births not covered by the Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs.

While the majority of Medicaid program births across all three measurement periods were to women in the Medicaid for Pregnant Women program, there was a decline in births for this program for CY 2021. This decrease is expected due to the implementation of Medicaid Expansion on January 1, 2019, which provided coverage to women who were previously only eligible for Medicaid if they became pregnant. As a result, the number of births to women in Medicaid Expansion increased by more than 40 percent between CY 2020 and CY 2021.

Table 1-3 presents the overall birth outcomes study indicator results for each measurement period.

**Table 1-3—Overall Birth Outcomes Study Indicator Findings Among Singleton Births, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 22,392  | 72.3%   | 22,245  | 71.9%   | 23,780  | 72.7%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 5,043   | 16.3%   | 4,651   | 15.0%   | 5,106   | 15.6%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 688     | 2.2%    | 534     | 1.7%    | 685     | 2.1%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 3,263   | 10.1%   | 3,168   | 9.8%    | 3,327   | 10.1%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 3,070   | 9.5%    | 2,979   | 9.2%    | 3,074   | 9.3%    |

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

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

The percentage of CY 2021 *Births with Early and Adequate Prenatal Care* was consistent with prior years and continues to fall below the national benchmark. The rates for the *Newborns with Low Birth Weight (<2,500 grams)* indicator outperformed the national benchmark for all three measurement periods, demonstrating strength for Virginia Medicaid. While the rates of *Births with Early and Adequate Prenatal Care* are consistent across all years, it should be noted that the COVID-19 PHE may have negatively impacted CY 2020 study indicator results due to the public health efforts put in place during CY 2020 to mitigate the spread of COVID-19 (e.g., social distancing, stay at home orders). As a result, caution should be exercised when comparing CY 2019 and CY 2021 study indicator results to CY 2020.

To facilitate DMAS' program evaluation efforts, Table 1-4 presents the CY 2021 study indicator results for the four Medicaid Programs (i.e., Medicaid for Pregnant Women, Medicaid Expansion, FAMIS MOMS, and Other Aid Categories) stratified into a study population and comparison group based on the length of continuous enrollment prior to a woman's delivery. The table also identifies for each study indicator whether there was a statistically significant difference between results for the study population (i.e., continuously enrolled for  $\geq 120$  days prior to delivery) and the comparison group (i.e., continuously enrolled for  $< 120$  days prior to delivery).

**Table 1-4—Overall Medicaid Program Birth Outcomes Study Indicator Findings Among Singleton Births by Comparison Group and Study Population, CY 2021**

| Study Indicator                                | National Benchmark | Comparison Group |        |         | Study Population |        |         |
|--|--------------------|------------------|--------|---------|------------------|--------|---------|
|  |                    | Denom            | Number | Percent | Denom            | Number | Percent |
| Medicaid for Pregnant Women                    |                    |                  |        |         |                  |        |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,196            | 1,345  | 61.2%   | 13,348           | 10,148 | 76.0%^  |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 2,196            | 530    | 24.1%   | 13,348           | 1,807  | 13.5%^  |
| <i>Births with No Prenatal Care*</i>           | NA                 | 2,196            | 96     | 4.4%    | 13,348           | 143    | 1.1%^   |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,227            | 272    | 12.2%   | 13,454           | 1,188  | 8.8%^   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,227            | 221    | 9.9%    | 13,451           | 1,112  | 8.3%^   |
| Medicaid Expansion                             |                    |                  |        |         |                  |        |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 205              | 156    | 76.1%   | 6,287            | 4,875  | 77.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 205              | 24     | 11.7%   | 6,287            | 698    | 11.1%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 205              | S      | S       | 6,287            | 147    | 2.3%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 206              | 22     | 10.7%   | 6,339            | 711    | 11.2%   |

| Study Indicator                                | National Benchmark | Comparison Group |        |         | Study Population |        |         |
|--|--------------------|------------------|--------|---------|------------------|--------|---------|
|  |                    | Denom            | Number | Percent | Denom            | Number | Percent |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 206              | 23     | 11.2%   | 6,338            | 684    | 10.8%   |
| <b>FAMIS MOMS</b>                              |                    |                  |        |         |                  |        |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 397              | 295    | 74.3%   | 1,372            | 1,087  | 79.2%^  |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 397              | 63     | 15.9%   | 1,372            | 156    | 11.4%^  |
| <i>Births with No Prenatal Care*</i>           | NA                 | 397              | S      | S       | 1,372            | S      | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 403              | 41     | 10.2%   | 1,382            | 120    | 8.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 403              | 34     | 8.4%    | 1,382            | 111    | 8.0%    |
| <b>Other Aid Categories†</b>                   |                    |                  |        |         |                  |        |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,024            | 1,020  | 50.4%   | 6,892            | 4,854  | 70.4%^  |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 2,024            | 712    | 35.2%   | 6,892            | 1,116  | 16.2%^  |
| <i>Births with No Prenatal Care*</i>           | NA                 | 2,024            | 83     | 4.1%    | 6,892            | 197    | 2.9%^   |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,054            | 184    | 9.0%    | 6,962            | 789    | 11.3%^  |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,054            | 140    | 6.8%    | 6,961            | 749    | 10.8%^  |

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

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

† Other Aid Categories includes all other births not covered by the Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs.

^indicates a statistically significant difference between the study population rate and the comparison group rate.

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

Overall, the Medicaid for Pregnant Women and FAMIS MOMS programs demonstrated strength in CY 2021, with the study populations exceeding the applicable national benchmark for the *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* study indicators. Additionally, the Medicaid Expansion and FAMIS MOMS study populations exceeded the national benchmark for the *Births with Early and Adequate Prenatal Care* study indicator. Conversely, the Other Aid Categories study population rates fell below the national benchmark for all three study indicators that could be compared to national benchmarks, with the study population having the lowest rates of *Births with Early and Adequate Prenatal Care* when compared to the other study populations. Of note, the comparative analysis showed a large difference between the rate of *Births with Early and Adequate Prenatal Care* for the study population and the comparison group for women in the Medicaid for

Pregnant Women and Other Aid Categories, with the study population's rates at least 14 percentage points higher than the comparison group rates, demonstrating strength for these study populations.

Table 1-5 presents the overall maternal health outcomes study indicator results for CY 2021.

**Table 1-5—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births, CY 2021**

| Study Indicator                          | CY 2021     |           |         |
|--|-------------|-----------|---------|
|  | Denominator | Numerator | Percent |
| Postpartum ED Utilization*               | 33,032      | 8,504     | 25.7%   |
| Postpartum Ambulatory Care Utilization   | 33,032      | 17,024    | 51.5%   |
| Prenatal Maternal Depression Screening   | 33,032      | 1,638     | 5.0%    |
| Postpartum Maternal Depression Screening | 33,032      | 2,251     | 6.8%    |

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

As indicated in Table 1-5, approximately 26 percent and 52 percent of postpartum women utilized ED and ambulatory care services, respectively. Please note that these study indicators do not include services related explicitly to postpartum care visits and instead represent the utilization of ED and ambulatory services within the postpartum period; therefore, exercise caution when interpreting results. Of note, women who received no prenatal care had the highest rates of *Postpartum ED Utilization*, while women who were continuously enrolled for more than 180 days had higher rates of *Postpartum Ambulatory Care Utilization*. These findings are expected given that women who established a provider for prenatal care would likely continue to seek care with that provider in an ambulatory setting after delivery. However, for those women who did not receive prenatal care, there is an opportunity to ensure that these women establish a provider prior to becoming pregnant in order to ensure utilization of appropriate care before and after pregnancy (i.e., ambulatory care instead of ED).

Approximately 5 percent of pregnant women and approximately 7 percent of postpartum women received a maternal depression screening. Please note that these study indicators only consider women who received a standardized maternal depression screening; therefore, these rates are likely low due to providers using nonstandardized screenings. The State of New York Department of Health found that while approximately 63 percent of women received a depression screening during the initial visit with their provider, only around 7 percent received a depression screening using a standardized tool.<sup>1-7</sup> Overall, HSAG found that women who initiated prenatal care in their first trimester and women who were continuously enrolled for more than 180 days had the highest rates of *Prenatal Maternal Depression Screening* and *Postpartum Maternal Depression Screening* in CY 2021.

<sup>1-7</sup> New York State Department of Health. Screening for maternal depression. Available at: [https://www.health.ny.gov/community/pregnancy/health\\_care/perinatal/maternal\\_depression/providers/screening.htm](https://www.health.ny.gov/community/pregnancy/health_care/perinatal/maternal_depression/providers/screening.htm). Accessed on: Jan 3, 2023.

## Conclusions and Recommendations

### Conclusions

#### Birth Outcomes

This study considered five quantitative indicators related to prenatal care and associated birth outcomes among births paid by Virginia Medicaid. Between the CY 2019 and CY 2021 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 *Preterm Births (<37 Weeks Gestation)* indicators continued to fall below national benchmarks for all three measurement periods. Conversely, rates for the *Newborns with Low Birth Weight (<2,500 grams)* indicator outperformed the national benchmark for all three measurement periods, demonstrating strength for Virginia Medicaid.

The CY 2021 study indicator results also show regional differences in care, with women residing in the Central region having higher rates of early and adequate prenatal care compared to women in other regions; however, these women still had some of the highest rates of preterm births and newborns with low birth weight. Despite a steady decline in the percentage of women with early and adequate prenatal care within the Southwest region in prior years' results, the CY 2021 rate increased by nearly 10 percentage points from CY 2020 to CY 2021 and was the second highest rate among the regions. Within all regions, racial disparities exist, with Black, Non-Hispanic women having the highest rates of preterm births and newborns with low birth weight, and Hispanic women of any race having the lowest rates of early and adequate prenatal care for CY 2021.

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 obtain better health coverage before, during, and after pregnancy, which leads to improved prenatal and postpartum care. Further, Medicaid Expansion programs also decrease the likelihood of women experiencing intermittent healthcare coverage, which is important for improving health outcomes for mothers and babies.<sup>1-8</sup> All study indicator results for the Medicaid Expansion program for CY 2021, except for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator, demonstrated improvement from CY 2020, with the CY 2021 rate for *Births with Early and Adequate Prenatal Care* surpassing the national benchmark. However, rates for *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* continue to fall below national benchmarks. Therefore, DMAS should continue to monitor this population by assessing the risk factors for women in the Medicaid Expansion program that could be contributing to higher rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)*.

The FAMIS MOMS program continued to outperform other programs, though it is important to note that women enrolled in FAMIS MOMS have different income eligibility limits compared to other pregnant

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<sup>1-8</sup> 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](https://ccf.georgetown.edu/wp-content/uploads/2019/05/Maternal-Health_FINAL-1.pdf). Accessed on: Jan 3, 2023.



women (i.e., FAMIS MOMS covers women with incomes up to 200 percent of the FPL<sup>1-9</sup>). 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 for women in other Medicaid programs based on household income. Though limited in number, births to women enrolled in FAMIS MOMS, especially those with continuous enrollment more than 120 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 (<2,500 grams)*. While these rates remained stable over time, the promising results from this program suggest that it could offer a valuable starting point for assessing members' satisfaction with care and underlying social determinants of health (SDoH) that may distinguish these women from other Medicaid members.

## Maternal Health Outcomes

This study assessed four maternal health outcomes related to utilization in the postpartum period and important screenings during the prenatal and postpartum periods. Overall, approximately 26 percent and 52 percent of postpartum women utilized ED and ambulatory care services, respectively. Women who received no prenatal care had the highest rates of *Postpartum ED Utilization*, while women who were continuously enrolled for more than 180 days had higher rates of *Postpartum Ambulatory Care Utilization*. Approximately 7 percent of postpartum women received a maternal depression screening. These low rates suggest that data may be incomplete and/or providers may not be billing for these services separately. For the maternal depression screenings, it may be possible that these screenings are happening; however, providers may not be using a standardized screening tool.

In CY 2021, there were racial differences related to the utilization of ED and ambulatory services, with Black, Non-Hispanic women and Hispanic women of any race having the highest *Postpartum ED Utilization* rates and the lowest rates of *Postpartum Ambulatory Care*, indicating that these women were more reliant on receiving postpartum care through an ED setting. Further, there were regional differences related to maternal depression screenings, with the Charlottesville/Western region having the highest rates of prenatal and postpartum maternal depression screenings compared to all other regions. Of note, the rate of prenatal maternal depression in Charlottesville/Western was nearly 10 percentage points higher than the next highest regional rate. This may be attributed to the fact that approximately 56 percent of births in Charlottesville/Western were to White, Non-Hispanic women, who had the highest rates of maternal depression screenings.

## 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.

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<sup>1-9</sup> A standard disregard of 5 percent FPL is applied to the Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs if the woman's income is slightly above the household income.

- 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.<sup>1-10</sup>
- Virginia Medicaid’s compliance with federal MOE policies during the continuing COVID-19 PHE prevented members’ coverage from being terminated in most circumstances for the duration of the PHE. This may have contributed to a higher number of births during CY 2020; therefore, caution should be exercised when comparing CY 2021 study results to CY 2020 results.
- COVID-19 may have impacted the CY 2020 study indicator results given the public efforts put in place during CY 2020 to mitigate the spread of COVID-19 (e.g., social distancing, stay at home orders). Additionally, researchers have found that women who were pregnant during the early stages of the COVID-19 pandemic had increased fears and stress about delivering in a hospital, especially when a support person could not be in the hospital for the delivery or go to prenatal visits with the mother.<sup>1-11,1-12</sup> Further, COVID-19 may have also impacted women’s ability to get timely and frequent prenatal care. As a result, caution should be exercised when comparing CY 2019 and CY 2021 study indicator results to those for CY 2020.
- 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. Caution should be used when comparing study results to national benchmarks, as the benchmarks were derived from birth records covered by all payer 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 7 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.

<sup>1-10</sup> Dietz PM, Bombard JM, Hutchings YL, et. al. Validation of obstetric estimate of gestational age on US birth certificates. *American Journal of Obstetrics and Gynecology*. Apr 2014; 210(4): 335.e1-335.e5. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4560346/>. Accessed on: Jan 3, 2023.

<sup>1-11</sup> Whipps MDM, Phipps JE, Simmons LA. Perinatal health care access, childbirth concerns, and birthing decision-making among pregnant people in California during COVID-19. *BMC Pregnancy and Childbirth*. 2021; 21(477). Available at: <https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-021-03942-y>. Accessed on: Jan 3, 2023.

<sup>1-12</sup> Meaney S, Letiao S, Olander EK, et al. The impact of COVID-19 on pregnant womens’ experiences and perceptions of antenatal maternity care, social support, and stress-reduction strategies. *Women and Birth*. 2021. Available at: <https://doi.org/10.1016/j.wombi.2021.04.013>. Accessed on: Jan 3, 2023.



- As many pregnant women new to Medicaid may not be enrolled in 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 members 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®)<sup>1-13</sup> *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.
- HSAG developed the maternal health outcomes study indicators; therefore, comparisons to any applicable national benchmarks cannot be made. Further, due to billing practices of providers (e.g., global billing), some study indicator results (i.e., maternal depression screenings) are likely more representative of data completeness, rather than actual performance.
- For CY 2021, the FAMIS Prenatal Coverage program was included in the Other Aid Categories group. Since the FAMIS Prenatal Coverage program began in July 2021, women included in the FAMIS Prenatal Coverage population at the time of delivery may not have been eligible for the program in time to receive timely or adequate prenatal care.

## 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:

- Overall, approximately 73 percent of births in CY 2021 received early and adequate prenatal care, and approximately 18 percent of births in CY 2021 received inadequate or no prenatal care. The 2020–21 secret shopper survey that assessed appointment availability for prenatal care providers who accept Medicaid in Virginia found that 76.4 percent of cases were offered a first trimester appointment date, 48.4 percent of cases were offered a second trimester appointment date, and 38.8 percent of cases were offered a third trimester appointment date. The results of both studies suggest that DMAS and the MCOs should investigate the factors contributing to women's ability to access timely prenatal care and implement targeted improvement efforts. These efforts should include ensuring that all women of childbearing age establish a primary care provider or obstetrician/gynecologist (OB/GYN) prior to pregnancy 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 to ensure better outcomes for both the mother and baby.<sup>1-14</sup>
- Unplanned pregnancies are associated with higher rates of preterm births and newborns with low birthweight.<sup>1-15</sup> Therefore, as part of ensuring that all women of childbearing age have an

<sup>1-13</sup> HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

<sup>1-14</sup> March of Dimes. Before or between pregnancies. Available at: <https://www.marchofdimes.org/pregnancy/before-pregnancy.aspx#>. Accessed on: Jan 3, 2023.

<sup>1-15</sup> National Institute for Children's Health Quality. As unplanned pregnancy rates drop, births improve. Available at: <https://www.nichq.org/insight/unplanned-pregnancy-rates-drop-births-improve>. Accessed on: Jan 3, 2023.

established gynecologist prior to pregnancy, DMAS and the MCOs should assess if providers are offering family planning services (e.g., contraception) to women. Given that Medicaid members can now receive a 12-month supply of contraceptives,<sup>1-16</sup> DMAS and the MCOs should monitor contraceptive prescription rates for Medicaid women over time. DMAS should consider calculating and/or having the MCOs report the CMS Adult and Child Core Set measures related to contraceptives (i.e., *Contraceptive Care—All Women* and *Contraceptive Care—Postpartum Women*) to understand better how this policy change impacts the use of contraceptives over time.

- Long-acting reversible contraceptives (LARCs) are an effective contraceptive method that can help reduce unplanned and short-interval pregnancies.<sup>1-17</sup> MCOs should assess if providers are discussing the effectiveness of LARCs as part of the postpartum visit or even prior to the woman leaving the hospital after delivery. MCOs should work to inform their providers, and DMAS should continue to work with hospitals to institute protocols that allow physicians to leverage the Virginia Postpartum LARC toolkit.<sup>1-18</sup>
- Approximately 26 percent of postpartum women in CY 2021 utilized ED services within 90 days of delivery. Given that approximately 25 percent of women nationally utilized ED services within six months of delivery<sup>1-19</sup>, DMAS should consider investigating the utilization of ED services in the postpartum period to understand the factors contributing to why women are seeking care in the ED instead of an outpatient setting (e.g., assess if these women have an established primary care physician [PCP] or OB/GYN). Additionally, HSAG recommends including an analysis in next year's Medicaid and CHIP Maternal and Child Health Focus Study that provides additional information on ED visits for postpartum women (e.g., most common diagnoses for postpartum ED visits, whether the visit was emergent).
- Less than 7 percent of women had evidence of a maternal depression screening in administrative data sources, either during the prenatal or postpartum periods. However, this is likely due to provider billing practices (i.e., these screenings were performed during standard prenatal/postpartum visits and were not billed separately) or the use of nonstandardized screening methods that were not captured by the measures that HSAG developed to calculate these indicators. DMAS should consider working with the MCOs and providers to promote the use of, and provide trainings related to, standardized maternal depression screening tools during the perinatal period. Further, DMAS could consider requiring the MCOs to report the prenatal and postpartum maternal depression screening study indicators to DMAS annually in order to improve these rates.
- For future focus studies, DMAS should consider leveraging additional data fields in the vital statistics data or other data sources (e.g., claims/encounter data) to better understand the factors

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<sup>1-16</sup> Virginia Department of Medical Assistance Services. 12-month supply of contraceptives now available to Virginia Medicaid members. Available at: <https://www.dmas.virginia.gov/media/3779/press-release-virginia-medicaid-announces-12-month-supply-of-contraceptives.pdf>. Accessed on: Jan 3, 2023.

<sup>1-17</sup> The American College of Obstetricians and Gynecologists. Immediate postpartum long-acting reversible contraception. 2017. Available at: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2016/08/immediate-postpartum-long-acting-reversible-contraception>. Accessed on: Jan 3 2023.

<sup>1-18</sup> Virginia Department of Medical Assistance Services, Virginia Department of Health, and the Virginia chapter of the American College of Obstetricians and Gynecologists. Virginia postpartum LARC toolkit. Available at: [https://www.vdh.virginia.gov/content/uploads/sites/28/2016/07/VA\\_Postpartum\\_LARC\\_Toolkit\\_final.pdf](https://www.vdh.virginia.gov/content/uploads/sites/28/2016/07/VA_Postpartum_LARC_Toolkit_final.pdf). Accessed on: Jan 3, 2023.

<sup>1-19</sup> Harris A, Chang HY, Wang L, et al. Emergency room utilization after medically complicated pregnancies: A Medicaid claims analysis. *Journal of Women's Health*. 2015; 24(9):745–754. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4589304/>. Accessed on: Jan 3, 2023.

contributing to poor birth outcomes in Virginia. These data sources could be used to assess risk factors (pre-pregnancy and gestational diabetes and hypertension, and previous preterm births and poor pregnancy outcomes); a mother's substance use before and during pregnancy (smoking, alcohol, and drug use); and a mother's body mass index (BMI) before pregnancy and at delivery. Although data may be incomplete, HSAG could still leverage the 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:

### **Partnership for Petersburg (P4P)**

- On August 26, 2022, Governor Glenn Youngkin announced the new Partnership for Petersburg initiative, which includes six focus areas: Prepare Petersburg Students for Life, Improve Access to Health Care, Keep Our Community Safe, Keep Petersburg Moving, Foster Business & Economic Growth, and Build Relationships with Community and Faith Leaders. The Commonwealth of Virginia and community partners will work together to improve the health of Petersburg residents by expanding access to screenings, promoting awareness of primary care and prenatal care, and addressing health disparities by connecting Petersburg residents with medical and social services.
- In collaboration with the Partnership for Petersburg plan, DMAS mailed out more than 80 prenatal care flyers to pregnant members who had not yet received prenatal services. The flyer raised awareness of prenatal care, MCO extended benefits services, and contact information of local OB/GYNs in Petersburg.
- Approximately 60 percent of Petersburg's 33,000 residents are enrolled in Medicaid, and the vast majority of these members are covered through DMAS' managed care programs. As a result, Virginia MCOs have been tasked with enhanced outreach to pregnant or postpartum Petersburg members to facilitate OB visits, assisting DMAS to ramp up doula services in the Petersburg area, engaging Petersburg pediatricians to help increase well-child visits, and getting out into the community through mobile clinic events and resource fairs. Since the Partnership for Petersburg kick-off in August 2022, Virginia's MCOs, as well as Conexus and DentaQuest partners, have participated in over 40 events and Virginia's MCOs have invested more than \$3 million to support the Petersburg community.
- DMAS staff have engaged Petersburg maternity providers in a series of meetings with the local Federally Qualified Health Centers (FQHCs), regional medical center, health plans, and other stakeholders to learn about community needs, barriers, and opportunities to better serve Petersburg women and children. One of DMAS's key partners, Urban Baby Beginnings, will open a Petersburg maternity hub location in early 2023 to add additional on-the-ground resources and help accelerate the utilization of community doulas in the area. Virginia's MCOs have also committed to hosting quarterly community events targeting pregnant and postpartum members to provide education on topics such as safe sleep and car seats and give away resources such as diapers, cribettes, wipes, and other supplies.
- There are approximately 350 births each year in Petersburg, and DMAS prioritized outreach to pregnant and postpartum women as one of its first Partnership for Petersburg activities. On September 1, 2022, DMAS mailed out 70 flyers to pregnant members whose records indicated

might not have yet had a prenatal visit. The flyer raised awareness of prenatal care, MCO extended benefits services, and contact information of local OB/GYNs in Petersburg. DMAS also shared this list with MCOs who provided follow-up and assistance with appointment scheduling. Following these activities, around 75 percent of women who had not previously had a prenatal visit had received care.

## **Doula Benefit**

- Virginia is the fourth state in the nation to implement community doula services under the State Medicaid program. The overall goal of the Community Doula Program and Medicaid doula benefit is to improve maternal and infant outcomes in Virginia with Medicaid community doulas. Community doulas will offer members physical, emotional, and informational support during pregnancy, at labor and delivery, and during the postpartum period. As doulas receive State certification, DMAS will begin provider enrollment of doulas followed by managed care contracting with the health plans.
- Effective January 2022, VDH established the minimum requirements to be considered a State-certified community doula in Virginia based on the core competencies.
- In June 2022, DMAS launched the Community Doula Program webpage and Community Doula Engagement flyer to educate community stakeholders, doulas, and interested individuals about the Medicaid doula benefit and encourage doula State certification and Medicaid doula enrollment.
- In July 2022, DMAS held a Community Doula Program Meeting, which included a program overview, key highlights supporting the agency's efforts to grow the doula provider network to support Medicaid pregnant members, updates on community doula State certification, and Medicaid provider enrollment, including a testimonial from one of the agency's first contracted community doulas. Representation included the managed care health plans; VDH; the doula community, including the Virginia Doula Task Force Chair and committee members; and other key stakeholders from the provider community and health systems.
- DMAS presented on the Community Doula Program implementation at the Black Maternal Health Summit. The Black Maternal Health Summit is facilitated by Birth in Color RVA and included attendees from the community, private organizations, the provider communities, and other State agencies, including VDH.
- DMAS participated in the Center for Health Care Strategies (CHCS) State Environmental Scan of Medicaid Coverage of Doula Services sponsored by the California Health Care Foundation. Participating states included New Jersey; Virginia, California; Washington, DC; Maryland; Oregon; and Rhode Island. Three sessions were held on July 25, August 5, and August 23, 2022. Topics included rates, billing, and reimbursement; doula training, credentialing, and supervision; and workforce development, sustainability, and contracting with MCOs/healthcare plans.
- DMAS is participating in the Title V Accelerating Equity Learning Collaborative (AELC) established through the University of North Carolina (UNC) WorkForce Development Center to address the issues of racial and health equity. The group consists of the VDH Title V manager, VDH staff members, and early childhood health/home visiting staff members. The collaborative has a doula program operating in the two of the local VDH health districts.
- DMAS is participating in quarterly Virginia Doula Task Force Meetings. The Virginia Task Force assists with the promulgation of regulations and the certification process of doulas and serves as an informational resource for policy-related matters for VDH. Meetings were held in January and April 2022. In April 2022, the Task Force voted in favor of a doula communication plan, and for the

establishment of a workforce and professional development committee to ensure continued training and professional development for doulas.

- DMAS is drafting a Community Doula Program strategic plan to further the implementation efforts of the Medicaid doula benefit. Key areas of focus include infrastructure building and sustainability, collaboration and partnership, and resource and data development.
- In August 2022, two of Virginia Medicaid's first community doulas provided the first two prenatal doula visits to Medicaid members, one of which was provided to a Spanish-speaking member with the use of an interpreter. Both doulas reported that the visits went well and the members were very excited to have the support of a doula. The visits included a detailed review of each member's birth plan and education regarding labor and delivery.
- As of September 2022, 38 doulas have received State certification. Of the 38, 24 doulas have completed Medicaid enrollment and 22 doulas have contracted with an MCO/healthcare plan.
- In November 2022, DMAS, in partnership with the healthcare plans, will launch two doula provider videos, which will be used for statewide community doula recruitment and engagement efforts.

## Baby Steps

Baby Steps VA continues to address the needs of both Virginia's pregnant and parenting Medicaid members from preconception to pregnancy and parenting. This lifespan strategy is imperative as DMAS continues to focus on eliminating racial disparities in maternal outcomes. As DMAS is committed to wellness one step at a time, DMAS knows it cannot do this work without the partnerships it has developed since its inception in 2019. DMAS outlined strategies to acknowledge best practices to improve the wellbeing of all Medicaid members and their babies, from pregnancy to postpartum. Virginia Medicaid covered approximately 37,000 births in 2020, to predominately White and African American members.

In 2021, DMAS accomplished and partnered with many of its sister agencies, MCOs, hospital systems, community stakeholders, and internal staff members to collaborate to discuss priorities around maternal health during bimonthly calls.

- Urban Baby Beginnings and the Virginia Neonatal Perinatal Collaborative partnered with Project ReByrth to build sustainable community-based programs and safer childbirth cities throughout Virginia. The goal of the project is to develop State-level support for expectant and postpartum women to improve overall outcomes.
- With a focus on LARCs and reproductive health, the Virginia Department of Health (VDH) and DMAS shared insight on the various contraceptive programs available for members and how providers utilize services for billing.
- Birth in Color RVA supports pregnant persons utilizing four sectors of community-based organizations (CBOs), nonprofits, advocacy, and awareness/education. Birth in Color RVA continues to expand projects and locations, along with addressing maternal mental health and oral health programs.
- DMAS continues to support and address policies and procedures to improve overall wellness from preconception to postpartum for enrolled Medicaid members.
- The Baby Steps VA (BVSA) outreach and information team is member-focused to educate and address health disparities among preconception, pregnancy, postpartum, and parenting Medicaid



populations. In continued support of Baby Steps VA initiatives, the outreach and information team partnered with several external maternal health focused groups to discuss actions items for training opportunities, outreach services, and community partnerships.

- DMAS released the second BSVA Maternal Health Annual Report<sup>1-20</sup> for 2021 detailing the accomplishments of the program, including how it is addressing maternal health and racial disparities.
- During each bimonthly meeting for BSVA MCO representatives, community stakeholders, and hospitals systems shared their collaborative efforts with Medicaid pregnant and parenting members.
- FQHCs have partnered to expand services for Medicaid pregnant and parenting members from prenatal and postpartum.
- DMAS and VDH developed an educational document for providers on reimbursement processes for FQHCs.
- The Sixth Annual Virginia Neonatal Perinatal Collaborative (VNPC) Summit: DMAS attendees collaborated with Maternal Health Providers to learn strategies to increase collaboration and build trust with partners, learned about free Hear-Her resources that raises awareness of urgent maternal warning signs during pregnancy and a year post-partum
- Virginia Commonwealth University (VCU) Project Empower: goal to reduce maternal death due to Domestic Violence and suicide; including a screening assessment process and focus on eliminating bias for pregnant moms with substance use disorders (SUDs).

DMAS' Baby Steps VA will continue to be the foundation of maternal health policies as DMAS pursues new policies and initiatives to ensure optimal care for its members in 2022.

### **Maternal and Child Health Policy Innovation Program (MCH PIP)**

- The MCH PIP VA Committee has continued to work and focus on outreach efforts for members around postpartum coverage and doula implementation. The committee has developed a member toolkit that will provide members with information on the new postpartum coverage components along with details on the importance of the postpartum visit.
- The MCH PIP Member Postpartum Coverage toolkit will include details on the new postpartum coverage benefit, postpartum visits, wellness checks, postpartum maternal mental health, post-delivery, and breastfeeding.
- National Academy for State Health Policy (NASHP) MCH PIP Committee members attended the Annual State Convening for NASHP in Seattle on September 12, 2022. The convening allowed states to further refine teamwork plans and action steps for the final months of the policy academy. Virginia presented on the initiatives and accomplishments of maternal health across the Commonwealth.

### **Additional Successful Strategy Updates**

- Starting on July 1, 2021, Virginia offers comprehensive prenatal coverage through FAMIS for pregnant women who meet all other eligibility criteria, regardless of immigration status.

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<sup>1-20</sup> Baby Steps VA. Department of Medical Assistance Services. Maternal Health Annual Report 2021. Available at: <https://www.dmas.virginia.gov/media/4638/dmas-maternity-report-2021.pdf>. Accessed on: Jan 3, 2023.

- In November 2021, DMAS' 1115 waiver amendment to extend postpartum coverage to 12 months was approved by the federal government. Effective July 1, 2022, Virginia became one of the first states to provide continuous full-benefit coverage across eligibility categories for a full 12 months postpartum. The expanded coverage enables Medicaid and FAMIS MOMS members to receive critical postpartum care for a full year postpartum, an important step in improving health outcomes for both women and their newborns.
- DMAS implemented a 15 percent increase in OB/GYN reimbursement rates for the first time since 2005.
- The Medicaid New Mom Letter was redesigned for new Medallion 4.0 and FFS birthing/moms. This resource guide will assist members with vital tips as they transition from before-to-after pregnancy care. Updates have been made to include new policy services, social media platforms, and direct access to CoverVA services and action items for pregnancy coverage.

## Collaboration and Outreach

- DMAS hosted an MCH collaborative with the MCOs. During the call, teams shared updates and an overview of HEDIS data points, maternal projects (Baby Steps VA, Doula Benefit, NASHP communications and postpartum coverage), and child health (foster care; early intervention [EI]; and early and periodic screening, diagnostic, and treatment [EPSDT]). MCOs and DMAS will focus on doulas and postpartum as well as child well visits and immunizations.
- DMAS was invited to speak at the Fourth Annual Perinatal, Maternal, and Infant Mortality Summit held by the VNPC on May 16, 2022. DMAS presented at this summit to provide State program updates. DMAS provided updates on the postpartum 12-month coverage extension, and how that comprehensive coverage provides members access to additional services, such as Addiction and Recovery Treatment Services (ARTS). DMAS had the opportunity to present on the ARTS benefit offered to all members, including pregnant individuals. DMAS presented on the Community Doula Program, including current program implementation and the healthcare benefits of doula care. DMAS is excited to continue its partnership with VNPC to discuss key topics relative to neonatal and perinatal health.
- DMAS awarded one of seven grant-funded sub-awards to the VCU OB MOTIVATE clinic in order to expand access to treatment in a co-located OB/GYN and addiction care clinic. Grant funds were spent on the establishment of a clinical coordinator role, support and supplies to carry out health system navigation procedures by staff members, and trauma-informed training for staff members.

## Continued State Support

In April 2021, the Office of the Secretary of Health and Human Resources presented the statewide strategic plan for maternal health. The Virginia Council for Women and former First Lady Pamela Northam emphasized the importance of maternal health initiatives across Virginia and the outcomes of the 2019 listening session that took place to develop this strategic plan.

In accordance with Item 312.G of the 2021 Special Session I Appropriations Act, as of July 1, 2021, FAMIS MOMS members have access to medically necessary treatment for SUD in an institution for mental diseases (IMD), equivalent to such benefits offered to pregnant women.

## 2. Overview and Methodology

### Overview

As an optional activity under the CMS EQR Protocols,<sup>2-1</sup> DMAS contracted with HSAG to conduct a focus study in contract year 2021–22 to provide quantitative information about prenatal care and associated birth and maternal health outcomes among women with births paid by Title XIX or Title XXI, which include the Medicaid, Medicaid Expansion, and FAMIS MOMS programs. The Contract Year 2021–22 Medicaid and CHIP Maternal and Child Health Focus Study addressed the following questions:

- To what extent do women with births paid by Virginia Medicaid receive early and adequate prenatal care during pregnancy?
- What clinical outcomes (e.g., preterm births, low birth weight) are associated with births paid by Virginia Medicaid?
- What maternal health outcomes (e.g., depression) are associated with births paid by Virginia Medicaid?
- What health disparities exist in birth outcomes for births paid by Virginia Medicaid?

### Methodology

The study included all singleton births paid by Virginia Medicaid during CY 2021. 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 2021 who were eligible for the focus study. This list was submitted to DMAS for linkage to the 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.<sup>2-2</sup> DMAS used deterministic and probabilistic data linkage methods to match HSAG's list of potential study members to birth registry records.<sup>2-3</sup> 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.

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<sup>2-1</sup> 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. Available at: <https://www.medicaid.gov/medicaid/quality-of-care/downloads/2019-eqr-protocols.pdf>. Accessed on: Jan 3, 2023.

<sup>2-2</sup> The Virginia birth registry contains records of live births; other pregnancy outcomes are not included in this study.

<sup>2-3</sup> 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.<sup>2-4</sup>

The eligible population was further classified by Medicaid program and service delivery system as follows:<sup>2-5</sup>

- The Medicaid for Pregnant Women program uses Title XIX funding to serve pregnant women with incomes up to 143 percent of the FPL.
- The Medicaid Expansion program uses Title XIX funding to serve adults ages 19 to 64 years of age with incomes up to 133 percent of the FPL. Members who become pregnant while already enrolled in the Medicaid Expansion group may remain in that eligibility category during the pregnancy, while individuals who report that they are pregnant at initial application must be enrolled into a pregnancy category such as Medicaid for Pregnant Women or FAMIS MOMS.
- The FAMIS MOMS program uses Title XXI funding to serve pregnant women with incomes up to 200 percent of the FPL and provides benefits similar to Medicaid.
- The Other Aid Categories include births paid by Medicaid that do not fall within the Medicaid for Pregnant Women, Medicaid Expansion, or FAMIS MOMS programs. Please note, births to women in Plan First and DOC are excluded.<sup>2-6, 2-7</sup>

While HSAG refers to specific programs (e.g., FAMIS MOMS) when applicable, the term “Medicaid” is used throughout the report to refer to all programs included in the Medicaid and CHIP Maternal and Child Health Focus Study regardless of funding source (i.e., Title XIX or Title XXI).

Births to women enrolled in any Medicaid program (i.e., Medicaid for Pregnant Women, Medicaid Expansion, FAMIS MOMS, and Other Aid Categories) 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 with continuous enrollment in any Medicaid program or combination of programs for 120 or more days (counting the date of delivery). The comparison group consisted of women with continuous enrollment in any Medicaid program or combination of programs for fewer than 120 days (counting the date of delivery).

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- <sup>2-4</sup> HSAG provided standard instructions for probabilistically linking data during each study period. However, different individuals from DMAS and VDH may have conducted the probabilistic linkages for the 2018–19, 2019–20, and 2020–21 studies, resulting in a variable percentage of probable birth record linkages that were manually reviewed for each measurement period.
- <sup>2-5</sup> A standard disregard of 5 percent FPL is applied to the Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs if the woman’s income is slightly above the household income.
- <sup>2-6</sup> The “Other Aid Categories” include births paid by Medicaid or CHIP as part of the LIFC (parents and caretaker adults), disabled individuals, Medicaid Children, Foster Children and Former Foster Youth, Adoption Assistance Children, FAMIS Children, FAMIS Prenatal Coverage, presumptively eligible individuals, and others.
- <sup>2-7</sup> Prior to the 2021–22 Medicaid and CHIP Maternal and Child Health Focus Study, births to women in the LIFC program were not included in the Other Aid Categories program. Therefore, HSAG recalculated historical (i.e., CY 2019 and CY 2020) Other Aid Categories program rates to include births to women in LIFC.

Where applicable, HSAG compared the birth outcomes study indicators to national benchmarks. HSAG used the Healthy People 2030 goals,<sup>2-8</sup> which use data derived from the CDC, NCHS, and NVSS, for the *Births with Early and Adequate Prenatal Care* and *Preterm Births (<37 Weeks Gestation)* study indicators and used the FFY 2020 CMS Core Set benchmarks for the *Newborns With Low Birth Weight (<2,500 grams)* study indicator. Please note that national benchmarks were not available for the maternal health study indicators since these are custom measures developed by HSAG for the purposes of this study.

HSAG also compared the CY 2021 study indicator results to historical results, when applicable. Please note that HSAG recalculated the historical Other Aid Categories birth outcomes study indicator results to include births covered by the LIFC program, which were previously evaluated separately for CY 2019 and CY 2020. HSAG also recalculated historical Medallion 4.0 managed care program birth outcomes study indicator results to include births covered by the FAMIS managed care program, which were previously evaluated separately for CY 2019 and CY 2020. Due to these changes, the CY 2019 and CY 2020 results presented in this report do not match results presented in the 2020–21 Birth Outcomes Focus Study report.

## Study Indicators

### ***Birth Outcomes Study Indicators***

HSAG calculated the following five birth outcomes study indicators for singleton, live births paid by Virginia Medicaid during CY 2021:

- Percentage of births with early and adequate prenatal care
  - Percentage of births with inadequate prenatal care
  - Percentage of births with no prenatal care
- Percentage of preterm births (i.e., births prior to 37 weeks gestation)
- Percentage of births with low birth weight (i.e., birth weights less than 2,500 grams)

The following subsections define the five 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.

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<sup>2-8</sup> U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Healthy People 2030: Pregnancy and childbirth. Available at: <https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth>. Accessed on: Jan 3, 2023.

## Births with 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 a lower incidence of poor birth outcomes, such as preterm delivery and low-birth-weight births.<sup>2-9</sup> 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.<sup>2-10</sup> 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 |
| No Prenatal Care            | 0% of expected visits  |
| Inadequate Prenatal Care    | Less than 50% of expected visits                                 |
| Intermediate Prenatal Care  | 50–79% of expected visits  |
| Adequate Prenatal Care      | 80–109% 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, capturing prenatal care information, including the month the member initiated prenatal care 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 the adequacy of prenatal care were established for those states that initiated consistent reporting of this information.<sup>2-11</sup> 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.<sup>2-12</sup> DMAS opted to compare study

<sup>2-9</sup> Krueger PM, Scholl TO. Adequacy of prenatal care and pregnancy outcome. *The Journal of the American Osteopathic Association*. 2000; 100(8):485–492.

<sup>2-10</sup> 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.

<sup>2-11</sup> March of Dimes Perinatal Data Center. State Summary for Virginia: Prenatal care. Available at: <https://www.marchofdimes.org/peristats/state-summaries/virginia?top=5&lev=1&reg=99&sreg=51&slev=4>. Accessed on: Jan 3, 2023.

<sup>2-12</sup> 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->

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 payer.

## Preterm Births

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

In 2021, preterm delivery affected approximately one in 10 infants born in the United States.<sup>2-13</sup> Preterm delivery (births prior to 37 weeks of gestation) is a leading cause of infant mortality, and 16 percent of United States infant deaths in 2020 were attributable to causes related to preterm birth and low birth weight (LBW).<sup>2-14</sup> Additionally, between 2017 and 2019, preterm birth rates in the United States were 51 percent higher among African American women than all other women (i.e., Asian/Pacific Islander, White, Hispanic, and American Indian/Alaska Native).<sup>2-15</sup> 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 feeding issues. Furthermore, preterm births can result in emotional and financial burdens for families.<sup>2-16</sup>

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.<sup>2-17</sup> 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.<sup>2-18</sup>

Although clinical intervention cannot completely mitigate demographic and genetic factors associated with preterm deliveries, preconception care (i.e., care prior to the start of a pregnancy) and prenatal

[and-childbirth/increase-proportion-pregnant-women-who-receive-early-and-adequate-prenatal-care-mich-08](#). Accessed on: Jan 3, 2022.

<sup>2-13</sup> National Center for Health Statistics, Centers for Disease Control and Prevention. Births in the United States, 2021. Available at: <https://www.cdc.gov/nchs/products/databriefs/db442.htm#fig4>. Accessed on: Jan 3, 2023.

<sup>2-14</sup> National Center for Health Statistics, Centers for Disease Control and Prevention. Data Brief 427. Available at: <https://www.cdc.gov/nchs/data/databriefs/db427-tables.pdf#5>. Accessed on: Jan 3, 2023.

<sup>2-15</sup> March of Dimes. 2021 March of Dimes report card: United States. Available at: <https://www.marchofdimes.org/2021-march-dimes-report-card>. Accessed on: Jan 3, 2023.

<sup>2-16</sup> 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: Jan 3, 2023.

<sup>2-17</sup> 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](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4515958/#:~:text=Conclusion(s),infertility%20included%20the%20earliest%20deliveries). Accessed on: Jan 3, 2023.

<sup>2-18</sup> 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.

care may provide clinicians opportunities to monitor and address potential causes of preterm deliveries.<sup>2-19</sup>

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.<sup>2-20</sup> 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 payer.

## Low Birth Weight

*The percentage of births with low birth weight (i.e., less than 2,500 grams)*

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 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. They may have a higher risk of health conditions, such as diabetes and high blood pressure, later in life.<sup>2-21</sup> LBW affects approximately one in 12 babies born in the United States.<sup>2-22</sup>

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).<sup>2-23</sup> 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.<sup>2-24</sup>

<sup>2-19</sup> Dean SV, Mason E, Howson CP, et al. Born too soon: care before and between pregnancy to prevent preterm births: from evidence to action. *Reproductive Health*. 2013; 10 Suppl 1 (Supple 1):S3.

<sup>2-20</sup> U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Healthy People 2030. Increase the proportion of pregnant women who receive early and adequate prenatal care – MICH-08. 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: Jan 3, 2023.

<sup>2-21</sup> 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: Jan 3, 2023.

<sup>2-22</sup> March of Dimes. Low birthweight. Available at: <https://www.marchofdimes.org/find-support/topics/birth/low-birthweight>. Accessed on: Jan 3, 2023.

<sup>2-23</sup> 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.

<sup>2-24</sup> 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.



The CMS Core Set benchmark for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator is released annually and includes data for all 50 states and Washington, DC for a Medicaid/CHIP population.<sup>2-25</sup> Due to CMS' transition from the Medicaid and CHIP Program (MACPro) reporting system to the Quality Measures Reporting (QMR) system during CY 2022, CMS Core Set benchmarks for FFY 2021 have not yet been released. Due to this, DMAS opted to use the FFY 2020 benchmark of 9.7 percent for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator.<sup>2-26</sup>

## Maternal Health Outcomes Study Indicators

HSAG calculated the following four maternal health outcomes study indicators for singleton, live births during CY 2021 paid by Virginia Medicaid:

- Percentage of postpartum women who utilized ED services within 90 days of delivery
- Percentage of postpartum women who utilized ambulatory care services within 90 days of delivery
- Percentage of women who received a screening for depression during pregnancy
- Percentage of postpartum women who received a screening for depression on or between seven and 84 days after delivery

The following subsections define the four maternal health 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 maternal health outcome. Please note that since the maternal health outcomes indicators were developed by HSAG for the purposes of this study, national benchmarks are not available.

### Postpartum ED Utilization

Postpartum ED utilization may indicate that women are not receiving outpatient obstetrics and primary care for necessary postpartum visits. Approximately 25 percent of postpartum women nationally had at least one ED visit within six months postpartum.<sup>2-27</sup> Further, approximately 5 percent of postpartum women nationally had at least one ED visit within 42 days after delivery. Of the postpartum women who utilized ED services within 42 days of delivery nationally, approximately 28 percent were admitted or transferred to an inpatient setting. However, approximately 68 percent of women who utilized ED services within 42 days of delivery nationally received a diagnosis of "normal postpartum examination," which suggests that visits could have been prevented by improved patient knowledge about the

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<sup>2-25</sup> Centers for Medicare & Medicaid Services. 2020 child and adult health care quality measures quality. Available at: <https://data.medicare.gov/dataset/fbbe1734-b448-4e5a-bc94-3f8688534741>. Accessed on: Jan 3, 2023.

<sup>2-26</sup> Ibid.

<sup>2-27</sup> Harris A, Chang HY, Wang L, et al. Emergency room utilization after medically complicated pregnancies: A Medicaid claims analysis. *Journal of Women's Health*. 2015; 24(9):745–754. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4589304/>. Accessed on: Jan 3, 2023.

physiology of the postpartum period and/or by ensuring women see their PCP or OB/GYN during the postpartum period.<sup>2-28</sup>

## Postpartum Ambulatory Care Utilization

The American College of Obstetricians and Gynecologists recommends that all postpartum women have contact with their OB/GYN or other obstetric care provider within the first three weeks after delivery.<sup>2-29</sup> Postpartum visits provide an opportunity for mothers to receive physical examinations; discuss contraceptive options, health concerns during and after pregnancy, and their mental status with their provider, and ask any questions they might still have about postpartum activities (e.g., breastfeeding). The underutilization of postpartum care impedes management of chronic health conditions and access to effective contraception, which increases the risk of short-interval pregnancy and preterm birth. Postpartum follow-up may also facilitate the early screening and treatment of cardiovascular disease, among other conditions, in later life.

## Prenatal Maternal Depression Screening

Perinatal depression is one of the most common medical complications during pregnancy and the postpartum period, affecting about one in seven pregnant women.<sup>2-30</sup> Since half of all postpartum depression cases begin during pregnancy, and women with a personal or family history of depression are at increased risk, the prenatal period is an ideal time for screening and treatment. Further, while approximately 63 percent of women were assessed for depression during their initial visit with a provider, only approximately 7 percent of screening records indicate that a standardized screening tool was used.<sup>2-31</sup> Since the earlier a woman is identified with maternal depression, the earlier she can receive treatment, it is important to analyze the percentage of women who received a prenatal maternal depression screening.

## Postpartum Maternal Depression Screening

Maternal depression is one of the most common medical complications during pregnancy and the postpartum period, with approximately 10 percent of postpartum women meeting the criteria for major depressive disorders. Due to this, it is recommended that all OB/GYNs and other obstetric care providers complete a full assessment of mood and emotional well-being during the comprehensive postpartum visit for each patient. Further, if a patient is screened for depression and anxiety during

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<sup>2-28</sup> Brousseau EC, Danilack V, Cai F, Matteson KA. Emergency department visits for postpartum complications. *Journal of Women's Health*. 2018; 27(3):253–257. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5865248/>. Accessed on: Jan 3, 2023.

<sup>2-29</sup> The American College of Obstetricians and Gynecologists. Optimizing postpartum care. Available at: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/05/optimizing-postpartum-care>. Accessed on: Jan 3, 2023.

<sup>2-30</sup> The American College of Obstetricians and Gynecologists. Screening for perinatal depression. Available at: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/11/screening-for-perinatal-depression>. Accessed on: Jan 3, 2023.

<sup>2-31</sup> New York State Department of Health. Screening for maternal depression. Available at: [https://www.health.ny.gov/community/pregnancy/health\\_care/perinatal/maternal\\_depression/providers/screening.htm](https://www.health.ny.gov/community/pregnancy/health_care/perinatal/maternal_depression/providers/screening.htm). Accessed on: Jan 3, 2023.

pregnancy, additional screenings should then occur during the comprehensive postpartum visit.<sup>2-32</sup> It is important that mothers are screened and treated for maternal depression since left untreated, maternal depression may cause negative physical health effects for mothers and may cause sleeping, eating, and behavioral problems for their children.<sup>2-33</sup>

## 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 2021 measurement period. HSAG used Pearson's chi-square tests to assess statistically significant differences between the CY 2021 study population and comparison group for each birth outcomes indicator.

## Health Disparities Analysis

For each race/ethnicity, HSAG identified positive and negative health disparities for the *Births with Early and Adequate Prenatal Care*, *Preterm Births (<37 Weeks Gestation)*, and *Newborns with Low Birth Weight (<2,500 grams)* study indicators. For each stratified rate, the reference group was the aggregated rate for all other stratifications within the stratification group (i.e., the rate for the White, Non-Hispanic group was compared to the aggregate of all other race/ethnicity stratifications). The *p*-value of the coefficient from the logistic regression was used to identify statistically significant differences when comparing the stratified rates to the reference groups.

For this report, a health disparity is defined as a stratified rate with a *p*-value of the coefficient of the logistic regression that is less than 0.05.<sup>2-34</sup> When analyzing a given stratification, HSAG classified the rate in one of the following three categories based on the preceding analyses:

- Better Rate
  - The *p*-value of the coefficient of the logistic regression is less than 0.05 and the stratified rate is higher or more favorable than the rate for the reference group. In other words, the reference group shows a health disparity compared to the stratification being evaluated.

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<sup>2-32</sup> The American College of Obstetricians and Gynecologists. Screening for perinatal depression. Available at: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/11/screening-for-perinatal-depression>. Accessed on: Jan 3, 2023.

<sup>2-33</sup> Centers for Disease Control and Prevention. Identifying maternal depression. Available at: <https://www.cdc.gov/reproductivehealth/vital-signs/identifying-maternal-depression/index.html>. Accessed on: Jan 3, 2023.

<sup>2-34</sup> A *p*-value of the coefficient of the logistic regression less than 0.05 was chosen due to the anticipated large eligible populations for the measures.



- **Worse Rate**
  - The  $p$ -value of the coefficient of the logistic regression is less than 0.05 and the stratified rate is lower or less favorable than the rate for the reference group. In other words, the stratification being evaluated shows a health disparity compared to the reference group.
- **Similar Rate**
  - The  $p$ -value of the coefficient of the logistic regression is greater than or equal to 0.05. This means no health disparities were identified when the stratification was compared to the reference group.

### 3. Findings

## Overall Birth Characteristics

Table 3-1 through Table 3-3 present the overall number of births paid by Virginia Medicaid (i.e., Title XIX or Title XXI) for CY 2019, CY 2020, and CY 2021 stratified by key characteristics.

### Overall Births Paid by Virginia Medicaid

Table 3-1 presents the overall number of births paid by Virginia Medicaid during each measurement period stratified by Medicaid births, as well as the number and percentage of multiple gestation and singleton births.

**Table 3-1—Overall Births Paid by Virginia Medicaid, CY 2019–2021**

| Overall Births                   | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|----------------------------------|---------|---------|---------|---------|---------|---------|
|                                  | Number  | Percent | Number  | Percent | Number  | Percent |
| <b>Overall Births*</b>           |         |         |         |         |         |         |
| Total Births                     | 38,317  | 100.0%  | 37,316  | 100.0%  | 36,480  | 100.0%  |
| <i>Multiple Gestation Births</i> | 1,350   | 3.5%    | 1,255   | 3.4%    | 1,184   | 3.2%    |
| <i>Singleton Births</i>          | 36,967  | 96.5%   | 36,061  | 96.6%   | 35,296  | 96.8%   |
| <b>Medicaid Births**</b>         |         |         |         |         |         |         |
| Total Births                     | 33,679  | 100.0%  | 33,401  | 100.0%  | 34,150  | 100.0%  |
| <i>Multiple Gestation Births</i> | 1,235   | 3.7%    | 1,171   | 3.5%    | 1,118   | 3.3%    |
| <i>Singleton Births</i>          | 32,444  | 96.3%   | 32,230  | 96.5%   | 33,032  | 96.7%   |

\* Overall Births includes all births paid by Virginia Medicaid.

\*\* Medicaid Births exclude members enrolled in limited benefit programs (e.g., Plan First) and members who are only eligible for emergency only benefits.

Overall, the number of births identified in the matched vital statistics data slightly declined in CY 2021, while the number of Medicaid births identified in the matched vital statistics data slightly increased in CY 2021. The increase in Medicaid Births in CY 2021 is likely primarily attributed to the implementation of the FAMIS Prenatal Coverage program in July 2021, which resulted in the inclusion of approximately 2,000 more births for CY 2021, while the decrease observed in the overall births is primarily attributed to a decline in emergency only births that were matched to the vital statistics data. Virginia Medicaid's compliance with federal MOE policies during the continuing COVID-19 PHE, which prevented members' coverage from being terminated in most circumstances for the duration of the PHE, was likely also a factor contributing to the higher number of births.

## Overall Singleton Births Paid by Virginia Medicaid

Table 3-2 presents the overall number of singleton births paid by Virginia Medicaid during each measurement period, as well as the number and percentage of births by Medicaid program, managed care program, and delivery system.

**Table 3-2—Singleton Births by Medicaid Program, Managed Care Program, and Delivery System, CY 2019–CY 2021**

| Overall Births               | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|------------------------------|---------|---------|---------|---------|---------|---------|
|                              | Number  | Percent | Number  | Percent | Number  | Percent |
| Singleton Births             | 32,444  | 100.0%  | 32,230  | 100.0%  | 33,032  | 100.0%  |
| <b>Medicaid Program</b>      |         |         |         |         |         |         |
| Medicaid for Pregnant Women  | 22,978  | 70.8%   | 19,772  | 61.3%   | 15,682  | 47.5%   |
| Medicaid Expansion           | 2,152   | 6.6%    | 4,576   | 14.2%   | 6,548   | 19.8%   |
| FAMIS MOMS                   | 2,193   | 6.8%    | 2,091   | 6.5%    | 1,785   | 5.4%    |
| Other Aid Categories†        | 5,121   | 15.8%   | 5,791   | 18.0%   | 9,017   | 27.3%   |
| <b>Managed Care Program*</b> |         |         |         |         |         |         |
| CCC Plus                     | 909     | 2.8%    | 887     | 2.8%    | 928     | 2.8%    |
| Medallion 4.0**              | 27,708  | 85.4%   | 28,318  | 87.9%   | 28,188  | 85.3%   |
| <b>Delivery System</b>       |         |         |         |         |         |         |
| FFS                          | 3,827   | 11.8%   | 3,025   | 9.4%    | 3,916   | 11.9%   |
| Managed Care                 | 28,617  | 88.2%   | 29,205  | 90.6%   | 29,116  | 88.1%   |

† Other Aid Categories includes all other births not covered by Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs.

\* Because not all births were to women in managed care programs, the percentage of births for the CCC Plus and Medallion 4.0 managed care programs do not sum to 100 percent.

\*\* Medallion 4.0 also includes FAMIS MOMS, FAMIS, and FAMIS Prenatal Coverage.

While the majority of Medicaid program births across all three measurement periods were to women in the Medicaid for Pregnant Women program, there was a decline in births for this program for CY 2021. This decrease is expected due to the implementation of Medicaid Expansion on January 1, 2019, which provided coverage to women who were previously only eligible for Medicaid if they became pregnant. As a result, the number of births to women in Medicaid Expansion increased by more than 40 percent between CY 2020 and CY 2021.

Table 3-3 presents the overall number of singleton births paid by Virginia Medicaid during each measurement period stratified by maternal age, race/ethnicity, and regional residence.

**Table 3-3—Singleton Births by Maternal Age at Delivery, Maternal Race/Ethnicity, and Managed Care Region of Residence**

| Overall Births                          | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|---|---------|---------|---------|---------|---------|---------|
|   | Number  | Percent | Number  | Percent | Number  | Percent |
| Singleton Births <sup>†</sup>           | 32,444  | 100.0%  | 32,230  | 100.0%  | 33,032  | 100.0%  |
| <b>Maternal Age at Delivery</b>         |         |         |         |         |         |         |
| ≤15 Years                               | 81      | 0.2%    | 94      | 0.3%    | 98      | 0.3%    |
| 16–17 Years                             | 492     | 1.5%    | 469     | 1.5%    | 446     | 1.4%    |
| 18–20 Years                             | 3,702   | 11.4%   | 3,460   | 10.7%   | 3,433   | 10.4%   |
| 21–24 Years                             | 7,936   | 24.5%   | 7,618   | 23.6%   | 7,499   | 22.7%   |
| 25–29 Years                             | 10,050  | 31.0%   | 9,835   | 30.5%   | 9,878   | 29.9%   |
| 30–34 Years                             | 6,550   | 20.2%   | 6,801   | 21.1%   | 7,276   | 22.0%   |
| 35–39 Years                             | 2,948   | 9.1%    | 3,119   | 9.7%    | 3,505   | 10.6%   |
| 40–44 Years                             | 614     | 1.9%    | 733     | 2.3%    | 831     | 2.5%    |
| ≥45 Years                               | 43      | 0.1%    | 41      | 0.1%    | 38      | 0.1%    |
| Unknown                                 | 28      | 0.1%    | 60      | 0.2%    | 28      | 0.1%    |
| <b>Maternal Race/Ethnicity</b>          |         |         |         |         |         |         |
| White, Non-Hispanic                     | 14,069  | 43.4%   | 13,953  | 43.3%   | 12,475  | 37.8%   |
| Black, Non-Hispanic                     | 12,691  | 39.1%   | 12,439  | 38.6%   | 11,740  | 35.5%   |
| Asian, Non-Hispanic                     | 1,224   | 3.8%    | 1,199   | 3.7%    | 1,317   | 4.0%    |
| Hispanic, Any Race                      | 3,970   | 12.2%   | 4,177   | 13.0%   | 6,276   | 19.0%   |
| Other/Unknown                           | 490     | 1.5%    | 462     | 1.4%    | 1,224   | 3.7%    |
| <b>Managed Care Region of Residence</b> |         |         |         |         |         |         |
| Central                                 | 8,184   | 25.2%   | 8,153   | 25.3%   | 8,714   | 26.4%   |
| Charlottesville/Western                 | 4,111   | 12.7%   | 4,086   | 12.7%   | 4,160   | 12.6%   |
| Northern & Winchester                   | 7,207   | 22.2%   | 7,113   | 22.1%   | 8,201   | 24.8%   |
| Roanoke/Alleghany                       | 3,155   | 9.7%    | 3,135   | 9.7%    | 3,030   | 9.2%    |
| Southwest                               | 1,860   | 5.7%    | 1,915   | 5.9%    | 1,081   | 3.3%    |
| Tidewater                               | 7,875   | 24.3%   | 7,821   | 24.3%   | 7,841   | 23.7%   |

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

† Unknown managed care regions of residence are included in the singleton births total.

The majority of CY 2021 births paid by Virginia Medicaid were to women 21 to 34 years of age (74.6 percent) who were White, Non-Hispanic (37.8 percent) or Black, Non-Hispanic (35.5 percent). Of note, the number of births paid by Virginia Medicaid to Hispanic, Any Race women increased by approximately 47 percent between CY 2020 and CY 2021, which may be attributed to the implementation of the FAMIS Prenatal Coverage program, which provides comprehensive pregnancy coverage for women who do not meet the immigration status rules for other Medicaid programs.

Consistent with prior years, the majority (74.9 percent) of CY 2021 births were to women who resided in the Central, Northern & Winchester, or Tidewater regions.

## Birth Outcomes Study Indicator Results and Trending

Table 3-4 presents the overall study indicator results for each measurement period.

**Table 3-4—Overall Birth Outcomes Study Indicator Findings Among Singleton Births, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 22,392  | 72.3%   | 22,245  | 71.9%   | 23,780  | 72.7%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 5,043   | 16.3%   | 4,651   | 15.0%   | 5,106   | 15.6%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 688     | 2.2%    | 534     | 1.7%    | 685     | 2.1%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 3,263   | 10.1%   | 3,168   | 9.8%    | 3,327   | 10.1%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 3,070   | 9.5%    | 2,979   | 9.2%    | 3,074   | 9.3%    |

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

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

The percentage of CY 2021 *Births with Early and Adequate Prenatal Care* was consistent with prior years and continues to fall below the national benchmark. Additionally, the rates for the *Newborns with Low Birth Weight (<2,500 grams)* indicator outperformed the national benchmark for all three measurement periods, demonstrating strength for Virginia Medicaid.

## Study Indicators Stratified by Select Demographic Characteristics

Table 3-5 and Table 3-6 present the study indicator results stratified by race/ethnicity and geographic managed care region, respectively, for each measurement period. Table 3-5 also includes shading to represent identified disparities for the birth outcomes study indicators for CY 2021.

**Table 3-5—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by Race/Ethnicity, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| White, Non-Hispanic                            |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 9,811   | 74.7%   | 9,572   | 73.7%   | 9,359   | 75.7%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 1,939   | 14.8%   | 1,783   | 13.7%   | 1,648   | 13.3%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 257     | 2.0%    | 192     | 1.5%    | 240     | 1.9%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 1,232   | 8.8%    | 1,296   | 9.3%    | 1,112   | 8.9%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 1,052   | 7.5%    | 1,079   | 7.7%    | 933     | 7.5%    |
| Black, Non-Hispanic                            |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 8,791   | 71.0%   | 8,821   | 72.0%   | 8,660   | 74.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 2,056   | 16.6%   | 1,827   | 14.9%   | 1,586   | 13.6%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 307     | 2.5%    | 240     | 2.0%    | 253     | 2.2%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 1,539   | 12.1%   | 1,382   | 11.1%   | 1,447   | 12.3%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 1,609   | 12.7%   | 1,508   | 12.1%   | 1,515   | 12.9%   |
| Asian, Non-Hispanic                            |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 839     | 71.6%   | 795     | 67.8%   | 956     | 73.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 220     | 18.8%   | 184     | 15.7%   | 186     | 14.3%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | 19      | 1.5%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 99      | 8.1%    | 99      | 8.3%    | 98      | 7.4%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 103     | 8.4%    | 94      | 7.8%    | 85      | 6.5%    |
| Hispanic, Any Race                             |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,639   | 68.8%   | 2,752   | 67.5%   | 3,938   | 63.4%   |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 745     | 19.4%   | 771     | 18.9%   | 1,501   | 24.2%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 102     | 2.7%    | 83      | 2.0%    | 148     | 2.4%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 334     | 8.4%    | 351     | 8.4%    | 556     | 8.9%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 259     | 6.5%    | 261     | 6.2%    | 440     | 7.0%    |
| <b>Other/Unknown</b>                           |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 312     | 67.1%   | 305     | 68.1%   | 867     | 71.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 83      | 17.8%   | 86      | 19.2%   | 185     | 15.3%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | 25      | 2.1%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 59      | 12.1%   | 40      | 8.7%    | 114     | 9.3%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 47      | 9.6%    | 37      | 8.0%    | 101     | 8.3%    |

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

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

S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

Blue shading indicates that a disparity was identified (i.e., had a p-value less than or equal to 0.05) and the stratified rate was higher or more favorable than the reference group rate.

Orange shading indicates that a disparity was identified (i.e., had a p-value less than or equal to 0.05) and the stratified rate was lower or less favorable than the reference group rate.

Consistent with the national birth data,<sup>3-1</sup> study indicator results showed poor outcomes for Black, Non-Hispanic women, who had the highest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* compared to women of other races/ethnicities. White, Non-Hispanic women had the highest rate of *Births with Early and Adequate Prenatal Care* compared to women of other races/ethnicities but continued to fall below the national benchmark. For Hispanic women of any race, rates for both the *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500 grams)* study indicators outperformed national benchmarks, despite these women having the lowest rate of *Births with Early and Adequate Prenatal Care*.

The above findings are further supported by the CY 2021 disparities analysis, which identified that White, Non-Hispanic and Black, Non-Hispanic women had significantly more *Births with Early and*

<sup>3-1</sup> Martin JA, Hamilton BE, Osterman MJK. Births in the United States, 2021. National Center for Health Statistics Data Brief, No. 442. 2022. Available at: <https://www.cdc.gov/nchs/data/databriefs/db442.pdf>. Accessed on: Jan 3, 2023.



*Adequate Prenatal Care* than all other race/ethnicities, while Hispanic women of any race had significantly fewer *Births with Early and Adequate Prenatal Care* than all other race/ethnicities. Further, Black, Non-Hispanic women had significantly more *Births with Early and Adequate Prenatal Care*, *Preterm Births (<37 Weeks Gestation)*, and *Newborns with Low Birth Weight (<2,500 grams)* than all other races/ethnicities.

**Table 3-6—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by Managed Care Region of Maternal Residence, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Central  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 5,848   | 72.8%   | 5,886   | 72.9%   | 6,658   | 76.8%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 1,125   | 14.0%   | 1,047   | 13.0%   | 954     | 11.0%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 176     | 2.2%    | 159     | 2.0%    | 231     | 2.7%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 866     | 10.6%   | 798     | 9.8%    | 972     | 11.2%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 846     | 10.3%   | 820     | 10.1%   | 918     | 10.5%   |
| Charlottesville/Western                        |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 3,188   | 78.8%   | 3,106   | 77.0%   | 3,230   | 78.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 585     | 14.5%   | 602     | 14.9%   | 585     | 14.2%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 52      | 1.3%    | 40      | 1.0%    | 62      | 1.5%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 355     | 8.6%    | 352     | 8.6%    | 360     | 8.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 358     | 8.7%    | 352     | 8.6%    | 354     | 8.5%    |
| Northern & Winchester                          |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 4,600   | 66.8%   | 4,502   | 65.0%   | 5,039   | 62.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 1,482   | 21.5%   | 1,342   | 19.4%   | 1,927   | 23.9%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 197     | 2.9%    | 136     | 2.0%    | 184     | 2.3%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 654     | 9.1%    | 607     | 8.5%    | 704     | 8.6%    |



| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 551     | 7.6%    | 535     | 7.5%    | 572     | 7.0%    |
| <b>Roanoke/Alleghany</b>                       |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,203   | 72.9%   | 2,223   | 74.0%   | 2,213   | 73.3%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 420     | 13.9%   | 359     | 12.0%   | 400     | 13.3%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 52      | 1.7%    | 37      | 1.2%    | 40      | 1.3%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 268     | 8.5%    | 313     | 10.0%   | 308     | 10.2%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 263     | 8.3%    | 292     | 9.3%    | 298     | 9.8%    |
| <b>Southwest</b>                               |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 828     | 70.1%   | 772     | 67.8%   | 836     | 77.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 197     | 16.7%   | 175     | 15.4%   | 145     | 13.4%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 14      | 1.2%    | 25      | 2.2%    | 20      | 1.9%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 168     | 9.0%    | 192     | 10.0%   | 77      | 7.1%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 166     | 8.9%    | 174     | 9.1%    | 70      | 6.5%    |
| <b>Tidewater</b>                               |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 5,693   | 73.3%   | 5,750   | 74.1%   | 5,800   | 74.6%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 1,226   | 15.8%   | 1,126   | 14.5%   | 1,094   | 14.1%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 197     | 2.5%    | 137     | 1.8%    | 148     | 1.9%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 949     | 12.1%   | 904     | 11.6%   | 904     | 11.5%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 883     | 11.2%   | 804     | 10.3%   | 862     | 11.0%   |

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

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

In CY 2021, the Charlottesville/Western and Southwest regions exceeded the national benchmarks for all study indicators where benchmarks were available. This may be attributed to the fact that approximately 56 percent of births in the Charlottesville/Western region and approximately 93 percent of births in the Southwest region were to White, Non-Hispanic women, who typically have more favorable birth outcomes compared to all other race/ethnicities, as shown in Table 3-5. Despite having the lowest rates of *Births with Early and Adequate Prenatal Care*, women in the Northern & Winchester region had the second lowest rates of *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500 grams)*, exceeding the national benchmarks for both indicators for all three measurement periods. This may be due to a large number of Hispanic, Any Race women who live in this region (approximately 40 percent) having some of the lowest rates of *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500 grams)*, as shown in Table 3-5. Tidewater had the highest rates of *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500 grams)*, and had the highest percentage of women who were Black, Non-Hispanic (approximately 55 percent). As shown in Table 3-5, women of Black, Non-Hispanic race had the highest rates of *Preterm Births (<37 Weeks)* and *Newborns with Low Birth Weight (<2,500 grams)* at 12.3 percent and 12.9 percent, respectively.

## Study Indicator Findings by Medicaid Characteristics

Table 3-7 presents the study indicator results stratified by Medicaid program for each measurement period.

**Table 3-7—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by Medicaid Program, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Medicaid for Pregnant Women                    |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 16,028  | 73.1%   | 13,737  | 72.4%   | 11,493  | 73.9%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 3,451   | 15.7%   | 2,839   | 15.0%   | 2,337   | 15.0%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 393     | 1.8%    | 241     | 1.3%    | 239     | 1.5%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,173   | 9.5%    | 1,750   | 8.9%    | 1,460   | 9.3%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,062   | 9.0%    | 1,699   | 8.6%    | 1,333   | 8.5%    |
| Medicaid Expansion                             |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 1,462   | 70.9%   | 3,249   | 73.8%   | 5,031   | 77.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 330     | 16.0%   | 578     | 13.1%   | 722     | 11.1%   |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| <i>Births with No Prenatal Care*</i>           | NA                 | 74      | 3.6%    | 90      | 2.0%    | 154     | 2.4%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 261     | 12.1%   | 544     | 11.9%   | 733     | 11.2%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 235     | 10.9%   | 463     | 10.1%   | 707     | 10.8%   |
| <b>FAMIS MOMS</b>                              |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 1,626   | 77.2%   | 1,564   | 76.8%   | 1,382   | 78.1%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 292     | 13.9%   | 261     | 12.8%   | 219     | 12.4%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 28      | 1.3%    | 11      | 0.5%    | 12      | 0.7%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 168     | 7.7%    | 163     | 7.8%    | 161     | 9.0%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 158     | 7.2%    | 150     | 7.2%    | 145     | 8.1%    |
| <b>Other Aid Categories<sup>†</sup></b>        |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 3,276   | 66.9%   | 3,695   | 66.9%   | 5,874   | 65.9%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 970     | 19.8%   | 973     | 17.6%   | 1,828   | 20.5%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 193     | 3.9%    | 192     | 3.5%    | 280     | 3.1%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 661     | 12.9%   | 711     | 12.3%   | 973     | 10.8%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 615     | 12.0%   | 667     | 11.5%   | 889     | 9.9%    |

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

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

† Other Aid Categories includes all other births not covered by Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs.

Overall, the FAMIS MOMS program demonstrated strength, with rates for the *Births with Early and Adequate Prenatal Care*, *Preterm Births (<37 Weeks Gestation)*, and *Newborns with Low Birth Weight (<2,500 grams)* study indicators exceeding the applicable national benchmarks for all three measurement periods. The Medicaid for Pregnant Women program also had *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* rates that exceeded the national benchmarks in CY 2021. Additionally, the Medicaid Expansion program's rate for the *Births with Early and Adequate Prenatal Care* study indicator improved from CY 2020 to exceed the national

benchmark in CY 2021. Conversely, the Other Aid Categories rates for all three study indicators fell below the national benchmarks for all three measurement periods.

Table 3-8 presents the study indicator results stratified by managed care program for each measurement period.

**Table 3-8—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by Managed Care Program, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| CCC Plus                                       |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 597     | 69.6%   | 587     | 68.7%   | 660     | 71.9%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 151     | 17.6%   | 142     | 16.6%   | 137     | 14.9%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 30      | 3.5%    | 29      | 3.4%    | 36      | 3.9%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 138     | 15.2%   | 140     | 15.8%   | 154     | 16.6%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 139     | 15.3%   | 138     | 15.6%   | 146     | 15.8%   |
| Medallion 4.0                                  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 19,438  | 73.3%   | 19,777  | 72.8%   | 20,800  | 74.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 4,199   | 15.8%   | 3,947   | 14.5%   | 4,007   | 14.3%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 465     | 1.8%    | 388     | 1.4%    | 473     | 1.7%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,637   | 9.5%    | 2,694   | 9.5%    | 2,760   | 9.8%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,474   | 8.9%    | 2,561   | 9.0%    | 2,590   | 9.2%    |

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

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

Births to women in the Medallion 4.0 managed care program had the highest rates of *Births with Early and Adequate Prenatal Care* and the lowest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)*, with the rates for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator outperforming the national benchmark for all three measurement periods. Additionally, for the CCC Plus managed care program, the *Births with Early and Adequate Prenatal Care* study indicator rates have improved between CY 2019 and CY 2021; however, opportunities exist to ensure CCC Plus women receive timely and necessary prenatal care and experience improved birth outcomes.

Table 3-9 presents the study indicator results stratified by delivery system for each measurement period.

**Table 3-9—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by Delivery System, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| FFS  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,357   | 65.0%   | 1,881   | 64.8%   | 2,320   | 60.2%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 693     | 19.1%   | 562     | 19.4%   | 962     | 24.9%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 193     | 5.3%    | 117     | 4.0%    | 176     | 4.6%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 488     | 12.8%   | 334     | 11.0%   | 413     | 10.5%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 457     | 12.0%   | 280     | 9.3%    | 338     | 8.6%    |
| Managed Care                                   |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 20,035  | 73.2%   | 20,364  | 72.7%   | 21,460  | 74.3%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 4,350   | 15.9%   | 4,089   | 14.6%   | 4,144   | 14.4%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 495     | 1.8%    | 417     | 1.5%    | 509     | 1.8%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,775   | 9.7%    | 2,834   | 9.7%    | 2,914   | 10.0%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,613   | 9.1%    | 2,699   | 9.2%    | 2,736   | 9.4%    |

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

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

Overall, women enrolled in managed care had better outcomes than women in the FFS population in CY 2021, with the exception of the *Newborns with Low Birth Weight (<2,500 grams)* study indicator rate. The CY 2021 managed care rate for the *Newborns with Low Birth Weight (<2,500 grams)* indicator exceeded the national benchmark but continued to fall below the national benchmark for the *Births with Early and Adequate Prenatal Care* and *Preterm Births (<37 Weeks Gestation)* indicators. Of note, the CY 2021 rate for women in FFS continued to improve from prior measurement periods and outperformed the national benchmark for *Newborns with Low Birth Weight (<2,500 grams)*.

Table 3-10 presents the overall study indicator results among singleton births by trimester of prenatal care initiation.

**Table 3-10—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by Trimester of Prenatal Care Initiation, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| First Trimester                                |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 19,961  | 87.0%   | 20,033  | 84.8%   | 21,409  | 86.6%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 535     | 2.3%    | 585     | 2.5%    | 610     | 2.5%    |
| <i>Births with No Prenatal Care*</i>           | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,192   | 9.6%    | 2,256   | 9.5%    | 2,393   | 9.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,075   | 9.0%    | 2,114   | 9.0%    | 2,270   | 9.2%    |
| Second Trimester                               |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,431   | 42.6%   | 2,212   | 41.1%   | 2,371   | 40.9%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 2,856   | 50.0%   | 2,678   | 49.8%   | 2,989   | 51.5%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 512     | 9.0%    | 458     | 8.5%    | 560     | 9.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 523     | 9.2%    | 472     | 8.8%    | 510     | 8.8%    |
| Third Trimester                                |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 1,652   | 100.0%  | 1,388   | 100.0%  | 1,507   | 100.0%  |
| <i>Births with No Prenatal Care*</i>           | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 150     | 9.0%    | 131     | 9.3%    | 143     | 9.4%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 134     | 8.0%    | 130     | 9.3%    | 125     | 8.2%    |
| No Prenatal Care                               |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |



| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| <i>Births with No Prenatal Care*</i>           | NA                 | 688     | 100.0%  | 534     | 100.0%  | 685     | 100.0%  |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 195     | 28.4%   | 140     | 26.2%   | 188     | 27.5%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 157     | 22.9%   | 105     | 19.7%   | 137     | 20.0%   |

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

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

Women who initiated prenatal care in their first, second, or third trimesters surpassed the national benchmark for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator in CY 2021. Notably, the *Preterm Births (<37 Weeks Gestation)* study indicator rates for women who initiated prenatal care in their second or third trimesters increased from CY 2020 to CY 2021 and no longer exceed the national benchmark for CY 2021. For CY 2021, nearly 87 percent of women initiated prenatal care in their first trimester, yet these women had higher rates of preterm births and newborns with low birth weight compared to national benchmarks. Further, approximately 91 percent of the preterm births to women who initiated prenatal care in the first trimester received Adequate Plus prenatal care, suggesting that these women may have had high-risk pregnancies where, regardless of receiving timely prenatal care, they were still more likely to have a preterm birth.

Table 3-11 presents the study indicator results among singleton births by length of continuous enrollment.

**Table 3-11—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by Length of Continuous Enrollment, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| ≤30 Days                                       |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 812     | 66.6%   | 632     | 65.2%   | 954     | 57.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 221     | 18.1%   | 173     | 17.8%   | 448     | 27.0%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 55      | 4.5%    | 43      | 4.4%    | 85      | 5.1%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 153     | 11.9%   | 103     | 10.1%   | 160     | 9.5%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 143     | 11.1%   | 91      | 8.9%    | 133     | 7.9%    |



| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| 31–90 Days                                     |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 1,216   | 62.8%   | 1,002   | 62.8%   | 1,190   | 57.9%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 460     | 23.7%   | 360     | 22.6%   | 598     | 29.1%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 87      | 4.5%    | 50      | 3.1%    | 65      | 3.2%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 219     | 10.7%   | 198     | 11.9%   | 227     | 10.9%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 204     | 9.9%    | 161     | 9.7%    | 176     | 8.5%    |
| 91–180 Days                                    |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,341   | 60.4%   | 2,165   | 62.5%   | 1,914   | 61.7%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 1,061   | 27.4%   | 844     | 24.4%   | 824     | 26.5%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 106     | 2.7%    | 66      | 1.9%    | 72      | 2.3%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 508     | 12.5%   | 388     | 10.8%   | 334     | 10.6%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 481     | 11.9%   | 368     | 10.2%   | 319     | 10.1%   |
| >180 Days                                      |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 17,964  | 75.3%   | 18,424  | 74.1%   | 19,686  | 76.2%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 3,289   | 13.8%   | 3,256   | 13.1%   | 3,218   | 12.5%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 434     | 1.8%    | 373     | 1.5%    | 460     | 1.8%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,371   | 9.5%    | 2,474   | 9.6%    | 2,595   | 10.0%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,230   | 8.9%    | 2,355   | 9.1%    | 2,439   | 9.4%    |
| Not Continuously Enrolled Prior to Delivery    |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 59      | 64.8%   | 22      | 48.9%   | 36      | 55.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 12      | 13.2%   | 18      | 40.0%   | 18      | 27.7%   |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 12      | 12.5%   | S       | S       | 11      | 16.4%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 12      | 12.5%   | S       | S       | S       | S       |

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

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

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

Women who were continuously enrolled for less than 90 days and more than 180 days had *Newborns with Low Birth Weight (<2,500 grams)* rates that outperformed national benchmarks in CY 2021. Despite not meeting the national benchmark in CY 2021 for *Births with Early and Adequate Prenatal Care*, women who were continuously enrolled for more than 180 days had the highest rate compared to women enrolled for less time. This finding is expected given that women enrolled for more than 180 days likely had an opportunity to initiate prenatal care in their first trimester.

## MCO Study Indicator Results

Table 3-12 presents the overall birth outcomes study indicators stratified by MCO for each measurement period.

**Table 3-12—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by MCO, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Aetna  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,363   | 72.7%   | 2,703   | 73.5%   | 3,028   | 76.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 522     | 16.1%   | 519     | 14.1%   | 549     | 13.8%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 63      | 1.9%    | 46      | 1.3%    | 54      | 1.4%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 337     | 9.8%    | 373     | 9.7%    | 402     | 10.1%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 343     | 10.0%   | 322     | 8.4%    | 381     | 9.6%    |
| HealthKeepers                                  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 6,174   | 73.5%   | 6,357   | 72.6%   | 6,609   | 74.2%   |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 1,290   | 15.4%   | 1,271   | 14.5%   | 1,291   | 14.5%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 170     | 2.0%    | 121     | 1.4%    | 145     | 1.6%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 875     | 10.0%   | 836     | 9.3%    | 870     | 9.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 755     | 8.6%    | 785     | 8.7%    | 772     | 8.6%    |
| <b>Molina</b>                                  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 1,330   | 70.4%   | 1,454   | 72.4%   | 1,543   | 73.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 344     | 18.2%   | 317     | 15.8%   | 293     | 13.9%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 31      | 1.6%    | 43      | 2.1%    | 56      | 2.7%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 186     | 9.4%    | 229     | 11.0%   | 216     | 10.2%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 189     | 9.6%    | 242     | 11.7%   | 223     | 10.5%   |
| <b>Optima</b>                                  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 4,438   | 75.6%   | 4,380   | 74.4%   | 4,586   | 76.1%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 855     | 14.6%   | 828     | 14.1%   | 769     | 12.8%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 100     | 1.7%    | 85      | 1.4%    | 109     | 1.8%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 609     | 10.1%   | 627     | 10.4%   | 667     | 11.0%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 598     | 9.9%    | 595     | 9.9%    | 629     | 10.4%   |
| <b>UnitedHealthcare</b>                        |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 1,778   | 70.2%   | 1,816   | 71.3%   | 1,944   | 70.2%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 447     | 17.7%   | 373     | 14.6%   | 489     | 17.7%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 57      | 2.3%    | 40      | 1.6%    | 48      | 1.7%    |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 231     | 8.7%    | 234     | 8.7%    | 244     | 8.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 234     | 8.8%    | 238     | 8.9%    | 233     | 8.4%    |
| <b>VA Premier</b>                              |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 3,952   | 72.9%   | 3,654   | 71.0%   | 3,750   | 73.7%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 892     | 16.5%   | 781     | 15.2%   | 753     | 14.8%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 74      | 1.4%    | 82      | 1.6%    | 97      | 1.9%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 537     | 9.3%    | 535     | 9.6%    | 515     | 10.0%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 494     | 8.6%    | 517     | 9.3%    | 498     | 9.7%    |

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

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

UnitedHealthcare was the only MCO to exceed the national benchmarks for both the *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* indicators in CY 2021, despite having the lowest rate of *Births with Early and Adequate Prenatal Care*. Of note, Aetna and HealthKeepers also exceeded the national benchmark for the *Newborns with Low Birth Weight (<2,500 grams)* indicator for CY 2021. Optima had the highest rate of *Preterm Births (<37 Weeks Gestation)* and the second highest rate of *Newborns with Low Birth Weight (<2,500 grams)* in CY 2021, demonstrating opportunities for improvement.

## Comparative Analysis

To facilitate DMAS' program evaluation efforts, Table 3-13 presents the CY 2021 birth outcomes study indicator results for the four Medicaid Programs (i.e., Medicaid for Pregnant Women, Medicaid Expansion, FAMIS MOMS, and Other Aid Categories) 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  $\geq 120$  days prior to delivery) and the comparison group (i.e., continuously enrolled for  $< 120$  days prior to delivery).

**Table 3-13—Overall Birth Outcomes Study Indicator Findings Among Singleton Births by Comparison Group and Study Population, CY 2021**

| Study Indicator                                | National Benchmark | Comparison Group |        |         | Study Population |        |         |
|--|--------------------|------------------|--------|---------|------------------|--------|---------|
|  |                    | Denom            | Number | Percent | Denom            | Number | Percent |
| Medicaid for Pregnant Women                    |                    |                  |        |         |                  |        |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,196            | 1,345  | 61.2%   | 13,348           | 10,148 | 76.0%^  |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 2,196            | 530    | 24.1%   | 13,348           | 1,807  | 13.5%^  |
| <i>Births with No Prenatal Care*</i>           | NA                 | 2,196            | 96     | 4.4%    | 13,348           | 143    | 1.1%^   |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,227            | 272    | 12.2%   | 13,454           | 1,188  | 8.8%^   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,227            | 221    | 9.9%    | 13,451           | 1,112  | 8.3%^   |
| Medicaid Expansion                             |                    |                  |        |         |                  |        |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 205              | 156    | 76.1%   | 6,287            | 4,875  | 77.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 205              | 24     | 11.7%   | 6,287            | 698    | 11.1%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 205              | S      | S       | 6,287            | S      | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 206              | 22     | 10.7%   | 6,339            | 711    | 11.2%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 206              | 23     | 11.2%   | 6,338            | 684    | 10.8%   |
| FAMIS MOMS                                     |                    |                  |        |         |                  |        |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 397              | 295    | 74.3%   | 1,372            | 1,087  | 79.2%^  |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 397              | 63     | 15.9%   | 1,372            | 156    | 11.4%^  |
| <i>Births with No Prenatal Care*</i>           | NA                 | 397              | S      | S       | 1,372            | S      | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 403              | 41     | 10.2%   | 1,382            | 120    | 8.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 403              | 34     | 8.4%    | 1,382            | 111    | 8.0%    |

| Study Indicator                                | National Benchmark | Comparison Group |        |         | Study Population |        |         |
|--|--------------------|------------------|--------|---------|------------------|--------|---------|
|  |                    | Denom            | Number | Percent | Denom            | Number | Percent |
| Other Aid Categories†                          |                    |                  |        |         |                  |        |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 2,024            | 1,020  | 50.4%   | 6,892            | 4,854  | 70.4%^  |
| Births with Inadequate Prenatal Care*          | NA                 | 2,024            | 712    | 35.2%   | 6,892            | 1,116  | 16.2%^  |
| Births with No Prenatal Care*                  | NA                 | 2,024            | 83     | 4.1%    | 6,892            | 197    | 2.9%^   |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 2,054            | 184    | 9.0%    | 6,962            | 789    | 11.3%^  |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 2,054            | 140    | 6.8%    | 6,961            | 749    | 10.8%^  |

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

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

S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

†Other Aid Categories includes all other births not covered by Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs.

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

Overall, the Medicaid for Pregnant Women and FAMIS MOMS programs demonstrated strength in CY 2021, with the study populations exceeding the applicable national benchmark for the *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* study indicators. Additionally, the Medicaid Expansion and FAMIS MOMS study populations exceeded the national benchmark for the *Births with Early and Adequate Prenatal Care* study indicator. Conversely, the Other Aid Categories study population rates fell below the national benchmark for all three study indicators that could be compared to national benchmarks, with the study population having the lowest rates of *Births with Early and Adequate Prenatal Care* when compared to the other study populations.

## Additional Population-Specific Stratifications

### FAMIS MOMS

Table 3-14 provides the FAMIS MOMS singleton births characteristics, stratified by delivery system, maternal age at delivery, maternal race/ethnicity, and managed care region of residence.

**Table 3-14—FAMIS MOMS Singleton Births Characteristics**

| Overall Births                          | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|---|---------|---------|---------|---------|---------|---------|
|   | Number  | Percent | Number  | Percent | Number  | Percent |
| Singleton Births <sup>†</sup>           | 2,193   | 100.0%  | 2,091   | 100.0%  | 1,785   | 100.0%  |
| <b>Delivery System</b>                  |         |         |         |         |         |         |
| FFS                                     | 375     | 17.1%   | 264     | 12.6%   | 259     | 14.5%   |
| Managed Care                            | 1,818   | 82.9%   | 1,827   | 87.4%   | 1,526   | 85.5%   |
| <b>Maternal Age at Delivery</b>         |         |         |         |         |         |         |
| ≤15 Years                               | S       | S       | S       | S       | 0       | 0.0%    |
| 16–17 Years                             | 12      | 0.5%    | S       | S       | S       | S       |
| 18–20 Years                             | 106     | 4.8%    | 99      | 4.7%    | 74      | 4.1%    |
| 21–24 Years                             | 460     | 21.0%   | 383     | 18.3%   | 363     | 20.3%   |
| 25–29 Years                             | 740     | 33.7%   | 747     | 35.7%   | 620     | 34.7%   |
| 30–34 Years                             | 556     | 25.4%   | 521     | 24.9%   | 455     | 25.5%   |
| 35–39 Years                             | 246     | 11.2%   | 267     | 12.8%   | 217     | 12.2%   |
| 40–44 Years                             | 66      | 3.0%    | 55      | 2.6%    | 45      | 2.5%    |
| ≥45 Years                               | S       | S       | S       | S       | S       | S       |
| Unknown                                 | S       | S       | S       | S       | S       | S       |
| <b>Maternal Race/Ethnicity</b>          |         |         |         |         |         |         |
| White, Non-Hispanic                     | 949     | 43.3%   | 914     | 43.7%   | 709     | 39.7%   |
| Black, Non-Hispanic                     | 687     | 31.3%   | 621     | 29.7%   | 529     | 29.6%   |
| Asian, Non-Hispanic                     | 166     | 7.6%    | 172     | 8.2%    | 131     | 7.3%    |
| Hispanic, Any Race                      | 343     | 15.6%   | 344     | 16.5%   | 344     | 19.3%   |
| <b>Managed Care Region of Residence</b> |         |         |         |         |         |         |
| Central                                 | 527     | 24.0%   | 475     | 22.7%   | 408     | 22.9%   |
| Charlottesville/Western                 | 238     | 10.9%   | 206     | 9.9%    | 213     | 11.9%   |
| Northern & Winchester                   | 736     | 33.6%   | 740     | 35.4%   | 625     | 35.0%   |
| Roanoke/Alleghany                       | 175     | 8.0%    | 161     | 7.7%    | 140     | 7.8%    |
| Southwest                               | 88      | 4.0%    | 63      | 3.0%    | 34      | 1.9%    |



| Overall Births | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|----------------|---------|---------|---------|---------|---------|---------|
|                | Number  | Percent | Number  | Percent | Number  | Percent |
| Tidewater      | 427     | 19.5%   | 446     | 21.3%   | 364     | 20.4%   |

† Members of Other/Unknown race/ethnicity and with unknown managed care regions of residence are included in the singleton births total.

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

Table 3-15 presents the FAMIS MOMS birth outcomes study indicator results stratified by delivery system for each measurement period.

**Table 3-15—Overall Birth Outcomes Study Indicator Findings Among FAMIS MOMS Singleton Births by Delivery System, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| FFS  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 260     | 73.0%   | 183     | 71.5%   | 195     | 76.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 60      | 16.9%   | 42      | 16.4%   | 35      | 13.7%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 39      | 10.4%   | 24      | 9.1%    | 25      | 9.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 41      | 10.9%   | 17      | 6.4%    | 22      | 8.5%    |
| Managed Care                                   |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 1,366   | 78.1%   | 1,381   | 77.5%   | 1,187   | 78.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 232     | 13.3%   | 219     | 12.3%   | 184     | 12.2%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 129     | 7.1%    | 139     | 7.6%    | 136     | 8.9%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 117     | 6.4%    | 133     | 7.3%    | 123     | 8.1%    |

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

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

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

Study indicator rates for FAMIS MOMS women in managed care exceeded the national benchmarks for all study indicators for CY 2021, demonstrating strength. Further, the study indicator rates for FAMIS MOMS women in FFS exceeded the applicable national benchmarks for *Births with Early and Adequate*

*Prenatal Care and Newborns with Low Birth Weight (<2,500 grams).* It is expected that FAMIS MOMS women in managed care would have higher rates of *Births with Early and Adequate Prenatal Care* than FFS women, as MCOs are expected to conduct outreach to pregnant women enrolled in managed care regarding the importance of prenatal visits.

Table 3-16 presents the FAMIS MOMS birth outcomes study indicator results stratified by race/ethnicity for each measurement period.

**Table 3-16—Birth Outcomes Study Indicator Findings Among FAMIS MOMS Singleton Births by Race/Ethnicity, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| White, Non-Hispanic                            |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 727     | 80.9%   | 693     | 79.0%   | 570     | 81.3%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 104     | 11.6%   | 107     | 12.2%   | 76      | 10.8%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 58      | 6.1%    | 61      | 6.7%    | 53      | 7.5%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 42      | 4.4%    | 55      | 6.0%    | 46      | 6.5%    |
| Black, Non-Hispanic                            |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 520     | 77.7%   | 481     | 78.7%   | 409     | 77.9%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 95      | 14.2%   | 67      | 11.0%   | 62      | 11.8%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 65      | 9.5%    | 60      | 9.7%    | 58      | 11.0%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 73      | 10.6%   | 64      | 10.3%   | 56      | 10.6%   |
| Asian, Non-Hispanic                            |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 115     | 73.2%   | 125     | 74.0%   | 107     | 82.9%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 22      | 14.0%   | 13      | 7.7%    | 12      | 9.3%    |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | 0       | 0.0%    | S       | S       |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 13      | 7.8%    | 16      | 9.3%    | 16      | 12.2%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 15      | 9.0%    | 12      | 7.0%    | 11      | 8.4%    |
| <b>Hispanic, Any Race</b>                      |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 229     | 68.6%   | 236     | 69.2%   | 248     | 72.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 62      | 18.6%   | 66      | 19.4%   | 55      | 16.1%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 29      | 8.5%    | 26      | 7.6%    | 30      | 8.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 25      | 7.3%    | 17      | 4.9%    | 25      | 7.3%    |

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

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

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

Although the CY 2021 *Births with Early and Adequate Prenatal Care* rate for Black, Non-Hispanic women enrolled in FAMIS MOMS exceeded the national benchmark, Black, Non-Hispanic women had the second highest rate of *Preterm Births (<37 Weeks Gestation)* and the highest rate of *Newborns with Low Birth Weight (<2,500 grams)* compared to other race/ethnicities. Similarly, Asian, Non-Hispanic women had the highest rate of *Births with Early and Adequate Prenatal Care* and the highest rate of *Preterm Births (<37 Weeks Gestation)* in CY 2021. Conversely, despite Hispanic women of any race having the second lowest rate of *Births with Early and Adequate Prenatal Care*, study indicator rates for *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* outperformed national benchmarks. In CY 2021, White, Non-Hispanic women had the second highest rates of *Births with Early and Adequate Prenatal Care* and some of the lowest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)*, exceeding the national benchmarks for all three study indicators.

Table 3-17 presents the FAMIS MOMS birth outcomes study indicator results stratified by geographic managed care region for each measurement period.

**Table 3-17—Birth Outcomes Study Indicator Findings Among FAMIS MOMS Singleton Births by Managed Care Region of Maternal Residence, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Central  |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 421     | 81.0%   | 379     | 80.3%   | 351     | 86.0%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 55      | 10.6%   | 49      | 10.4%   | 32      | 7.8%    |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 41      | 7.8%    | 35      | 7.4%    | 42      | 10.3%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 39      | 7.4%    | 34      | 7.2%    | 40      | 9.8%    |
| Charlottesville/Western                        |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 193     | 82.1%   | 170     | 82.5%   | 171     | 83.0%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 31      | 13.2%   | 23      | 11.2%   | 24      | 11.7%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 17      | 7.1%    | 16      | 7.8%    | 16      | 7.5%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 18      | 7.6%    | 12      | 5.8%    | 16      | 7.5%    |
| Northern & Winchester                          |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 486     | 69.1%   | 502     | 69.2%   | 427     | 69.1%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 134     | 19.1%   | 122     | 16.8%   | 111     | 18.0%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 15      | 2.1%    | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 62      | 8.4%    | 46      | 6.2%    | 52      | 8.3%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 55      | 7.5%    | 42      | 5.7%    | 40      | 6.4%    |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Roanoke/Alleghany                              |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 131     | 78.4%   | 127     | 80.4%   | 121     | 86.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | S       | S       | S       | S       | S       | S       |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | 0       | 0.0%    | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | S       | S       | S       | S       | S       | S       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | S       | S       | S       | S       |
| Southwest                                      |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 48      | 90.6%   | 25      | 75.8%   | 31      | 91.2%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | S       | S       | S       | S       | S       | S       |
| <i>Births with No Prenatal Care*</i>           | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | S       | S       | S       | S       | S       | S       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | S       | S       | S       | S       |
| Tidewater                                      |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 345     | 81.2%   | 361     | 81.5%   | 280     | 77.3%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 53      | 12.5%   | 50      | 11.3%   | 47      | 13.0%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 35      | 8.2%    | 48      | 10.8%   | 34      | 9.3%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 37      | 8.7%    | 44      | 9.9%    | 32      | 8.8%    |

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

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

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

In CY 2021, the rates for FAMIS MOMS women residing in the Northern & Winchester region did not meet the national benchmark for *Births with Early and Adequate Prenatal Care*. Despite the Northern &

Winchester region having the lowest rate of *Births with Early and Adequate Prenatal Care*, the rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* were among the lowest compared to all other regions. Conversely, the rate for *Births with Adequate and Prenatal Care* for women residing in the Central region exceeded the national benchmark; however, women in this region also had some of the highest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)*.

Table 3-18 presents the FAMIS MOMS birth outcomes study indicator results stratified by length of continuous enrollment for each measurement period.

**Table 3-18—Birth Outcomes Study Indicator Findings Among FAMIS MOMS Singleton Births by Length of Continuous Enrollment, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| ≤30 Days                                       |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 141     | 73.8%   | 99      | 73.9%   | 90      | 72.6%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 27      | 14.1%   | 19      | 14.2%   | 23      | 18.5%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 20      | 10.0%   | 14      | 10.1%   | 11      | 8.8%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 19      | 9.5%    | 14      | 10.1%   | 11      | 8.8%    |
| 31–90 Days                                     |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 151     | 72.6%   | 124     | 75.2%   | 128     | 74.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 40      | 19.2%   | 24      | 14.5%   | 25      | 14.5%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 16      | 7.3%    | 14      | 8.2%    | 19      | 10.9%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 17      | 7.8%    | 11      | 6.5%    | 16      | 9.2%    |
| 91–180 Days                                    |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 295     | 69.2%   | 320     | 73.2%   | 262     | 75.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 94      | 22.1%   | 73      | 16.7%   | 55      | 15.9%   |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 46      | 10.4%   | 40      | 8.9%    | 44      | 12.5%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 44      | 9.9%    | 46      | 10.2%   | 34      | 9.6%    |
| <b>&gt;180 Days</b>                            |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 1,032   | 81.1%   | 1,018   | 78.7%   | 900     | 80.1%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 131     | 10.3%   | 142     | 11.0%   | 116     | 10.3%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 13      | 1.0%    | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 86      | 6.5%    | 94      | 7.1%    | 87      | 7.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 77      | 5.8%    | 79      | 6.0%    | 84      | 7.4%    |

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

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

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

Women continuously enrolled in FAMIS MOMS for more than 180 days during CY 2021 had the highest rates of *Births with Early and Adequate Prenatal Care* and some of the lowest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)*.

Table 3-19 presents the FAMIS MOMS birth outcomes study indicator results stratified by trimester of prenatal care initiation for each measurement period.

**Table 3-19—Birth Outcomes Study Indicator Findings Among FAMIS MOMS Singleton Births by Trimester of Prenatal Care Initiation, CY 2019–CY 2021**

| Study Indicator                              | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| First Trimester                              |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care | 76.4%              | 1,452   | 90.1%   | 1,400   | 88.3%   | 1,231   | 89.2%   |
| <i>Births with Inadequate Prenatal Care*</i> | NA                 | 22      | 1.4%    | 24      | 1.5%    | 18      | 1.3%    |
| <i>Births with No Prenatal Care*</i>         | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |



| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 119     | 7.4%    | 122     | 7.7%    | 122     | 8.8%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 104     | 6.5%    | 102     | 6.4%    | 115     | 8.3%    |
| <b>Second Trimester</b>                        |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 174     | 46.0%   | 164     | 43.4%   | 151     | 47.0%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 183     | 48.4%   | 175     | 46.3%   | 145     | 45.2%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 28      | 7.4%    | 25      | 6.6%    | 29      | 9.0%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 32      | 8.5%    | 28      | 7.4%    | 19      | 5.9%    |
| <b>Third Trimester</b>                         |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 87      | 100.0%  | 62      | 100.0%  | 56      | 100.0%  |
| <i>Births with No Prenatal Care*</i>           | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | S       | S       | S       | S       | S       | S       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | 12      | 18.8%   | S       | S       |
| <b>No Prenatal Care</b>                        |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 0       | 0.0%    | 0       | 0.0%    | 0       | 0.0%    |
| <i>Births with No Prenatal Care*</i>           | NA                 | 28      | 100.0%  | 11      | 100.0%  | 12      | 100.0%  |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | S       | S       | 0       | 0.0%    | S       | S       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | S       | S       | S       | S       |

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

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

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

In CY 2021, the majority of women enrolled in FAMIS MOMS (approximately 78 percent) initiated prenatal care in the first trimester and exceeded the national benchmarks for all three study indicators with an applicable benchmark. Of note, women who enrolled in FAMIS MOMS during the second or third trimesters had *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* rates that exceeded national benchmarks. The few women enrolled in FAMIS MOMS who did not initiate prenatal care until the third trimester or did not have any prenatal care had the lowest rates of *Births with Early and Adequate Prenatal Care* and highest rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)*. This finding is expected since the timeliness and adequacy of prenatal care received during pregnancy has been associated with a lower incidence of poor birth outcomes, such as preterm delivery and low-birth-weight births.<sup>3-2</sup>

## Maternal Health Outcomes Study Indicator Results and Trending

Table 3-20 presents the overall maternal health study indicator results for CY 2021. Please refer to Appendix A for additional stratifications for maternal health study indicator results not presented in this section.

**Table 3-20—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| Postpartum ED Utilization*               | 8,504     | 33,032      | 25.7%   |
| Postpartum Ambulatory Care Utilization   | 17,024    | 33,032      | 51.5%   |
| Prenatal Maternal Depression Screening   | 1,638     | 33,032      | 5.0%    |
| Postpartum Maternal Depression Screening | 2,251     | 33,032      | 6.8%    |

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

As indicated in Table 3-20, approximately 26 percent and 52 percent of postpartum women utilized ED and ambulatory care services, respectively. Please note that these study indicators do not include services related explicitly to postpartum care visits and instead represent the utilization of ED and ambulatory services within the postpartum period; therefore, exercise caution when interpreting results. Of note, women who received no prenatal care had the highest rates of *Postpartum ED Utilization*, while women who were continuously enrolled for more than 180 days had higher rates of *Postpartum Ambulatory Care Utilization*. These findings are expected given that women who established a provider for prenatal care would likely continue to seek care with that provider in an ambulatory setting after delivery. However, for those women who did not receive prenatal care, there is an opportunity to ensure that these women establish a provider prior to becoming pregnant in order to ensure utilization of appropriate care before and after pregnancy (i.e., ambulatory care instead of ED).

<sup>3-2</sup> Krueger PM, Scholl TO. Adequacy of prenatal care and pregnancy outcome. *The Journal of the American Osteopathic Association*. 2000; 100(8):485–492.

Approximately 5 percent of pregnant women and approximately 7 percent of postpartum women received a maternal depression screening. Please note that these study indicators only consider women who received a standardized maternal depression screening; therefore, these rates are likely low due to providers using nonstandardized screenings. The State of New York Department of Health found that while approximately 63 percent of women received a depression screening during their initial visit with their provider, only around 7 percent received a depression screening using a standardized tool.<sup>3-3</sup> Overall, HSAG found that women who initiated prenatal care in their first trimester and women who were continuously enrolled for more than 180 days had the highest rates of *Prenatal Maternal Depression Screening* and *Postpartum Maternal Depression Screening* in CY 2021.

## Study Indicators Stratified by Select Demographic Characteristics

Table 3-21 and Table 3-22 present the study indicator results stratified by race/ethnicity and geographic managed care region, respectively.

**Table 3-21—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births by Race/Ethnicity, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>White, Non-Hispanic</b>               |           |             |         |
| Postpartum ED Utilization*               | 2,775     | 12,475      | 22.2%   |
| Postpartum Ambulatory Care Utilization   | 6,549     | 12,475      | 52.5%   |
| Prenatal Maternal Depression Screening   | 783       | 12,475      | 6.3%    |
| Postpartum Maternal Depression Screening | 1,050     | 12,475      | 8.4%    |
| <b>Black, Non-Hispanic</b>               |           |             |         |
| Postpartum ED Utilization*               | 3,234     | 11,740      | 27.5%   |
| Postpartum Ambulatory Care Utilization   | 6,022     | 11,740      | 51.3%   |
| Prenatal Maternal Depression Screening   | 629       | 11,740      | 5.4%    |
| Postpartum Maternal Depression Screening | 756       | 11,740      | 6.4%    |
| <b>Asian, Non-Hispanic</b>               |           |             |         |
| Postpartum ED Utilization*               | 319       | 1,317       | 24.2%   |
| Postpartum Ambulatory Care Utilization   | 705       | 1,317       | 53.5%   |
| Prenatal Maternal Depression Screening   | 22        | 1,317       | 1.7%    |
| Postpartum Maternal Depression Screening | 64        | 1,317       | 4.9%    |
| <b>Hispanic, Any Race</b>                |           |             |         |
| Postpartum ED Utilization*               | 1,805     | 6,276       | 28.8%   |

<sup>3-3</sup> New York State Department of Health. Screening for maternal depression. Available at: [https://www.health.ny.gov/community/pregnancy/health\\_care/perinatal/maternal\\_depression/providers/screening.htm](https://www.health.ny.gov/community/pregnancy/health_care/perinatal/maternal_depression/providers/screening.htm). Accessed on: Jan 3, 2022.

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| Postpartum Ambulatory Care Utilization   | 3,093     | 6,276       | 49.3%   |
| Prenatal Maternal Depression Screening   | 161       | 6,276       | 2.6%    |
| Postpartum Maternal Depression Screening | 302       | 6,276       | 4.8%    |
| <b>Other/Unknown</b>                     |           |             |         |
| Postpartum ED Utilization*               | 371       | 1,224       | 30.3%   |
| Postpartum Ambulatory Care Utilization   | 655       | 1,224       | 53.5%   |
| Prenatal Maternal Depression Screening   | 43        | 1,224       | 3.5%    |
| Postpartum Maternal Depression Screening | 79        | 1,224       | 6.5%    |

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

In CY 2021, Black, Non-Hispanic women and Hispanic women of any race had the highest *Postpartum ED Utilization* rates and the lowest rates of *Postpartum Ambulatory Care*, indicating that these women were more reliant on receiving postpartum care through an ED setting. According to national sources, approximately 25 percent of postpartum women utilized ED services within six months of giving birth.<sup>3-4</sup> Given that the *Postpartum ED Utilization* study indicator only captures ED services received in the first 90 days after delivery, it is likely that these women were utilizing postpartum ED services more often than would be expected nationally.

**Table 3-22—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births by Managed Care Region of Maternal Residence, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>Central</b>                           |           |             |         |
| Postpartum ED Utilization*               | 3,075     | 8,714       | 35.3%   |
| Postpartum Ambulatory Care Utilization   | 5,072     | 8,714       | 58.2%   |
| Prenatal Maternal Depression Screening   | 394       | 8,714       | 4.5%    |
| Postpartum Maternal Depression Screening | 372       | 8,714       | 4.3%    |
| <b>Charlottesville/Western</b>           |           |             |         |
| Postpartum ED Utilization*               | 600       | 4,160       | 14.4%   |
| Postpartum Ambulatory Care Utilization   | 2,099     | 4,160       | 50.5%   |
| Prenatal Maternal Depression Screening   | 592       | 4,160       | 14.2%   |
| Postpartum Maternal Depression Screening | 593       | 4,160       | 14.3%   |

<sup>3-4</sup> Harris A, Chang HY, Wang L, et al. Emergency room utilization after medically complicated pregnancies: A Medicaid claims analysis. *Journal of Women's Health*. 2015; 24(9):745–754. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4589304/>. Accessed on: Jan 3, 2023.

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>Northern &amp; Winchester</b>         |           |             |         |
| Postpartum ED Utilization*               | 2,307     | 8,201       | 28.1%   |
| Postpartum Ambulatory Care Utilization   | 4,351     | 8,201       | 53.1%   |
| Prenatal Maternal Depression Screening   | 88        | 8,201       | 1.1%    |
| Postpartum Maternal Depression Screening | 259       | 8,201       | 3.2%    |
| <b>Roanoke/Alleghany</b>                 |           |             |         |
| Postpartum ED Utilization*               | 714       | 3,030       | 23.6%   |
| Postpartum Ambulatory Care Utilization   | 1,537     | 3,030       | 50.7%   |
| Prenatal Maternal Depression Screening   | 149       | 3,030       | 4.9%    |
| Postpartum Maternal Depression Screening | S         | 3,030       | S       |
| <b>Southwest</b>                         |           |             |         |
| Postpartum ED Utilization*               | 225       | 1,081       | 20.8%   |
| Postpartum Ambulatory Care Utilization   | 607       | 1,081       | 56.2%   |
| Prenatal Maternal Depression Screening   | 32        | 1,081       | 3.0%    |
| Postpartum Maternal Depression Screening | S         | 1,081       | S       |
| <b>Tidewater</b>                         |           |             |         |
| Postpartum ED Utilization*               | 1,582     | 7,841       | 20.2%   |
| Postpartum Ambulatory Care Utilization   | 3,356     | 7,841       | 42.8%   |
| Prenatal Maternal Depression Screening   | 383       | 7,841       | 4.9%    |
| Postpartum Maternal Depression Screening | 930       | 7,841       | 11.9%   |

\*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). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

In CY 2021, the Charlottesville/Western region had the highest rates of *Prenatal Maternal Depression Screening* and *Postpartum Maternal Depression Screening*, with the rate for *Prenatal Maternal Depression Screening* nearly 10 percentage points more than the next highest regional rate. This may be attributed to the fact that approximately 56 percent of births in Charlottesville/Western were to White, Non-Hispanic women, which as Table 3-21 shows, had the highest rates of maternal depression screenings. Despite having the highest rates of *Postpartum Ambulatory Care Utilization*, women in the Central region also had the highest rates of *Postpartum ED Utilization*.

## MCO Study Indicator Results

Table 3-23 presents the overall maternal health outcomes study indicators stratified by MCO.

**Table 3-23—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births by MCO, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>Aetna</b>                             |           |             |         |
| Postpartum ED Utilization*               | 1,097     | 3,988       | 27.5%   |
| Postpartum Ambulatory Care Utilization   | 2,150     | 3,988       | 53.9%   |
| Prenatal Maternal Depression Screening   | 221       | 3,988       | 5.5%    |
| Postpartum Maternal Depression Screening | 273       | 3,988       | 6.8%    |
| <b>HealthKeepers</b>                     |           |             |         |
| Postpartum ED Utilization*               | 2,241     | 9,007       | 24.9%   |
| Postpartum Ambulatory Care Utilization   | 4,369     | 9,007       | 48.5%   |
| Prenatal Maternal Depression Screening   | 329       | 9,007       | 3.7%    |
| Postpartum Maternal Depression Screening | 551       | 9,007       | 6.1%    |
| <b>Molina</b>                            |           |             |         |
| Postpartum ED Utilization*               | 611       | 2,118       | 28.8%   |
| Postpartum Ambulatory Care Utilization   | 1,093     | 2,118       | 51.6%   |
| Prenatal Maternal Depression Screening   | 68        | 2,118       | 3.2%    |
| Postpartum Maternal Depression Screening | 91        | 2,118       | 4.3%    |
| <b>Optima</b>                            |           |             |         |
| Postpartum ED Utilization*               | 1,557     | 6,078       | 25.6%   |
| Postpartum Ambulatory Care Utilization   | 3,125     | 6,078       | 51.4%   |
| Prenatal Maternal Depression Screening   | 425       | 6,078       | 7.0%    |
| Postpartum Maternal Depression Screening | 725       | 6,078       | 11.9%   |
| <b>UnitedHealthcare</b>                  |           |             |         |
| Postpartum ED Utilization*               | 779       | 2,789       | 27.9%   |
| Postpartum Ambulatory Care Utilization   | 1,518     | 2,789       | 54.4%   |
| Prenatal Maternal Depression Screening   | 39        | 2,789       | 1.4%    |
| Postpartum Maternal Depression Screening | 95        | 2,789       | 3.4%    |
| <b>VA Premier</b>                        |           |             |         |
| Postpartum ED Utilization*               | 1,374     | 5,136       | 26.8%   |
| Postpartum Ambulatory Care Utilization   | 3,193     | 5,136       | 62.2%   |

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| Prenatal Maternal Depression Screening   | 541       | 5,136       | 10.5%   |
| Postpartum Maternal Depression Screening | 403       | 5,136       | 7.8%    |

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

In CY 2021, VA Premier had the highest rates of *Postpartum Ambulatory Care Utilization*, *Prenatal Maternal Depression Screening* and the second highest rate of *Postpartum Maternal Depression Screening* compared to other MCOs. Further, Optima had the second highest rate of *Prenatal Maternal Depression Screening* and had the highest rate of *Postpartum Maternal Depression Screening*. Of note, UnitedHealthcare had the lowest rates of *Prenatal Maternal Depression Screening* and *Postpartum Maternal Depression Screening* despite having the second highest rate of *Postpartum Ambulatory Care Utilization*.

## Study Indicator Findings by Medicaid Characteristics

Table 3-24 presents the study indicator results stratified by Medicaid program.

**Table 3-24—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births by Medicaid Program, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>Medicaid for Pregnant Women</b>       |           |             |         |
| Postpartum ED Utilization*               | 3,983     | 15,682      | 25.4%   |
| Postpartum Ambulatory Care Utilization   | 8,301     | 15,682      | 52.9%   |
| Prenatal Maternal Depression Screening   | 709       | 15,682      | 4.5%    |
| Postpartum Maternal Depression Screening | 1,147     | 15,682      | 7.3%    |
| <b>Medicaid Expansion</b>                |           |             |         |
| Postpartum ED Utilization*               | 1,585     | 6,548       | 24.2%   |
| Postpartum Ambulatory Care Utilization   | 3,265     | 6,548       | 49.9%   |
| Prenatal Maternal Depression Screening   | 387       | 6,548       | 5.9%    |
| Postpartum Maternal Depression Screening | 485       | 6,548       | 7.4%    |
| <b>FAMIS MOMS</b>                        |           |             |         |
| Postpartum ED Utilization*               | 404       | 1,785       | 22.6%   |
| Postpartum Ambulatory Care Utilization   | 855       | 1,785       | 47.9%   |
| Prenatal Maternal Depression Screening   | 48        | 1,785       | 2.7%    |
| Postpartum Maternal Depression Screening | 109       | 1,785       | 6.1%    |



| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>Other Aid Categories<sup>†</sup></b>  |           |             |         |
| Postpartum ED Utilization*               | 2,532     | 9,017       | 28.1%   |
| Postpartum Ambulatory Care Utilization   | 4,603     | 9,017       | 51.0%   |
| Prenatal Maternal Depression Screening   | 494       | 9,017       | 5.5%    |
| Postpartum Maternal Depression Screening | 510       | 9,017       | 5.7%    |

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

† Other Aid Categories includes all other births not covered by Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs

Births to women in the FAMIS MOMS program had the lowest rates of *Postpartum Ambulatory Care Utilization*, *Prenatal Maternal Health Screening*, and *Postpartum Maternal Depression Screening* for CY 2021. Additionally, the Medicaid for Pregnant Women program had the highest rate of *Postpartum Ambulatory Care* and had some of the highest rates for *Prenatal Maternal Depression Screening* and *Postpartum Maternal Depression Screening* for CY 2021.

## 4. Conclusions and Recommendations

### Conclusions

#### *Birth Outcomes*

This study considered five quantitative indicators related to prenatal care and associated birth outcomes among births paid by Virginia Medicaid. Between the CY 2019 and CY 2021 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 *Preterm Births (<37 Weeks Gestation)* indicators continued to fall below national benchmarks for all three measurement periods. Conversely, rates for the *Newborns with Low Birth Weight (<2,500 grams)* indicator outperformed the national benchmark for all three measurement periods, demonstrating strength for Virginia Medicaid.

The CY 2021 study indicator results also show regional differences in care, with women residing in the Central region having higher rates of early and adequate prenatal care compared to women in other regions; however, these women still had some of the highest rates of preterm births and newborns with low birth weight. Despite a steady decline in the percentage of women with early and adequate prenatal care within the Southwest region in prior years' results, the CY 2021 rate increased by nearly 10 percentage points from CY 2020 to CY 2021 and was the second highest rate among the regions. Within all regions, racial disparities exist, with Black, Non-Hispanic women having the highest rates of preterm births and newborns with low birth weight, and Hispanic women of any race having the lowest rates of early and adequate prenatal care for CY 2021.

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 obtain better health coverage before, during, and after pregnancy, which leads to improved prenatal and postpartum care. Further, Medicaid Expansion programs also decrease the likelihood of women experiencing intermittent healthcare coverage, which is important for improving health outcomes for mothers and babies.<sup>4-1</sup> All study indicator results for the Medicaid Expansion program for CY 2021, except for the *Newborns with Low Birth Weight (<2,500 grams)* study indicator, demonstrated improvement from CY 2020, with the CY 2021 rate for *Births with Early and Adequate Prenatal Care* surpassing the national benchmark. However, rates for *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)* continue to fall below national benchmarks. Therefore, DMAS should continue to monitor this population by assessing the risk factors for women in the Medicaid Expansion program that could be contributing to higher rates of *Preterm Births (<37 Weeks Gestation)* and *Newborns with Low Birth Weight (<2,500 grams)*.

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<sup>4-1</sup> 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](https://ccf.georgetown.edu/wp-content/uploads/2019/05/Maternal-Health_FINAL-1.pdf). Accessed on: Jan 3, 2023.

The FAMIS MOMS program continued to outperform other 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 200 percent of the FPL<sup>4-2</sup>). 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 for women in other Medicaid programs based on household income. Though limited in number, births to women enrolled in FAMIS MOMS, especially those with continuous enrollment more than 120 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 (<2,500 grams)*. While these rates remained stable over time, the promising results from this program suggest that it could offer a valuable starting point for assessing members' satisfaction with care and underlying SDoH that may distinguish these women from other Medicaid members.

## Maternal Health Outcomes

This study assessed four maternal health outcomes related to utilization in the postpartum period and important screenings during the prenatal and postpartum periods. Overall, approximately 26 percent and 52 percent of postpartum women utilized ED and ambulatory care services, respectively. Women who received no prenatal care had the highest rates of *Postpartum ED Utilization*, while women who were continuously enrolled for more than 180 days had higher rates of *Postpartum Ambulatory Care Utilization*. Approximately 7 percent of postpartum women received a maternal depression screening. These low rates suggest that data may be incomplete and/or providers may not be billing for these services separately. For the maternal depression screenings, it may be possible that these screenings are happening; however, providers may not be using a standardized screening tool.

In CY 2021, there were racial differences related to the utilization of ED and ambulatory services, with Black, Non-Hispanic women and Hispanic women of any race having the highest *Postpartum ED Utilization* rates and the lowest rates of *Postpartum Ambulatory Care*, indicating that these women were more reliant on receiving postpartum care through an ED setting. Further, there were regional differences related to maternal depression screenings, with the Charlottesville/Western region having the highest rates of prenatal and postpartum maternal depression screenings compared to all other regions. Of note, the rate of prenatal maternal depression in Charlottesville/Western was nearly 10 percentage points higher than the next highest regional rate. This may be attributed to the fact that approximately 56 percent of births in Charlottesville/Western were to White, Non-Hispanic women, who had the highest rates of maternal depression screenings.

## 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.

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<sup>4-2</sup> A standard disregard of 5 percent FPL is applied to the Medicaid for Pregnant Women, Medicaid Expansion, and FAMIS MOMS programs if the woman's income is slightly above the household income.

- 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.<sup>4-3</sup>
- Virginia Medicaid’s compliance with federal MOE policies during the continuing COVID-19 PHE prevented members’ coverage from being terminated in most circumstances for the duration of the PHE. This may have contributed to a higher number of births during CY 2020; therefore, caution should be exercised when comparing CY 2021 study results to CY 2020 results.
- COVID-19 may have impacted the CY 2020 study indicator results given the public efforts put in place during CY 2020 to mitigate the spread of COVID-19 (e.g., social distancing, stay at home orders). Additionally, researchers have found that women who were pregnant during the early stages of the COVID-19 pandemic had increased fears and stress about delivering in a hospital, especially when a support person could not be in the hospital for the delivery or go to prenatal visits with the mother.<sup>4-4,4-5</sup> Further, COVID-19 may have also impacted women’s ability to get timely and frequent prenatal care. As a result, caution should be exercised when comparing CY 2019 and CY 2021 study indicator results to those for CY 2020.
- 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. Caution should be used when comparing study results to national benchmarks, as the benchmarks were derived from birth records covered by all payer 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 7 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.

<sup>4-3</sup> Dietz PM, Bombard JM, Hutchings YL, et. al. Validation of obstetric estimate of gestational age on US birth certificates. *American Journal of Obstetrics and Gynecology*. Apr 2014; 2010(4): 335.e1-335.e5. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4560346/>. Accessed on: Jan 3, 2023.

<sup>4-4</sup> Whipps MDM, Phipps JE, Simmons LA. Perinatal health care access, childbirth concerns, and birthing decision-making among pregnant people in California during COVID-19. *BMC Pregnancy and Childbirth*. 2021; 21(477). Available at: <https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-021-03942-y>. Accessed on: Jan 3, 2023.

<sup>4-5</sup> Meaney S, Letiao S, Olander EK, et al. The impact of COVID-19 on pregnant womens’ experiences and perceptions of antenatal maternity care, social support, and stress-reduction strategies. *Women and Birth*. 2021. Available at: <https://doi.org/10.1016/j.wombi.2021.04.013>. Accessed on: Jan 3, 2023.

- As many pregnant women new to Medicaid may not be enrolled in 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 members 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.
- HSAG developed the maternal health outcomes study indicators; therefore, comparisons to any applicable national benchmarks cannot be made. Further, due to billing practices of providers (e.g., global billing), some study indicator results (i.e., maternal depression screenings) are likely more representative of data completeness, rather than actual performance.
- For CY 2021, the FAMIS Prenatal Coverage program was included in the Other Aid Categories group. Since the FAMIS Prenatal Coverage program began in July 2021, women included in the FAMIS Prenatal Coverage population at the time of delivery may not have been eligible for the program in time to receive timely or adequate prenatal care.

## 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:

- Overall, approximately 73 percent of births in CY 2021 received early and adequate prenatal care, and approximately 18 percent of births in CY 2021 received inadequate or no prenatal care. The 2020–21 secret shopper survey that assessed appointment availability for prenatal care providers who accept Medicaid in Virginia found that 76.4 percent of cases were offered a first trimester appointment date, 48.4 percent of cases were offered a second trimester appointment date, and 38.8 percent of cases were offered a third trimester appointment date. The results of both studies suggest that DMAS and the MCOs should investigate the factors contributing to women's ability to access timely prenatal care and implement targeted improvement efforts. These efforts should include ensuring that all women of childbearing age establish a primary care provider or OB/GYN prior to pregnancy 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 to ensure better outcomes for both the mother and baby.<sup>4-6</sup>
- Unplanned pregnancies are associated with higher rates of preterm births and newborns with low birthweight.<sup>4-7</sup> Therefore, as part of ensuring that all women of childbearing age have an established gynecologist prior to pregnancy, DMAS and the MCOs should assess if providers are offering family planning services (e.g., contraception) to women. Given that Medicaid members can now receive a

<sup>4-6</sup> March of Dimes. Before or between pregnancies. Available at: <https://www.marchofdimes.org/pregnancy/before-pregnancy.aspx#>. Accessed on: Jan 3, 2023.

<sup>4-7</sup> National Institute for Children's Health Quality. As unplanned pregnancy rates drop, births improve. Available at: <https://www.nichq.org/insight/unplanned-pregnancy-rates-drop-births-improve>. Accessed on: Jan 3, 2023.



12-month supply of contraceptives,<sup>4-8</sup> DMAS and the MCOs should monitor contraceptive prescription rates for Medicaid women over time. DMAS should consider calculating and/or having the MCOs report the CMS Adult and Child Core Set measures related to contraceptives (i.e., *Contraceptive Care—All Women* and *Contraceptive Care—Postpartum Women*) to understand better how this policy change impacts the use of contraceptives over time.

- LARCs are an effective contraceptive method that can help reduce unplanned and short-interval pregnancies.<sup>4-9</sup> MCOs should assess if providers are discussing the effectiveness of LARCs as part of the postpartum visit or even prior to the woman leaving the hospital after delivery. MCOs should work to inform their providers, and DMAS should continue to work with hospitals to institute protocols that allow physicians to leverage the Virginia Postpartum LARC toolkit.<sup>4-10</sup>
- Approximately 26 percent of postpartum women in CY 2021 utilized ED services within 90 days of delivery. Given that approximately 25 percent of women nationally utilized ED services within six months of delivery<sup>4-11</sup>, DMAS should consider investigating the utilization of ED services in the postpartum period to understand the factors contributing to why women are seeking care in the ED instead of an outpatient setting (e.g., assess if these women have an established PCP or OB/GYN). Additionally, HSAG recommends including an analysis in next year's Medicaid and CHIP Maternal and Child Health Focus Study that provides additional information on ED visits for postpartum women (e.g., most common diagnoses for postpartum ED visits, whether the visit was emergent).
- Less than 7 percent of women had evidence of a maternal depression screening in administrative data sources, either during the prenatal or postpartum periods. However, this is likely due to provider billing practices (i.e., these screenings were performed during standard prenatal/postpartum visits and were not billed separately) or the use of nonstandardized screening methods that were not captured by the measures that HSAG developed to calculate these indicators. DMAS should consider working with the MCOs and providers to promote the use of, and provide trainings related to, standardized maternal depression screening tools during the perinatal period. Further, DMAS could consider requiring the MCOs to report the prenatal and postpartum maternal depression screening study indicators to DMAS annually in order to improve these rates.
- For future focus studies, DMAS should consider leveraging additional data fields in the vital statistics data or other data sources (e.g., claims/encounter data) to better understand the factors contributing to poor birth outcomes in Virginia. These data sources could be used to assess risk factors (pre-pregnancy and gestational diabetes and hypertension, and previous preterm births and poor pregnancy outcomes); a mother's substance use before and during pregnancy (smoking, alcohol, and drug use); and a mother's BMI before pregnancy and at delivery. Although data may

<sup>4-8</sup> Virginia Department of Medical Assistance Services. 12-month supply of contraceptives now available to Virginia Medicaid members. Available at: <https://www.dmas.virginia.gov/media/3779/press-release-virginia-medicaid-announces-12-month-supply-of-contraceptives.pdf>. Accessed on: Jan 3, 2023.

<sup>4-9</sup> The American College of Obstetricians and Gynecologists. Immediate postpartum long-acting reversible contraception. 2017. Available at: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2016/08/immediate-postpartum-long-acting-reversible-contraception>. Accessed on: Jan 3, 2023.

<sup>4-10</sup> Virginia Department of Medical Assistance Services, Virginia Department of Health, and the Virginia chapter of the American College of Obstetricians and Gynecologists. Virginia postpartum LARC toolkit. Available at: [https://www.vdh.virginia.gov/content/uploads/sites/28/2016/07/VA\\_Postpartum\\_LARC\\_Toolkit\\_final.pdf](https://www.vdh.virginia.gov/content/uploads/sites/28/2016/07/VA_Postpartum_LARC_Toolkit_final.pdf). Accessed on: Jan 3, 2023.

<sup>4-11</sup> Harris A, Chang HY, Wang L, et al. Emergency room utilization after medically complicated pregnancies: A Medicaid claims analysis. *Journal of Women's Health*. 2015; 24(9):745–754. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4589304/>. Accessed on: Jan 3, 2023.

be incomplete, HSAG could still leverage the 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:

### *Partnership for Petersburg (P4P)*

- On August 26, 2022, Governor Glenn Youngkin announced the new Partnership for Petersburg initiative, which includes six focus areas: Prepare Petersburg Students for Life, Improve Access to Health Care, Keep Our Community Safe, Keep Petersburg Moving, Foster Business & Economic Growth, and Build Relationships with Community and Faith Leaders. The Commonwealth of Virginia and community partners will work together to improve the health of Petersburg residents by expanding access to screenings, promoting awareness of primary care and prenatal care, and addressing health disparities by connecting Petersburg residents with medical and social services.
- In collaboration with the Partnership for Petersburg plan, DMAS mailed out more than 80 prenatal care flyers to pregnant members who had not yet received prenatal services. The flyer raised awareness of prenatal care, MCO extended benefits services, and contact information of local OB/GYNs in Petersburg.
- Approximately 60 percent of Petersburg's 33,000 residents are enrolled in Medicaid, and the vast majority of these members are covered through DMAS' managed care programs. As a result, Virginia MCOs have been tasked with enhanced outreach to pregnant or postpartum Petersburg members to facilitate OB visits, assisting DMAS to ramp up doula services in the Petersburg area, engaging Petersburg pediatricians to help increase well-child visits, and getting out into the community through mobile clinic events and resource fairs. Since the Partnership for Petersburg kick-off in August 2022, Virginia's MCOs, as well as Conexus and DentaQuest partners, have participated in over 40 events and Virginia's MCOs have invested more than \$3 million to support the Petersburg community.
- DMAS staff have engaged Petersburg maternity providers in a series of meetings with the local FQHCs, regional medical center, health plans, and other stakeholders to learn about community needs, barriers, and opportunities to better serve Petersburg women and children. One of DMAS's key partners, Urban Baby Beginnings, will open a Petersburg maternity hub location in early 2023 to add additional on the ground resources and help accelerate the utilization of community doulas in the area. Virginia's MCOs have also committed to hosting quarterly community events targeting pregnant and postpartum members to provide education on topics such as safe sleep and car seats and give away resources such as diapers, cribettes, wipes, and other supplies.
- There are approximately 350 births each year in Petersburg, and DMAS prioritized outreach to pregnant and postpartum women as one of its first Partnership for Petersburg activities. On September 1, 2022, DMAS mailed out 70 flyers to pregnant members whose records indicated might not have yet had a prenatal visit. The flyer raised awareness of prenatal care, MCO extended benefits services, and contact information of local OB/GYNs in Petersburg. DMAS also shared this list with MCOs who provided follow-up and assistance with appointment scheduling. Following



these activities, around 75 percent of women who had not previously had a prenatal visit had received care.

## Doula Benefit

- Virginia is the fourth state in the nation to implement community doula services under the State Medicaid program. The overall goal of the Community Doula Program and Medicaid doula benefit is to improve maternal and infant outcomes in Virginia with Medicaid community doulas. Community doulas will offer members physical, emotional, and informational support during pregnancy, at labor and delivery, and during the postpartum period. As doulas receive State certification, DMAS will begin provider enrollment of doulas followed by managed care contracting with the health plans.
- Effective January 2022, VDH established the minimum requirements to be considered a State-certified community doula in Virginia based on the core competencies.
- In June 2022, DMAS launched the Community Doula Program webpage and Community Doula Engagement flyer to educate community stakeholders, doulas, and interested individuals about the Medicaid doula benefit and encourage doula State certification and Medicaid doula enrollment.
- In July 2022, DMAS held a Community Doula Program Meeting, which included a program overview, key highlights supporting the agency's efforts to grow the doula provider network to support Medicaid pregnant members, updates on community doula State certification, and Medicaid provider enrollment, including a testimonial from one of the agency's first contracted community doulas. Representation included the managed care health plans; VDH; the doula community, including the Virginia Doula Task Force Chair and committee members; and other key stakeholders from the provider community and health systems.
- DMAS presented on the Community Doula Program implementation at the Black Maternal Health Summit. The Black Maternal Health Summit is facilitated by Birth in Color RVA and included attendees from the community, private organizations, the provider communities, and other State agencies, including VDH.
- DMAS participated in the CHCS State Environmental Scan of Medicaid Coverage of Doula Services sponsored by the California Health Care Foundation. Participating states included New Jersey; Virginia, California; Washington, DC; Maryland; Oregon; and Rhode Island. Three sessions were held on July 25, August 5, and August 23, 2022. Topics included rates, billing, and reimbursement; doula training, credentialing, and supervision; and workforce development, sustainability, and contracting with MCOs/healthcare plans.
- DMAS is participating in the Title V AELC established through the UNC WorkForce Development Center to address the issues of racial and health equity. The group consists of the VDH Title V manager, VDH staff members, and early childhood health/home visiting staff members. The collaborative has a doula program operating in the two of the local VDH health districts.
- DMAS is participating in quarterly Virginia Doula Task Force Meetings. The Virginia Task Force assists with the promulgation of regulations and the certification process of doulas and serves as an informational resource for policy-related matters for VDH. Meetings were held in January and April 2022. In April 2022, the Task Force voted in favor of a doula communication plan, and for the establishment of a workforce and professional development committee to ensure continued training and professional development for doulas.

- DMAS is drafting a Community Doula Program strategic plan to further the implementation efforts of the Medicaid doula benefit. Key areas of focus include infrastructure building and sustainability, collaboration and partnership, and resource and data development.
- In August 2022, two of Virginia Medicaid's first community doulas provided the first two prenatal doula visits to Medicaid members, one of which was provided to a Spanish-speaking member with the use of an interpreter. Both doulas reported that the visits went well, and the members were very excited to have the support of a doula. The visits included a detailed review of each member's birth plan and education regarding labor and delivery.
- As of September 2022, 38 doulas have received State certification. Of the 38, 24 doulas have completed Medicaid enrollment and 22 doulas have contracted with an MCO/healthcare plan.
- In November 2022, DMAS, in partnership with the healthcare plans, will launch two doula provider videos, which will be used for statewide community doula recruitment and engagement efforts.

## ***Baby Steps***

Baby Steps VA continues to address the needs of both Virginia's pregnant and parenting Medicaid members from preconception to pregnancy and parenting. This lifespan strategy is imperative as DMAS continues to focus on eliminating racial disparities in maternal outcomes. As DMAS is committed to wellness one step at a time, DMAS knows it cannot do this work without the partnerships it has developed since its inception in 2019. DMAS outlined strategies to acknowledge best practices to improve the wellbeing of all Medicaid members and their babies, from pregnancy to postpartum. Virginia Medicaid covered approximately 37,000 births in 2020, to predominately White and African American members.

In 2021, DMAS accomplished and partnered with many of its sister agencies, MCOs, hospital systems, community stakeholders, and internal staff members to collaborate to discuss priorities around maternal health during bimonthly calls.

- Urban Baby Beginnings and the Virginia Neonatal Perinatal Collaborative partnered with Project ReByrth to build sustainable community-based programs and safer childbirth cities throughout Virginia. The goal of the project is to develop State-level support for expectant and postpartum women to improve overall outcomes.
- With a focus on LARCs and reproductive health, VDH and DMAS shared insight on the various contraceptive programs available for members and how providers utilize services for billing.
- Birth in Color RVA supports pregnant persons utilizing four sectors of CBOs, nonprofits, advocacy, and awareness/education. Birth in Color RVA continues to expand projects and locations, along with addressing maternal mental health and oral health programs.
- DMAS continues to support and address policies and procedures to improve overall wellness from preconception to postpartum for enrolled Medicaid members.
- The BSVA outreach and information team is member-focused to educate and address health disparities among preconception, pregnancy, postpartum, and parenting Medicaid populations. In continued support of Baby Steps VA initiatives, the outreach and information team partnered with several external maternal health focused groups to discuss actions items for training opportunities, outreach services, and community partnerships.

- DMAS released the second BSVA Maternal Health Annual Report<sup>4-12</sup> for 2021 detailing the accomplishments of the program, including how it is addressing maternal health and racial disparities.
- During each bimonthly meeting for BSVA MCO representatives, community stakeholders, and hospitals systems shared their collaborative efforts with Medicaid pregnant and parenting members.
- FQHCs have partnered to expand services for Medicaid pregnant and parenting members from prenatal and postpartum.
- DMAS and VDH developed an educational document for providers on reimbursement processes for FQHC.
- The Sixth Annual VNPC Summit: DMAS attendees collaborated with Maternal Health Providers to learn strategies to increase collaboration and build trust with partners, learned about free Hear-Here resources that raises awareness of urgent maternal warning signs during pregnancy and a year post-partum
- VCU Project Empower: goal to reduce maternal death due to Domestic Violence and suicide; including a screening assessment process and focus on eliminating bias for pregnant moms with SUDs.

DMAS' Baby Steps VA will continue to be the foundation of maternal health policies as DMAS pursues new policies and initiatives to ensure optimal care for its members in 2022.

### ***Maternal and Child Health Policy Innovation Program (MCH PIP)***

- The MCH PIP VA Committee has continued to work and focus on outreach efforts for members around postpartum coverage and doula implementation. The committee has developed a member toolkit that will provide members with information on the new postpartum coverage components along with details on the importance of the postpartum visit.
- The MCH PIP Member Postpartum Coverage toolkit will include details on the new postpartum coverage benefit, postpartum visits, wellness checks, postpartum maternal mental health, post-delivery, and breastfeeding.
- NASHP MCH PIP Committee members attended the Annual State Convening for NASHP in Seattle on September 12, 2022. The convening allowed states to further refine teamwork plans and action steps for the final months of the policy academy. Virginia presented on the initiatives and accomplishments of maternal health across the Commonwealth.

### ***Additional Successful Strategy Updates***

- Starting on July 1, 2021, Virginia offers comprehensive prenatal coverage through FAMIS for pregnant women who meet all other eligibility criteria, regardless of immigration status.
- In November 2021, DMAS' 1115 waiver amendment to extend postpartum coverage to 12 months was approved by the federal government. Effective July 1, 2022, Virginia became one of the first

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<sup>4-12</sup> Baby Steps VA. Department of Medical Assistance Services. Maternal Health Annual Report 2021. Available at: <https://www.dmas.virginia.gov/media/4638/dmas-maternity-report-2021.pdf>. Accessed on: Jan 3, 2023.

states to provide continuous full-benefit coverage across eligibility categories for a full 12 months postpartum. The expanded coverage enables Medicaid and FAMIS MOMS members to receive critical postpartum care for a full year postpartum, an important step in improving health outcomes for both women and their newborns.

- DMAS implemented a 15 percent increase in OB/GYN reimbursement rates for the first time since 2005.
- The Medicaid New Mom Letter was redesigned for new Medallion 4.0 and FFS birthing/moms. This resource guide will assist members with vital tips as they transition from before-to-after pregnancy care. Updates have been made to include new policy services, social media platforms, and direct access to CoverVA services and action items for pregnancy coverage.

## ***Collaboration and Outreach***

- DMAS hosted an MCH collaborative with the MCOs. During the call, teams shared updates and an overview of HEDIS data points, maternal projects (Baby Steps VA, Doula Benefit, NASHP communications and postpartum coverage), and child health (foster care, EI, and EPSDT). MCOs and DMAS will focus on doulas and postpartum as well as child well visits and immunizations.
- DMAS was invited to speak at the Fourth Annual Perinatal, Maternal, and Infant Mortality Summit held by the VNPC on May 16, 2022. DMAS presented at this summit to provide State program updates. DMAS provided updates on the postpartum 12-month coverage extension, and how that comprehensive coverage provides members access to additional services, such as ARTS. DMAS had the opportunity to present on the ARTS benefit offered to all members, including pregnant individuals. DMAS presented on the Community Doula Program, including current program implementation and the healthcare benefits of doula care. DMAS is excited to continue its partnership with VNPC to discuss key topics relative to neonatal and perinatal health.
- DMAS awarded one of seven grant-funded sub-awards to the VCU OB MOTIVATE clinic in order to expand access to treatment in a co-located OB/GYN and addiction care clinic. Grant funds were spent on the establishment of a clinical coordinator role, support and supplies to carry out health system navigation procedures by staff members, and trauma-informed training for staff members.

## ***Continued State Support***

In April 2021, the Office of the Secretary of Health and Human Resources presented the statewide strategic plan for maternal health. The Virginia Council for Women and former First Lady Pamela Northam emphasized the importance of maternal health initiatives across Virginia and the outcomes of the 2019 listening session that took place to develop this strategic plan.

In accordance with Item 312.G of the 2021 Special Session I Appropriations Act, as of July 1, 2021, FAMIS MOMS members have access to medically necessary treatment for SUD in an IMD, equivalent to such benefits offered to pregnant women.

## Appendix A: Additional Stratifications for Study Indicators

### Additional FAMIS MOMS Stratifications

Table A-1 presents the study indicator findings among FAMIS MOMS singleton births by maternal age at the time of delivery for CY 2019 through CY 2021.

**Table A-1—Study Indicator Findings Among FAMIS MOMS Singleton Births by Maternal Age at Delivery, CY 2019–CY 2021**

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| ≤15 Years                                      |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | S       | S       | S       | S       | S       | S       |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | S       | S       | S       | S       | S       | S       |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | S       | S       | S       | S       | S       | S       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | S       | S       | S       | S       |
| 16–17 Years                                    |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | S       | S       | S       | S       | 11      | 39.3%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | S       | S       | S       | S       | 13      | 46.4%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 0       | 0.0%    | S       | S       | S       | S       |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 0       | 0.0%    | S       | S       | S       | S       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | S       | S       | S       | S       |
| <b>18–20 Years</b>                             |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 78      | 78.0%   | 71      | 75.5%   | 141     | 52.0%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 17      | 17.0%   | 12      | 12.8%   | 91      | 33.6%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | 0       | 0.0%    | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 13      | 12.3%   | S       | S       | 25      | 9.1%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | S       | S       | 24      | 8.8%    |
| <b>21–24 Years</b>                             |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 353     | 79.9%   | 292     | 78.3%   | 417     | 61.4%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 53      | 12.0%   | 48      | 12.9%   | 179     | 26.4%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | 20      | 2.9%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 27      | 5.9%    | 29      | 7.6%    | 41      | 6.0%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 30      | 6.5%    | 33      | 8.6%    | 37      | 5.4%    |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| 25–29 Years                                    |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 558     | 77.6%   | 563     | 76.7%   | 731     | 66.0%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 88      | 12.2%   | 92      | 12.5%   | 253     | 22.8%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 15      | 2.1%    | S       | S       | 19      | 1.7%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 48      | 6.5%    | 55      | 7.4%    | 97      | 8.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 51      | 6.9%    | 57      | 7.6%    | 86      | 7.7%    |
| 30–34 Years                                    |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 389     | 73.8%   | 381     | 75.4%   | 601     | 64.1%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 84      | 15.9%   | 64      | 12.7%   | 227     | 24.2%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | 22      | 2.3%    |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 39      | 7.0%    | 32      | 6.1%    | 85      | 9.0%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 33      | 5.9%    | 29      | 5.6%    | 67      | 7.1%    |
| 35–39 Years                                    |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 189     | 79.7%   | 200     | 77.8%   | 351     | 62.3%   |



| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 34      | 14.3%   | 34      | 13.2%   | 146     | 25.9%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | 0       | 0.0%    | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 29      | 11.8%   | 30      | 11.2%   | 49      | 8.7%    |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 25      | 10.2%   | 18      | 6.7%    | 30      | 5.3%    |
| <b>40–44 Years</b>                             |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 48      | 78.7%   | 47      | 85.5%   | 97      | 65.5%   |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | S       | S       | S       | S       | 42      | 28.4%   |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | S       | S       | S       | S       | 18      | 12.2%   |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | S       | S       | 14      | 9.5%    |
| <b>≥45 Years</b>                               |                    |         |         |         |         |         |         |
| Births with Early and Adequate Prenatal Care   | 76.4%              | S       | S       | S       | S       | S       | S       |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | S       | S       | S       | S       | S       | S       |
| <i>Births with No Prenatal Care*</i>           | NA                 | S       | S       | S       | S       | S       | S       |

| Study Indicator                                | National Benchmark | CY 2019 |         | CY 2020 |         | CY 2021 |         |
|--|--------------------|---------|---------|---------|---------|---------|---------|
|  |                    | Number  | Percent | Number  | Percent | Number  | Percent |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | S       | S       | S       | S       | S       | S       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S       | S       | S       | S       | S       | S       |

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

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

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

## Additional Birth Outcomes Study Indicators

Table A-2 presents the CY 2021 birth outcomes study indicator results stratified by MCO and managed care program.

**Table A-2—Birth Outcomes Study Indicators Stratified by MCO and Managed Care Program, CY 2021**

| MCO           | Managed Care Program | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|---------------|----------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|               |                      | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| Aetna         | CCC Plus             | 105  | 70.5% | 25                                    | 16.8% | S                             | S    | 31                                    | 20.7% | 27   | 18.0% |
|               | Medallion 4.0        | 2,923  | 76.6% | 524                                   | 13.7% | S                             | S    | 371                                   | 9.7%  | 354  | 9.2%  |
|               | Total                | 3,028  | 76.4% | 549                                   | 13.8% | 54                            | 1.4% | 402                                   | 10.1% | 381  | 9.6%  |
| HealthKeepers | CCC Plus             | 172  | 75.1% | 32                                    | 14.0% | S                             | S    | 35                                    | 15.0% | 31   | 13.4% |
|               | Medallion 4.0        | 6,437  | 74.1% | 1,259                                 | 14.5% | S                             | S    | 835                                   | 9.5%  | 741  | 8.4%  |
|               | Total                | 6,609  | 74.2% | 1,291                                 | 14.5% | 145                           | 1.6% | 870                                   | 9.7%  | 772  | 8.6%  |
| Molina        | CCC Plus             | 61   | 70.1% | 11                                    | 12.6% | S                             | S    | 19                                    | 21.6% | S  | S     |
|               | Medallion 4.0        | 1,482  | 73.6% | 282                                   | 14.0% | S                             | S    | 197                                   | 9.7%  | S  | S     |
|               | Total                | 1,543  | 73.4% | 293                                   | 13.9% | 56                            | 2.7% | 216                                   | 10.2% | 223  | 10.5% |

| MCO              | Managed Care Program | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|------------------|----------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                  |                      | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| Optima           | CCC Plus             | 140  | 72.5% | 24                                    | 12.4% | S                             | S    | 27                                    | 13.8% | 30   | 15.4% |
|                  | Medallion 4.0        | 4,446  | 76.2% | 745                                   | 12.8% | S                             | S    | 640                                   | 10.9% | 599  | 10.2% |
|                  | Total                | 4,586  | 76.1% | 769                                   | 12.8% | 109                           | 1.8% | 667                                   | 11.0% | 629  | 10.4% |
| UnitedHealthcare | CCC Plus             | 54   | 65.9% | 17                                    | 20.7% | S                             | S    | 12                                    | 14.6% | S  | S     |
|                  | Medallion 4.0        | 1,890  | 70.4% | 472                                   | 17.6% | S                             | S    | 232                                   | 8.6%  | S  | S     |
|                  | Total                | 1,944  | 70.2% | 489                                   | 17.7% | 48                            | 1.7% | 244                                   | 8.7%  | 233  | 8.4%  |
| VA Premier       | CCC Plus             | 128  | 71.9% | 28                                    | 15.7% | S                             | S    | 30                                    | 16.9% | 29   | 16.3% |
|                  | Medallion 4.0        | 3,622  | 73.8% | 725                                   | 14.8% | S                             | S    | 485                                   | 9.8%  | 469  | 9.5%  |
|                  | Total                | 3,750  | 73.7% | 753                                   | 14.8% | 97                            | 1.9% | 515                                   | 10.0% | 498  | 9.7%  |
| Total            | CCC Plus             | 660  | 71.9% | 137                                   | 14.9% | 36                            | 3.9% | 154                                   | 16.6% | 146  | 15.8% |
|                  | Medallion 4.0        | 20,800                                       | 74.4% | 4,007                                 | 14.3% | 473                           | 1.7% | 2,760                                 | 9.8%  | 2,590  | 9.2%  |
|                  | Total                | 21,460                                       | 74.3% | 4,144                                 | 14.4% | 509                           | 1.8% | 2,914                                 | 10.0% | 2,736  | 9.4%  |

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

\*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). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

Table A-3 presents the CY 2021 birth outcomes study indicator results stratified by MCO and race/ethnicity.

**Table A-3—Overall Birth Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

| Study Indicator                                | National Benchmark | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|--------------------|-------|----------------|--------|--------|--------|------------|
| <b>White, Non-Hispanic</b>                     |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 77.6% | 77.5%          | 74.6%  | 77.5%  | 74.0%  | 73.9%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 12.7% | 12.1%          | 12.6%  | 12.4%  | 14.0%  | 14.5%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | 1.1%  | 1.5%           | 2.9%   | 1.6%   | 1.6%   | 2.1%       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 8.8%  | 8.5%           | 10.0%  | 8.7%   | 9.1%   | 9.3%       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 7.0%  | 6.9%           | 8.7%   | 7.1%   | 7.4%   | 8.6%       |
| <b>Black, Non-Hispanic</b>                     |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 77.4% | 74.3%          | 73.2%  | 76.0%  | 71.5%  | 73.8%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 12.5% | 13.9%          | 12.6%  | 12.4%  | 16.0%  | 14.7%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | 1.7%  | 2.0%           | 2.9%   | 2.1%   | 1.9%   | 2.1%       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 12.2% | 11.9%          | 11.6%  | 13.4%  | 9.0%   | 12.2%      |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 13.9% | 12.0%          | 14.3%  | 13.9%  | 10.4%  | 12.2%      |

| Study Indicator                                | National Benchmark | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|--------------------|-------|----------------|--------|--------|--------|------------|
| <b>Asian, Non-Hispanic</b>                     |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 78.1% | 73.1%          | 80.7%  | 75.2%  | 74.1%  | 74.9%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 10.2% | 13.7%          | S      | 13.1%  | 15.0%  | 13.0%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | S     | S              | 0.0%   | S      | S      | S          |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | S     | 6.8%           | S      | 8.0%   | S      | 9.0%       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | S     | 5.6%           | S      | 8.0%   | S      | 8.0%       |
| <b>Hispanic, Any Race</b>                      |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 69.3% | 67.7%          | 68.3%  | 72.0%  | 63.0%  | 71.1%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 21.9% | 20.8%          | 21.3%  | 15.6%  | 25.5%  | 18.1%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | S     | 1.2%           | S      | S      | 2.1%   | S          |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 9.2%  | 8.3%           | 7.3%   | 8.9%   | 8.8%   | 8.1%       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 7.4%  | 6.1%           | 7.0%   | 7.3%   | 7.5%   | 8.3%       |
| <b>Other/Unknown</b>                           |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 76.1% | 73.0%          | 79.7%  | 73.8%  | 58.9%  | 77.3%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 14.5% | 13.6%          | S      | 13.5%  | 25.2%  | 10.8%      |

| Study Indicator                                | National Benchmark | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|--------------------|-------|----------------|--------|--------|--------|------------|
| <i>Births with No Prenatal Care*</i>           | NA                 | S     | S              | S      | S      | 0.0%   | S          |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 9.4%  | 9.2%           | S      | 10.0%  | S      | S          |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 8.8%  | 8.1%           | S      | 7.8%   | S      | S          |

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

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

S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

Table A-4 presents the CY 2021 birth outcomes study indicator results stratified by MCO and managed care region of maternal residence.

**Table A-4—Overall Birth Outcomes Study Indicators Stratified by MCO and Managed Care Region of Maternal Residence, CY 2021**

| Study Indicator                                | National Benchmark | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|--------------------|-------|----------------|--------|--------|--------|------------|
| <b>Central</b>                                 |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 80.8% | 78.8%          | 77.8%  | 77.1%  | 74.0%  | 74.3%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 9.6%  | 9.3%           | 9.6%   | 10.7%  | 13.7%  | 11.9%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | 1.8%  | 2.0%           | 2.6%   | 2.7%   | 2.5%   | 3.3%       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 10.1% | 11.1%          | 10.3%  | 12.3%  | 10.1%  | 12.3%      |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 10.6% | 9.5%           | 10.8%  | 12.2%  | 8.9%   | 11.8%      |

| Study Indicator                                | National Benchmark | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|--------------------|-------|----------------|--------|--------|--------|------------|
| <b>Charlottesville/Western</b>                 |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 80.9% | 78.9%          | 78.7%  | 79.3%  | 75.0%  | 79.6%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 11.8% | 14.6%          | 12.9%  | 11.8%  | 19.0%  | 13.8%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | S     | S              | S      | 1.5%   | 0.0%   | 1.6%       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 9.5%  | 7.2%           | 9.2%   | 8.2%   | 10.0%  | 9.6%       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 8.4%  | 5.9%           | 11.6%  | 7.6%   | 10.4%  | 10.3%      |
| <b>Northern &amp; Winchester</b>               |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 64.4% | 67.0%          | 63.3%  | 65.4%  | 65.8%  | 63.6%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 23.7% | 20.5%          | 24.0%  | 21.1%  | 21.3%  | 21.2%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | S     | 1.7%           | S      | 2.4%   | 1.7%   | 1.9%       |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 9.6%  | 8.2%           | 7.2%   | 8.9%   | 7.5%   | 7.2%       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 6.7%  | 7.3%           | 5.7%   | 7.1%   | 7.5%   | 5.0%       |
| <b>Roanoke/Alleghany</b>                       |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 77.3% | 77.4%          | 69.0%  | 73.3%  | 69.8%  | 73.5%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 11.2% | 10.9%          | 13.5%  | 12.2%  | 14.8%  | 14.7%      |



| Study Indicator                                | National Benchmark | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|--------------------|-------|----------------|--------|--------|--------|------------|
| <i>Births with No Prenatal Care*</i>           | NA                 | S     | S              | 4.0%   | S      | S      | S          |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 9.4%  | 9.2%           | 12.8%  | 9.6%   | 10.4%  | 10.2%      |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 8.8%  | 9.9%           | 11.8%  | 10.2%  | 8.8%   | 10.6%      |
| <b>Southwest</b>                               |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 81.5% | 79.2%          | 75.2%  | 76.0%  | 78.7%  | 77.3%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 8.7%  | 13.1%          | 16.8%  | 13.7%  | 13.0%  | 13.5%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | S     | S              | S      | S      | S      | S          |
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 7.6%  | 8.2%           | S      | S      | S      | 6.2%       |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 6.5%  | 6.0%           | S      | S      | S      | 7.9%       |
| <b>Tidewater</b>                               |                    |       |                |        |        |        |            |
| Births with Early and Adequate Prenatal Care   | 76.4%              | 74.8% | 75.4%          | 74.7%  | 76.6%  | 72.5%  | 76.2%      |
| <i>Births with Inadequate Prenatal Care*</i>   | NA                 | 16.7% | 13.5%          | 12.6%  | 12.7%  | 15.9%  | 13.5%      |
| <i>Births with No Prenatal Care*</i>           | NA                 | S     | 1.6%           | 2.3%   | 1.4%   | S      | 1.4%       |

| Study Indicator                                | National Benchmark | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|--------------------|-------|----------------|--------|--------|--------|------------|
| Preterm Births (<37 Weeks Gestation)*          | 9.4%               | 12.0% | 10.8%          | 11.6%  | 12.2%  | 9.6%   | 11.8%      |
| Newborns with Low Birth Weight (<2,500 grams)* | 9.7%               | 12.5% | 9.9%           | 13.1%  | 11.4%  | 10.1%  | 11.1%      |

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

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

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

Table A-5 through Table A-10 present the CY 2021 birth outcomes study indicator results stratified by MCO and race/ethnicity for each managed care region of maternal residence.

**Table A-5—Central Region Birth Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| <b>White, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 357  | 81.0% | 41                                    | 9.3%  | S                             | S    | 32                                    | 7.2%  | 25   | 5.6%  |
| HealthKeepers              | 758  | 80.9% | 68                                    | 7.3%  | 12                            | 1.3% | 89                                    | 9.4%  | 70   | 7.4%  |
| Molina                     | 160  | 80.0% | 15                                    | 7.5%  | S                             | S    | 17                                    | 8.5%  | 16   | 8.0%  |
| Optima                     | 396  | 80.0% | 46                                    | 9.3%  | S                             | S    | 50                                    | 10.0% | 35   | 7.0%  |
| UnitedHealthcare           | 165  | 76.0% | 19                                    | 8.8%  | S                             | S    | 28                                    | 12.8% | 18   | 8.3%  |
| VA Premier                 | 258  | 73.5% | 41                                    | 11.7% | 12                            | 3.4% | 38                                    | 10.8% | 30   | 8.5%  |
| <b>Black, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 568  | 80.3% | 70                                    | 9.9%  | 17                            | 2.4% | 89                                    | 12.5% | 106  | 14.9% |
| HealthKeepers              | 920  | 77.9% | 120                                   | 10.2% | 33                            | 2.8% | 152                                   | 12.8% | 141  | 11.9% |
| Molina                     | 237  | 77.2% | 29                                    | 9.4%  | S                             | S    | 38                                    | 12.2% | 41   | 13.2% |

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| Optima                     | 585  | 75.6% | 89                                    | 11.5% | 27                            | 3.5% | 111                                   | 14.3% | 123  | 15.8% |
| UnitedHealthcare           | 189  | 74.1% | 38                                    | 14.9% | S                             | S    | 23                                    | 9.0%  | 27   | 10.6% |
| VA Premier                 | 470  | 73.7% | 74                                    | 11.6% | 23                            | 3.6% | 92                                    | 14.3% | 94   | 14.6% |
| <b>Asian, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 36   | 87.8% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| HealthKeepers              | 56   | 83.6% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| Molina                     | 10   | 83.3% | S                                     | S     | 0                             | 0.0% | 0                                     | 0.0%  | S  | S     |
| Optima                     | 17   | 85.0% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| UnitedHealthcare           | 17   | 77.3% | S                                     | S     | 0                             | 0.0% | 0                                     | 0.0%  | S  | S     |
| VA Premier                 | 26   | 96.3% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| <b>Hispanic, Any Race</b>  |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 122  | 80.3% | 18                                    | 11.8% | S                             | S    | 14                                    | 9.2%  | 11   | 7.2%  |
| HealthKeepers              | 198  | 74.2% | 35                                    | 13.1% | S                             | S    | 25                                    | 9.4%  | 18   | 6.7%  |
| Molina                     | 57   | 73.1% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| Optima                     | 85   | 72.6% | 14                                    | 12.0% | 0                             | 0.0% | S                                     | S     | 11   | 9.3%  |
| UnitedHealthcare           | 55   | 67.9% | 20                                    | 24.7% | S                             | S    | S                                     | S     | S  | S     |
| VA Premier                 | 96   | 70.1% | 23                                    | 16.8% | S                             | S    | 13                                    | 9.5%  | 15   | 10.9% |
| <b>Other/Unknown</b>       |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 51   | 82.3% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| HealthKeepers              | 76   | 80.0% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| Molina                     | 16   | 80.0% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| Optima                     | 37   | 80.4% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |

|                  | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |      | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |      | Newborns with Low Birth Weight (<2,500 grams)* |      |
|------------------|--|-------|---------------------------------------|------|-------------------------------|------|---------------------------------------|------|--|------|
|                  | Number                                       | Rate  | Number                                | Rate | Number                        | Rate | Number                                | Rate | Number   | Rate |
| UnitedHealthcare | 21   | 72.4% | S                                     | S    | 0                             | 0.0% | S                                     | S    | S  | S    |
| VA Premier       | 39   | 88.6% | 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). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

**Table A-6—Charlottesville/Western Region Birth Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| <b>White, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 221  | 78.1% | 40                                    | 14.1% | S                             | S    | 26                                    | 9.1%  | 19   | 6.7%  |
| HealthKeepers              | 323  | 78.4% | 63                                    | 15.3% | S                             | S    | 29                                    | 7.0%  | 23   | 5.5%  |
| Molina                     | 108  | 74.0% | 21                                    | 14.4% | S                             | S    | 18                                    | 12.3% | 15   | 10.3% |
| Optima                     | 433  | 79.0% | 72                                    | 13.1% | S                             | S    | 37                                    | 6.7%  | 28   | 5.1%  |
| UnitedHealthcare           | 113  | 72.0% | 35                                    | 22.3% | 0                             | 0.0% | 16                                    | 10.1% | 17   | 10.7% |
| VA Premier                 | 441  | 77.1% | 87                                    | 15.2% | 11                            | 1.9% | 54                                    | 9.3%  | 51   | 8.8%  |
| <b>Black, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 106  | 85.5% | S                                     | S     | S                             | S    | 13                                    | 10.4% | 16   | 12.8% |
| HealthKeepers              | 147  | 82.6% | 19                                    | 10.7% | S                             | S    | 18                                    | 9.9%  | 15   | 8.3%  |

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| Molina                     | 61   | 83.6% | S                                     | S     | 0                             | 0.0% | S                                     | S     | 12   | 16.2% |
| Optima                     | 293  | 78.1% | 41                                    | 10.9% | S                             | S    | 44                                    | 11.6% | 47   | 12.4% |
| UnitedHealthcare           | 54   | 83.1% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| VA Premier                 | 257  | 82.6% | 39                                    | 12.5% | S                             | S    | 33                                    | 10.5% | 42   | 13.4% |
| <b>Asian, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| HealthKeepers              | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| Molina                     | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| Optima                     | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| UnitedHealthcare           | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| VA Premier                 | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| <b>Hispanic, Any Race</b>  |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 21   | 84.0% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| HealthKeepers              | 47   | 79.7% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| Molina                     | 16   | 84.2% | S                                     | S     | 0                             | 0.0% | 0                                     | 0.0%  | S  | S     |
| Optima                     | 70   | 85.4% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| UnitedHealthcare           | 17   | 81.0% | S                                     | S     | 0                             | 0.0% | S                                     | S     | 0  | 0.0%  |
| VA Premier                 | 76   | 88.4% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| <b>Other/Unknown</b>       |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 13   | 86.7% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| HealthKeepers              | 14   | 58.3% | S                                     | S     | 0                             | 0.0% | 0                                     | 0.0%  | 0  | 0.0%  |
| Molina                     | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |

|                  | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |      | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |      | Newborns with Low Birth Weight (<2,500 grams)* |      |
|------------------|--|-------|---------------------------------------|------|-------------------------------|------|---------------------------------------|------|--|------|
|                  | Number                                       | Rate  | Number                                | Rate | Number                        | Rate | Number                                | Rate | Number   | Rate |
| Optima           | 25   | 80.6% | S                                     | S    | 0                             | 0.0% | S                                     | S    | 0  | 0.0% |
| UnitedHealthcare | S  | S     | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| VA Premier       | 20   | 74.1% | S                                     | S    | 0                             | 0.0% | 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 A-7—Northern & Winchester Region Birth Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| <b>White, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 153  | 68.6% | 44                                    | 19.7% | S                             | S    | 24                                    | 10.6% | 17   | 7.5%  |
| HealthKeepers              | 500  | 70.6% | 125                                   | 17.7% | 18                            | 2.5% | 57                                    | 7.8%  | 54   | 7.4%  |
| Molina                     | 69   | 68.3% | 20                                    | 19.8% | S                             | S    | S                                     | S     | S  | S     |
| Optima                     | 122  | 71.8% | 32                                    | 18.8% | S                             | S    | 16                                    | 9.1%  | 13   | 7.4%  |
| UnitedHealthcare           | 205  | 70.4% | 45                                    | 15.5% | S                             | S    | 23                                    | 7.8%  | 17   | 5.8%  |
| VA Premier                 | 160  | 61.3% | 52                                    | 19.9% | 11                            | 4.2% | 20                                    | 7.5%  | 13   | 4.9%  |
| <b>Black, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 100  | 67.1% | 27                                    | 18.1% | 0                             | 0.0% | S                                     | S     | S  | S     |
| HealthKeepers              | 396  | 66.4% | 124                                   | 20.8% | S                             | S    | 62                                    | 10.3% | 69   | 11.4% |
| Molina                     | 33   | 57.9% | 12                                    | 21.1% | S                             | S    | S                                     | S     | S  | S     |
| Optima                     | 62   | 63.9% | 19                                    | 19.6% | S                             | S    | S                                     | S     | S  | S     |

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |      |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate |
| UnitedHealthcare           | 154  | 68.4% | 40                                    | 17.8% | S                             | S    | 15                                    | 6.5%  | 23   | 9.9% |
| VA Premier                 | 147  | 61.3% | 63                                    | 26.3% | S                             | S    | 18                                    | 7.4%  | 11   | 4.5% |
| <b>Asian, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |      |
| Aetna                      | 44   | 66.7% | 11                                    | 16.7% | S                             | S    | S                                     | S     | S  | S    |
| HealthKeepers              | 242  | 70.1% | 52                                    | 15.1% | S                             | S    | 24                                    | 6.8%  | 20   | 5.7% |
| Molina                     | 21   | 70.0% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S    |
| Optima                     | 19   | 67.9% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S    |
| UnitedHealthcare           | 83   | 74.8% | 17                                    | 15.3% | S                             | S    | S                                     | S     | S  | S    |
| VA Premier                 | 94   | 67.6% | 23                                    | 16.5% | 0                             | 0.0% | 11                                    | 7.6%  | S  | S    |
| <b>Hispanic, Any Race</b>  |  |       |                                       |       |                               |      |                                       |       |  |      |
| Aetna                      | 150  | 58.6% | 81                                    | 31.6% | S                             | S    | 27                                    | 10.5% | 17   | 6.6% |
| HealthKeepers              | 682  | 63.4% | 264                                   | 24.6% | 13                            | 1.2% | 87                                    | 8.0%  | 61   | 5.6% |
| Molina                     | 90   | 60.0% | 45                                    | 30.0% | S                             | S    | S                                     | S     | S  | S    |
| Optima                     | 114  | 60.6% | 45                                    | 23.9% | S                             | S    | 17                                    | 8.9%  | S  | S    |
| UnitedHealthcare           | 282  | 60.5% | 126                                   | 27.0% | S                             | S    | 39                                    | 8.3%  | 36   | 7.6% |
| VA Premier                 | 160  | 65.0% | 55                                    | 22.4% | S                             | S    | 16                                    | 6.3%  | 13   | 5.1% |
| <b>Other/Unknown</b>       |  |       |                                       |       |                               |      |                                       |       |  |      |
| Aetna                      | 18   | 64.3% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S    |
| HealthKeepers              | 74   | 72.5% | 13                                    | 12.7% | S                             | S    | S                                     | S     | S  | S    |
| Molina                     | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S    |
| Optima                     | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S    |



|                  | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |      | Newborns with Low Birth Weight (<2,500 grams)* |      |
|------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|------|--|------|
|                  | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate | Number   | Rate |
| UnitedHealthcare | 24   | 54.5% | 14                                    | 31.8% | 0                             | 0.0% | S                                     | S    | S  | S    |
| VA Premier       | 37   | 68.5% | S                                     | S     | 0                             | 0.0% | 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 A-8—Roanoke/Alleghany Region Birth Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| <b>White, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 273  | 78.0% | 36                                    | 10.3% | S                             | S    | 29                                    | 8.3%  | 26   | 7.4%  |
| HealthKeepers              | 224  | 78.0% | 28                                    | 9.8%  | S                             | S    | 28                                    | 9.7%  | 28   | 9.7%  |
| Molina                     | 135  | 73.4% | 20                                    | 10.9% | S                             | S    | 25                                    | 13.5% | 18   | 9.7%  |
| Optima                     | 193  | 74.8% | 30                                    | 11.6% | S                             | S    | 27                                    | 10.3% | 27   | 10.3% |
| UnitedHealthcare           | 147  | 72.8% | 27                                    | 13.4% | S                             | S    | 20                                    | 9.9%  | 17   | 8.4%  |
| VA Premier                 | 466  | 73.9% | 96                                    | 15.2% | S                             | S    | 64                                    | 10.1% | 65   | 10.3% |
| <b>Black, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 68   | 71.6% | 16                                    | 16.8% | 0                             | 0.0% | 14                                    | 14.7% | 15   | 15.8% |
| HealthKeepers              | 58   | 75.3% | 10                                    | 13.0% | 0                             | 0.0% | S                                     | S     | S  | S     |
| Molina                     | 52   | 59.8% | 16                                    | 18.4% | S                             | S    | S                                     | S     | 15   | 17.2% |
| Optima                     | 47   | 69.1% | 11                                    | 16.2% | S                             | S    | S                                     | S     | S  | S     |
| UnitedHealthcare           | 51   | 64.6% | 12                                    | 15.2% | S                             | S    | 12                                    | 15.2% | S  | S     |

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| VA Premier                 | 101  | 70.6% | 20                                    | 14.0% | 0                             | 0.0% | 17                                    | 11.8% | 17   | 11.8% |
| <b>Asian, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| HealthKeepers              | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| Molina                     | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| Optima                     | S  | S     | 0                                     | 0.0%  | 0                             | 0.0% | 0                                     | 0.0%  | S  | S     |
| UnitedHealthcare           | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| VA Premier                 | 11   | 91.7% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| <b>Hispanic, Any Race</b>  |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 21   | 84.0% | S                                     | S     | 0                             | 0.0% | S                                     | S     | 0  | 0.0%  |
| HealthKeepers              | 21   | 77.8% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| Molina                     | 12   | 70.6% | S                                     | S     | 0                             | 0.0% | 0                                     | 0.0%  | 0  | 0.0%  |
| Optima                     | S  | S     | 0                                     | 0.0%  | 0                             | 0.0% | 0                                     | 0.0%  | 0  | 0.0%  |
| UnitedHealthcare           | 11   | 64.7% | S                                     | S     | 0                             | 0.0% | 0                                     | 0.0%  | 0  | 0.0%  |
| VA Premier                 | 31   | 70.5% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |

|                      | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |      | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |      | Newborns with Low Birth Weight (<2,500 grams)* |      |
|----------------------|--|-------|---------------------------------------|------|-------------------------------|------|---------------------------------------|------|--|------|
|                      | Number                                       | Rate  | Number                                | Rate | Number                        | Rate | Number                                | Rate | Number   | Rate |
| <b>Other/Unknown</b> |  |       |                                       |      |                               |      |                                       |      |  |      |
| Aetna                | S  | S     | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| HealthKeepers        | S  | S     | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| Molina               | S  | S     | S                                     | S    | 0                             | 0.0% | S                                     | S    | S  | S    |
| Optima               | S  | S     | S                                     | S    | 0                             | 0.0% | S                                     | S    | S  | S    |
| UnitedHealthcare     | S  | S     | S                                     | S    | 0                             | 0.0% | S                                     | S    | S  | S    |
| VA Premier           | 14   | 77.8% | S                                     | S    | 0                             | 0.0% | 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). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

**Table A-9—Southwest Region Birth Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |      | Newborns with Low Birth Weight (<2,500 grams)* |      |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|------|--|------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate | Number   | Rate |
| <b>White, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |      |  |      |
| Aetna                      | 140  | 80.9% | 15                                    | 8.7%  | S                             | S    | 13                                    | 7.5% | 11   | 6.4% |
| HealthKeepers              | 135  | 78.0% | 24                                    | 13.9% | S                             | S    | 14                                    | 8.1% | S  | S    |
| Molina                     | 70   | 74.5% | 16                                    | 17.0% | S                             | S    | S                                     | S    | S  | S    |
| Optima                     | 102  | 76.1% | 17                                    | 12.7% | S                             | S    | S                                     | S    | S  | S    |
| UnitedHealthcare           | 80   | 80.0% | 12                                    | 12.0% | S                             | S    | S                                     | S    | S  | S    |
| VA Premier                 | 225  | 77.6% | 38                                    | 13.1% | S                             | S    | 18                                    | 6.2% | 22   | 7.6% |

|                            | Births with Early and Adequate Prenatal Care |      | Births with Inadequate Prenatal Care* |      | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |      | Newborns with Low Birth Weight (<2,500 grams)* |      |
|----------------------------|--|------|---------------------------------------|------|-------------------------------|------|---------------------------------------|------|--|------|
|                            | Number                                       | Rate | Number                                | Rate | Number                        | Rate | Number                                | Rate | Number   | Rate |
| <b>Black, Non-Hispanic</b> |  |      |                                       |      |                               |      |                                       |      |  |      |
| Aetna                      | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| HealthKeepers              | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| Molina                     | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| Optima                     | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| UnitedHealthcare           | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| VA Premier                 | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| <b>Asian, Non-Hispanic</b> |  |      |                                       |      |                               |      |                                       |      |  |      |
| Aetna                      | —  | —    | —                                     | —    | —                             | —    | —                                     | —    | —  | —    |
| HealthKeepers              | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| Molina                     | —  | —    | —                                     | —    | —                             | —    | —                                     | —    | —  | —    |
| Optima                     | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| UnitedHealthcare           | —  | —    | —                                     | —    | —                             | —    | —                                     | —    | —  | —    |
| VA Premier                 | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| <b>Hispanic, Any Race</b>  |  |      |                                       |      |                               |      |                                       |      |  |      |
| Aetna                      | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| HealthKeepers              | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| Molina                     | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| Optima                     | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| UnitedHealthcare           | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| VA Premier                 | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |

|                      | Births with Early and Adequate Prenatal Care |      | Births with Inadequate Prenatal Care* |      | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |      | Newborns with Low Birth Weight (<2,500 grams)* |      |
|----------------------|--|------|---------------------------------------|------|-------------------------------|------|---------------------------------------|------|--|------|
|                      | Number                                       | Rate | Number                                | Rate | Number                        | Rate | Number                                | Rate | Number   | Rate |
| <b>Other/Unknown</b> |  |      |                                       |      |                               |      |                                       |      |  |      |
| Aetna                | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| HealthKeepers        | —  | —    | —                                     | —    | —                             | —    | —                                     | —    | —  | —    |
| Molina               | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| Optima               | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| UnitedHealthcare     | S  | S    | S                                     | S    | S                             | S    | S                                     | S    | S  | S    |
| VA Premier           | S  | S    | 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 A-10—Tidewater Region Birth Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| <b>White, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 158  | 76.0% | 37                                    | 17.8% | S                             | S    | 24                                    | 11.5% | 21   | 10.0% |
| HealthKeepers              | 552  | 79.2% | 79                                    | 11.3% | S                             | S    | 59                                    | 8.4%  | 41   | 5.8%  |
| Molina                     | 99   | 73.9% | 16                                    | 11.9% | S                             | S    | 13                                    | 9.6%  | 13   | 9.6%  |
| Optima                     | 473  | 77.2% | 78                                    | 12.7% | S                             | S    | 57                                    | 9.3%  | 48   | 7.8%  |
| UnitedHealthcare           | 81   | 79.4% | 12                                    | 11.8% | 0                             | 0.0% | S                                     | S     | S  | S     |
| VA Premier                 | 167  | 76.6% | 23                                    | 10.6% | S                             | S    | 24                                    | 10.9% | 21   | 9.5%  |

|                            | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |       |
|----------------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|-------|
|                            | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate  |
| <b>Black, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 276  | 74.8% | 59                                    | 16.0% | S                             | S    | 52                                    | 14.0% | 54   | 14.5% |
| HealthKeepers              | 906  | 73.4% | 182                                   | 14.7% | 24                            | 1.9% | 154                                   | 12.3% | 158  | 12.7% |
| Molina                     | 192  | 73.3% | 34                                    | 13.0% | S                             | S    | 33                                    | 12.4% | 42   | 15.7% |
| Optima                     | 1,175  | 76.8% | 190                                   | 12.4% | 21                            | 1.4% | 212                                   | 13.8% | 210  | 13.6% |
| UnitedHealthcare           | 141  | 71.2% | 33                                    | 16.7% | S                             | S    | 17                                    | 8.6%  | 21   | 10.6% |
| VA Premier                 | 344  | 75.8% | 65                                    | 14.3% | S                             | S    | 60                                    | 13.0% | 55   | 12.0% |
| <b>Asian, Non-Hispanic</b> |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 14   | 87.5% | S                                     | S     | 0                             | 0.0% | S                                     | S     | 0  | 0.0%  |
| HealthKeepers              | 35   | 79.5% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| Molina                     | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| Optima                     | 49   | 72.1% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| UnitedHealthcare           | S  | S     | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| VA Premier                 | 15   | 88.2% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S     |
| <b>Hispanic, Any Race</b>  |  |       |                                       |       |                               |      |                                       |       |  |       |
| Aetna                      | 56   | 71.8% | 13                                    | 16.7% | S                             | S    | S                                     | S     | S  | S     |
| HealthKeepers              | 144  | 76.6% | 25                                    | 13.3% | S                             | S    | 20                                    | 10.6% | 15   | 7.9%  |
| Molina                     | 45   | 76.3% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| Optima                     | 149  | 76.4% | 27                                    | 13.8% | S                             | S    | 22                                    | 11.2% | 18   | 9.1%  |
| UnitedHealthcare           | 23   | 71.9% | S                                     | S     | S                             | S    | S                                     | S     | S  | S     |
| VA Premier                 | 48   | 73.8% | 13                                    | 20.0% | 0                             | 0.0% | S                                     | S     | S  | S     |

|                      | Births with Early and Adequate Prenatal Care |       | Births with Inadequate Prenatal Care* |       | Births with No Prenatal Care* |      | Preterm Births (<37 Weeks Gestation)* |       | Newborns with Low Birth Weight (<2,500 grams)* |      |
|----------------------|--|-------|---------------------------------------|-------|-------------------------------|------|---------------------------------------|-------|--|------|
|                      | Number                                       | Rate  | Number                                | Rate  | Number                        | Rate | Number                                | Rate  | Number   | Rate |
| <b>Other/Unknown</b> |  |       |                                       |       |                               |      |                                       |       |  |      |
| Aetna                | 29   | 69.0% | S                                     | S     | S                             | S    | S                                     | S     | S  | S    |
| HealthKeepers        | 73   | 70.2% | 14                                    | 13.5% | S                             | S    | 11                                    | 10.5% | S  | S    |
| Molina               | 18   | 85.7% | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S    |
| Optima               | 91   | 73.4% | 18                                    | 14.5% | 0                             | 0.0% | 14                                    | 11.2% | S  | S    |
| UnitedHealthcare     | S  | S     | S                                     | S     | 0                             | 0.0% | S                                     | S     | S  | S    |
| VA Premier           | 30   | 76.9% | 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).



## Birth Outcomes Cross-Measure Analysis

Table A-11 presents the CY 2021 cross-measure analysis results that shows the distribution of prenatal care by the *Preterm Births (<37 Weeks Gestation)* and the *Newborns with Low Birth Weight (<2,500 grams)* study indicators for each MCO.

**Table A-11—Distribution of Adequacy of Prenatal Care by Birth Outcomes (Preterm Births and Low Birth Weight) and MCO, CY 2021**

| MCO              | Study Indicator                                | Missing Information | No PNC | Inadequate PNC | Intermediate PNC | Adequate PNC | Adequate Plus PNC |
|------------------|--|---------------------|--------|----------------|------------------|--------------|-------------------|
| Aetna            | Preterm Births (<37 Weeks Gestation)*          | S                   | 26.4%  | 8.6%           | 8.1%             | 4.1%         | 18.5%             |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | S                   | 20.8%  | 8.7%           | 8.4%             | 5.4%         | 15.4%             |
| HealthKeepers    | Preterm Births (<37 Weeks Gestation)*          | 14.9%               | 25.5%  | 7.8%           | 6.2%             | 3.5%         | 19.2%             |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | S                   | 15.9%  | 8.4%           | 5.8%             | 4.3%         | 15.2%             |
| Molina           | Preterm Births (<37 Weeks Gestation)*          | S                   | 35.7%  | 8.9%           | 5.3%             | 4.2%         | 18.5%             |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | S                   | 19.6%  | 9.6%           | 7.2%             | 5.3%         | 18.8%             |
| Optima           | Preterm Births (<37 Weeks Gestation)*          | S                   | 30.3%  | 12.0%          | 5.8%             | 4.1%         | 18.7%             |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | S                   | 27.5%  | 10.4%          | 8.0%             | 5.6%         | 15.3%             |
| UnitedHealthcare | Preterm Births (<37 Weeks Gestation)*          | S                   | 22.9%  | 7.6%           | 3.8%             | 3.0%         | 18.5%             |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | S                   | S      | 8.6%           | 4.2%             | 4.2%         | 15.2%             |

| MCO        | Study Indicator                                | Missing Information | No PNC | Inadequate PNC | Intermediate PNC | Adequate PNC | Adequate Plus PNC |
|------------|--|---------------------|--------|----------------|------------------|--------------|-------------------|
| VA Premier | Preterm Births (<37 Weeks Gestation)*          | S                   | 27.8%  | 11.8%          | 4.3%             | 3.7%         | 17.9%             |
|            | Newborns with Low Birth Weight (<2,500 grams)* | S                   | 23.7%  | 9.3%           | 6.1%             | 6.0%         | 14.7%             |

PNC=prenatal care

\*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 A-12 presents the distribution of prenatal care received for women who had or did not have a preterm birth or newborn with low birth weight for each MCO.

**Table A-12—Distribution of Prenatal Care by MCO and Whether a Birth Outcome Occurred, CY 2021**

| MCO           | Birth Outcome                                  |     | Births with Early and Adequate Plus Prenatal Care |       | Births with Adequate Prenatal Care |       | Births with Intermediate Prenatal Care |       | Births with Inadequate Prenatal Care |       | Births With No Prenatal Care |      | Births With Missing Prenatal Care Information |      |
|---------------|--|-----|---|-------|------------------------------------|-------|--|-------|--------------------------------------|-------|------------------------------|------|---|------|
|               |  |     | Number  | Rate  | Number                             | Rate  | Number                                 | Rate  | Number                               | Rate  | Number                       | Rate | Number  | Rate |
| Aetna         | Preterm Births (<37 Weeks Gestation)*          | No  | 1,033   | 28.8% | 1,687                              | 47.0% | 307                                    | 8.6%  | 502                                  | 14.0% | 40                           | 1.1% | S   | S    |
|               |  | Yes | 235   | 58.5% | 73                                 | 18.2% | 27                                     | 6.7%  | 47                                   | 11.7% | 14                           | 3.5% | S   | S    |
|               | Newborns with Low Birth Weight (<2,500 grams)* | No  | 1,073   | 29.7% | 1,665                              | 46.2% | 306                                    | 8.5%  | 501                                  | 13.9% | 43                           | 1.2% | S   | S    |
|               |  | Yes | 195   | 51.2% | 95                                 | 24.9% | 28                                     | 7.3%  | 48                                   | 12.6% | 11                           | 2.9% | S   | S    |
| HealthKeepers | Preterm Births (<37 Weeks Gestation)*          | No  | 2,232   | 27.4% | 3,713                              | 45.6% | 814                                    | 10.0% | 1,190                                | 14.6% | 108                          | 1.3% | 80  | 1.0% |
|               |  | Yes | 530   | 60.9% | 134                                | 15.4% | 54                                     | 6.2%  | 101                                  | 11.6% | 37                           | 4.3% | 14  | 1.6% |
|               | Newborns with Low Birth Weight (<2,500 grams)* | No  | 2,342   | 28.4% | 3,683                              | 44.7% | 818                                    | 9.9%  | 1,183                                | 14.4% | 122                          | 1.5% | S   | S    |
|               |  | Yes | 420   | 54.4% | 164                                | 21.2% | 50                                     | 6.5%  | 108                                  | 14.0% | 23                           | 3.0% | S   | S    |

| MCO              | Birth Outcome                                  |     | Births with Early and Adequate Plus Prenatal Care |       | Births with Adequate Prenatal Care |       | Births with Intermediate Prenatal Care |       | Births with Inadequate Prenatal Care |       | Births With No Prenatal Care |      | Births With Missing Prenatal Care Information |      |
|------------------|--|-----|---|-------|------------------------------------|-------|--|-------|--------------------------------------|-------|------------------------------|------|---|------|
|                  |  |     | Number  | Rate  | Number                             | Rate  | Number                                 | Rate  | Number                               | Rate  | Number                       | Rate | Number  | Rate |
| Molina           | Preterm Births (<37 Weeks Gestation)*          | No  | 507   | 26.7% | 882                                | 46.4% | 198                                    | 10.4% | 267                                  | 14.0% | 36                           | 1.9% | S   | S    |
|                  |  | Yes | 115   | 53.2% | 39                                 | 18.1% | 11                                     | 5.1%  | 26                                   | 12.0% | 20                           | 9.3% | S   | S    |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | No  | 505   | 26.6% | 872                                | 46.0% | 194                                    | 10.2% | 265                                  | 14.0% | 45                           | 2.4% | S   | S    |
|                  |  | Yes | 117   | 52.5% | 49                                 | 22.0% | 15                                     | 6.7%  | 28                                   | 12.6% | 11                           | 4.9% | S   | S    |
| Optima           | Preterm Births (<37 Weeks Gestation)*          | No  | 1,752   | 32.4% | 2,332                              | 43.1% | 533                                    | 9.9%  | 677                                  | 12.5% | 76                           | 1.4% | S   | S    |
|                  |  | Yes | 402   | 60.3% | 100                                | 15.0% | 33                                     | 4.9%  | 92                                   | 13.8% | 33                           | 4.9% | S   | S    |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | No  | 1,824   | 33.5% | 2,295                              | 42.1% | 521                                    | 9.6%  | 689                                  | 12.6% | 79                           | 1.4% | S   | S    |
|                  |  | Yes | 330   | 52.5% | 137                                | 21.8% | 45                                     | 7.2%  | 80                                   | 12.7% | 30                           | 4.8% | S   | S    |
| UnitedHealthcare | Preterm Births (<37 Weeks Gestation)*          | No  | 650   | 25.5% | 1,112                              | 43.7% | 276                                    | 10.8% | 452                                  | 17.8% | 37                           | 1.5% | S   | S    |
|                  |  | Yes | 148   | 60.7% | 34                                 | 13.9% | 11                                     | 4.5%  | 37                                   | 15.2% | 11                           | 4.5% | S   | S    |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | No  | 677   | 26.5% | 1,098                              | 43.0% | 275                                    | 10.8% | 447                                  | 17.5% | S                            | S    | S   | S    |
|                  |  | Yes | 121   | 51.9% | 48                                 | 20.6% | 12                                     | 5.2%  | 42                                   | 18.0% | S                            | S    | S   | S    |
| VA Premier       | Preterm Births (<37 Weeks Gestation)*          | No  | 1,328   | 28.7% | 2,054                              | 44.4% | 467                                    | 10.1% | 664                                  | 14.4% | 70                           | 1.5% | S   | S    |
|                  |  | Yes | 290   | 56.3% | 78                                 | 15.1% | 21                                     | 4.1%  | 89                                   | 17.3% | 27                           | 5.2% | S   | S    |
|                  | Newborns with Low Birth Weight (<2,500 grams)* | No  | 1,380   | 29.8% | 2,005                              | 43.2% | 458                                    | 9.9%  | 683                                  | 14.7% | 74                           | 1.6% | S   | S    |
|                  |  | Yes | 238   | 47.8% | 127                                | 25.5% | 30                                     | 6.0%  | 70                                   | 14.1% | 23                           | 4.6% | S   | S    |

| MCO | Birth Outcome                                  |     | Births with Early and Adequate Plus Prenatal Care |       | Births with Adequate Prenatal Care |       | Births with Intermediate Prenatal Care |       | Births with Inadequate Prenatal Care |       | Births With No Prenatal Care |       | Births With Missing Prenatal Care Information |      |
|-----|--|-----|---|-------|------------------------------------|-------|--|-------|--------------------------------------|-------|------------------------------|-------|---|------|
|     |  |     | Number  | Rate  | Number                             | Rate  | Number                                 | Rate  | Number                               | Rate  | Number                       | Rate  | Number  | Rate |
| FFS | Preterm Births (<37 Weeks Gestation)*          | No  | 737   | 21.0% | 1,337                              | 38.2% | 370                                    | 10.6% | 878                                  | 25.1% | 130                          | 3.7%  | S   | S    |
|     |  | Yes | 197   | 47.7% | 49                                 | 11.9% | 28                                     | 6.8%  | 84                                   | 20.3% | 46                           | 11.1% | S   | S    |
|     | Newborns with Low Birth Weight (<2,500 grams)* | No  | 770   | 21.5% | 1,332                              | 37.2% | 375                                    | 10.5% | 904                                  | 25.3% | 143                          | 4.0%  | S   | S    |
|     |  | Yes | 164   | 48.5% | 54                                 | 16.0% | 23                                     | 6.8%  | 58                                   | 17.2% | 33                           | 9.8%  | 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). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

## Additional Maternal Health Outcomes Study Indicators

Table A-13 through Table A-16 present the CY 2021 maternal health outcomes study indicator results stratified by managed care program, delivery system, trimester of prenatal care initiation, and length of continuous enrollment, respectively.

**Table A-13—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births by Managed Care Program, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>CCC Plus</b>                          |           |             |         |
| Postpartum ED Utilization*               | 279       | 928         | 30.1%   |
| Postpartum Ambulatory Care Utilization   | 566       | 928         | 61.0%   |
| Prenatal Maternal Depression Screening   | 80        | 928         | 8.6%    |
| Postpartum Maternal Depression Screening | 59        | 928         | 6.4%    |

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>Medallion 4.0</b>                     |           |             |         |
| Postpartum ED Utilization*               | 7,380     | 28,188      | 26.2%   |
| Postpartum Ambulatory Care Utilization   | 14,882    | 28,188      | 52.8%   |
| Prenatal Maternal Depression Screening   | 1,543     | 28,188      | 5.5%    |
| Postpartum Maternal Depression Screening | 2,079     | 28,188      | 7.4%    |

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

**Table A-14—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births by Delivery System, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>FFS</b>                               |           |             |         |
| Postpartum ED Utilization*               | 845       | 3,916       | 21.6%   |
| Postpartum Ambulatory Care Utilization   | 1,576     | 3,916       | 40.2%   |
| Prenatal Maternal Depression Screening   | 15        | 3,916       | 0.4%    |
| Postpartum Maternal Depression Screening | 113       | 3,916       | 2.9%    |
| <b>Managed Care</b>                      |           |             |         |
| Postpartum ED Utilization*               | 7,659     | 29,116      | 26.3%   |
| Postpartum Ambulatory Care Utilization   | 15,448    | 29,116      | 53.1%   |
| Prenatal Maternal Depression Screening   | 1,623     | 29,116      | 5.6%    |
| Postpartum Maternal Depression Screening | 2,138     | 29,116      | 7.3%    |

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

**Table A-15—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births by Trimester of Prenatal Care Initiation, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>First Trimester</b>                   |           |             |         |
| Postpartum ED Utilization*               | 6,302     | 24,728      | 25.5%   |
| Postpartum Ambulatory Care Utilization   | 12,893    | 24,728      | 52.1%   |
| Prenatal Maternal Depression Screening   | 1,303     | 24,728      | 5.3%    |
| Postpartum Maternal Depression Screening | 1,819     | 24,728      | 7.4%    |
| <b>Second Trimester</b>                  |           |             |         |
| Postpartum ED Utilization*               | 1,491     | 5,802       | 25.7%   |
| Postpartum Ambulatory Care Utilization   | 2,885     | 5,802       | 49.7%   |
| Prenatal Maternal Depression Screening   | 232       | 5,802       | 4.0%    |
| Postpartum Maternal Depression Screening | 308       | 5,802       | 5.3%    |
| <b>Third Trimester</b>                   |           |             |         |
| Postpartum ED Utilization*               | 378       | 1,517       | 24.9%   |
| Postpartum Ambulatory Care Utilization   | 732       | 1,517       | 48.3%   |
| Prenatal Maternal Depression Screening   | 74        | 1,517       | 4.9%    |
| Postpartum Maternal Depression Screening | 81        | 1,517       | 5.3%    |
| <b>No Prenatal Care</b>                  |           |             |         |
| Postpartum ED Utilization*               | 252       | 685         | 36.8%   |
| Postpartum Ambulatory Care Utilization   | 370       | 685         | 54.0%   |
| Prenatal Maternal Depression Screening   | 19        | 685         | 2.8%    |
| Postpartum Maternal Depression Screening | 24        | 685         | 3.5%    |

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

**Table A-16—Overall Maternal Health Outcomes Study Indicator Findings Among Singleton Births by Length of Continuous Enrollment, CY 2021**

| Study Indicator                          | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>≤30 Days</b>                          |           |             |         |
| Postpartum ED Utilization*               | S         | 1,683       | S       |
| Postpartum Ambulatory Care Utilization   | 620       | 1,683       | 36.8%   |
| Prenatal Maternal Depression Screening   | S         | 1,683       | S       |
| Postpartum Maternal Depression Screening | 31        | 1,683       | 1.8%    |
| <b>31–90 Days</b>                        |           |             |         |
| Postpartum ED Utilization*               | 529       | 2,080       | 25.4%   |
| Postpartum Ambulatory Care Utilization   | 941       | 2,080       | 45.2%   |
| Prenatal Maternal Depression Screening   | S         | 2,080       | S       |
| Postpartum Maternal Depression Screening | 89        | 2,080       | 4.3%    |
| <b>91–180 Days</b>                       |           |             |         |
| Postpartum ED Utilization*               | 757       | 3,145       | 24.1%   |
| Postpartum Ambulatory Care Utilization   | 1,468     | 3,145       | 46.7%   |
| Prenatal Maternal Depression Screening   | 32        | 3,145       | 1.0%    |
| Postpartum Maternal Depression Screening | 152       | 3,145       | 4.8%    |
| <b>&gt;180 Days</b>                      |           |             |         |
| Postpartum ED Utilization*               | 6,819     | 26,057      | 26.2%   |
| Postpartum Ambulatory Care Utilization   | 13,977    | 26,057      | 53.6%   |
| Prenatal Maternal Depression Screening   | 1,599     | 26,057      | 6.1%    |
| Postpartum Maternal Depression Screening | 1,979     | 26,057      | 7.6%    |



| Study Indicator                                    | CY 2021   |             |         |
|--|-----------|-------------|---------|
|  | Numerator | Denominator | Percent |
| <b>Not Continuously Enrolled Prior to Delivery</b> |           |             |         |
| Postpartum ED Utilization*                         | S         | 67          | S       |
| Postpartum Ambulatory Care Utilization             | 18        | 67          | 26.9%   |
| Prenatal Maternal Depression Screening             | 0         | 67          | 0.0%    |
| Postpartum Maternal Depression Screening           | 0         | 67          | 0.0%    |

\*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). In instances where only one stratification was suppressed, the values for the second smallest population were also suppressed, even if the values were 11 or more.

Table A-17 presents the CY 2021 maternal health outcomes study indicator results stratified by MCO and managed care program.

**Table A-17—Maternal Health Outcomes Study Indicators Stratified by MCO and Managed Care Program, CY 2021**

| MCO           | Managed Care Program | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |       | Postpartum Maternal Depression Screening |      |
|---------------|----------------------|----------------------------|-------|--|-------|--|-------|--|------|
|               |                      | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate  | Number                                   | Rate |
| Aetna         | CCC Plus             | 41                         | 27.3% | 87                                     | 58.0% | 15                                     | 10.0% | 12                                       | 8.0% |
|               | Medallion 4.0        | 1,056                      | 27.5% | 2,063                                  | 53.8% | 206                                    | 5.4%  | 261                                      | 6.8% |
|               | Total                | 1,097                      | 27.5% | 2,150                                  | 53.9% | 221                                    | 5.5%  | 273                                      | 6.8% |
| HealthKeepers | CCC Plus             | 64                         | 27.4% | 144                                    | 61.5% | 17                                     | 7.3%  | 18                                       | 7.7% |
|               | Medallion 4.0        | 2,177                      | 24.8% | 4,225                                  | 48.2% | 312                                    | 3.6%  | 533                                      | 6.1% |
|               | Total                | 2,241                      | 24.9% | 4,369                                  | 48.5% | 329                                    | 3.7%  | 551                                      | 6.1% |
| Molina        | CCC Plus             | 27                         | 30.7% | 53                                     | 60.2% | S                                      | S     | S  | S    |
|               | Medallion 4.0        | 584                        | 28.8% | 1,040                                  | 51.2% | S                                      | S     | S  | S    |
|               | Total                | 611                        | 28.8% | 1,093                                  | 51.6% | 68                                     | 3.2%  | 91                                       | 4.3% |

| MCO              | Managed Care Program | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |       | Postpartum Maternal Depression Screening |       |
|------------------|----------------------|----------------------------|-------|--|-------|--|-------|--|-------|
|                  |                      | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate  | Number                                   | Rate  |
| Optima           | CCC Plus             | 71                         | 36.4% | 125                                    | 64.1% | 21                                     | 10.8% | 15                                       | 7.7%  |
|                  | Medallion 4.0        | 1,486                      | 25.3% | 3,000                                  | 51.0% | 404                                    | 6.9%  | 710                                      | 12.1% |
|                  | Total                | 1,557                      | 25.6% | 3,125                                  | 51.4% | 425                                    | 7.0%  | 725                                      | 11.9% |
| UnitedHealthcare | CCC Plus             | 26                         | 31.7% | 46                                     | 56.1% | S                                      | S     | S  | S     |
|                  | Medallion 4.0        | 753                        | 27.8% | 1,472                                  | 54.4% | S                                      | S     | S  | S     |
|                  | Total                | 779                        | 27.9% | 1,518                                  | 54.4% | 39                                     | 1.4%  | 95                                       | 3.4%  |
| VA Premier       | CCC Plus             | 50                         | 27.9% | 111                                    | 62.0% | 22                                     | 12.3% | S  | S     |
|                  | Medallion 4.0        | 1,324                      | 26.7% | 3,082                                  | 62.2% | 519                                    | 10.5% | S  | S     |
|                  | Total                | 1,374                      | 26.8% | 3,193                                  | 62.2% | 541                                    | 10.5% | 403                                      | 7.8%  |
| Total            | CCC Plus             | 279                        | 30.1% | 566                                    | 61.0% | 80                                     | 8.6%  | 59                                       | 6.4%  |
|                  | Medallion 4.0        | 7,380                      | 26.2% | 14,882                                 | 52.8% | 1,543                                  | 5.5%  | 2,079                                    | 7.4%  |
|                  | Total                | 7,659                      | 26.3% | 15,448                                 | 53.1% | 1,623                                  | 5.6%  | 2,138                                    | 7.3%  |

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

\*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 A-18 presents the CY 2021 maternal health outcomes study indicator results stratified by MCO and race/ethnicity.

**Table A-18—Overall Maternal Health Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

| Study Indicator                          | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|-------|----------------|--------|--------|--------|------------|
| <b>White, Non-Hispanic</b>               |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 23.6% | 21.8%          | 27.1%  | 21.8%  | 21.9%  | 24.2%      |
| Postpartum Ambulatory Care Utilization   | 54.3% | 49.5%          | 53.9%  | 52.1%  | 52.8%  | 61.7%      |
| Prenatal Maternal Depression Screening   | 6.8%  | 4.2%           | 3.1%   | 7.4%   | 1.4%   | 13.5%      |
| Postpartum Maternal Depression Screening | 8.2%  | 7.7%           | 4.3%   | 15.0%  | 3.5%   | 9.4%       |
| <b>Black, Non-Hispanic</b>               |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 29.5% | 24.9%          | 30.9%  | 28.2%  | 30.4%  | 30.6%      |
| Postpartum Ambulatory Care Utilization   | 52.0% | 46.1%          | 51.7%  | 51.9%  | 55.5%  | 62.3%      |
| Prenatal Maternal Depression Screening   | 5.4%  | 4.1%           | 4.0%   | 7.0%   | 1.8%   | 8.9%       |
| Postpartum Maternal Depression Screening | 6.1%  | 5.6%           | 4.3%   | 9.7%   | 2.2%   | 7.2%       |
| <b>Asian, Non-Hispanic</b>               |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 31.4% | 27.8%          | 19.3%  | 21.0%  | 30.6%  | 18.4%      |
| Postpartum Ambulatory Care Utilization   | 58.4% | 54.1%          | 38.6%  | 44.2%  | 63.3%  | 67.5%      |
| Prenatal Maternal Depression Screening   | S     | S              | S      | S      | S      | S          |

| Study Indicator                          | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|-------|----------------|--------|--------|--------|------------|
| Postpartum Maternal Depression Screening | S     | 4.8%           | S      | 11.6%  | S      | S          |
| <b>Hispanic, Any Race</b>                |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 32.5% | 28.8%          | 31.3%  | 26.8%  | 34.0%  | 26.2%      |
| Postpartum Ambulatory Care Utilization   | 55.0% | 49.2%          | 48.9%  | 49.3%  | 53.4%  | 60.5%      |
| Prenatal Maternal Depression Screening   | 4.0%  | 2.5%           | S      | 5.5%   | S      | 8.6%       |
| Postpartum Maternal Depression Screening | 5.1%  | 4.7%           | 4.9%   | 11.2%  | 4.5%   | 6.1%       |
| <b>Other/Unknown</b>                     |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 30.6% | 31.3%          | 22.9%  | 30.0%  | 29.9%  | 32.8%      |
| Postpartum Ambulatory Care Utilization   | 60.0% | 51.8%          | 45.7%  | 48.3%  | 57.0%  | 66.7%      |
| Prenatal Maternal Depression Screening   | S     | S              | S      | 7.8%   | S      | 5.9%       |
| Postpartum Maternal Depression Screening | S     | 5.4%           | S      | 11.7%  | S      | 7.0%       |

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

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

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

Table A-19 presents the CY 2021 maternal health outcomes study indicator results stratified by MCO and managed care region of maternal residence.

**Table A-19—Overall Maternal Health Outcomes Study Indicators Stratified by MCO and Managed Care Region of Maternal Residence, CY 2021**

| Study Indicator                          | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|-------|----------------|--------|--------|--------|------------|
| <b>Central</b>                           |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 32.3% | 35.2%          | 39.7%  | 34.1%  | 34.7%  | 45.8%      |
| Postpartum Ambulatory Care Utilization   | 57.9% | 57.7%          | 61.4%  | 57.3%  | 59.8%  | 69.9%      |
| Prenatal Maternal Depression Screening   | 4.0%  | 4.9%           | 4.5%   | 5.5%   | 3.5%   | 6.4%       |
| Postpartum Maternal Depression Screening | 3.9%  | 4.6%           | 4.8%   | 5.2%   | 5.3%   | 4.3%       |
| <b>Charlottesville/Western</b>           |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 13.4% | 14.3%          | 12.8%  | 17.2%  | 13.2%  | 16.5%      |
| Postpartum Ambulatory Care Utilization   | 51.1% | 40.1%          | 46.0%  | 53.8%  | 50.0%  | 60.9%      |
| Prenatal Maternal Depression Screening   | 18.9% | 8.9%           | S      | 15.4%  | S      | 26.9%      |
| Postpartum Maternal Depression Screening | 19.2% | 12.0%          | S      | 18.6%  | S      | 20.4%      |
| <b>Northern &amp; Winchester</b>         |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 34.9% | 28.0%          | 33.0%  | 25.0%  | 30.9%  | 17.7%      |
| Postpartum Ambulatory Care Utilization   | 56.8% | 52.3%          | 50.1%  | 45.4%  | 57.6%  | 67.3%      |
| Prenatal Maternal Depression Screening   | 1.5%  | 1.2%           | S      | S      | S      | 2.1%       |
| Postpartum Maternal Depression Screening | 3.6%  | 2.7%           | 3.4%   | 5.5%   | 3.7%   | 2.2%       |

| Study Indicator                          | Aetna | Health Keepers | Molina | Optima | United | VA Premier |
|--|-------|----------------|--------|--------|--------|------------|
| <b>Roanoke/Alleghany</b>                 |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 25.9% | 23.8%          | 25.7%  | 22.3%  | 23.6%  | 25.7%      |
| Postpartum Ambulatory Care Utilization   | 53.1% | 49.0%          | 49.0%  | 50.1%  | 50.9%  | 56.6%      |
| Prenatal Maternal Depression Screening   | 4.5%  | S              | S      | 3.9%   | S      | 11.7%      |
| Postpartum Maternal Depression Screening | 3.9%  | 3.0%           | S      | 5.0%   | S      | 2.8%       |
| <b>Southwest</b>                         |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 18.5% | 16.9%          | 29.7%  | 17.8%  | 18.5%  | 24.6%      |
| Postpartum Ambulatory Care Utilization   | 52.7% | 47.5%          | 62.4%  | 49.3%  | 48.1%  | 72.1%      |
| Prenatal Maternal Depression Screening   | S     | S              | S      | S      | S      | 5.6%       |
| Postpartum Maternal Depression Screening | S     | 0.0%           | 0.0%   | S      | 0.0%   | S          |
| <b>Tidewater</b>                         |       |                |        |        |        |            |
| Postpartum ED Utilization*               | 22.8% | 13.4%          | 22.2%  | 25.3%  | 23.9%  | 23.8%      |
| Postpartum Ambulatory Care Utilization   | 46.0% | 36.0%          | 42.4%  | 48.5%  | 43.1%  | 48.3%      |
| Prenatal Maternal Depression Screening   | 5.8%  | 4.3%           | 4.3%   | 6.2%   | S      | 6.7%       |
| Postpartum Maternal Depression Screening | 11.8% | 11.5%          | 8.0%   | 15.9%  | S      | 12.0%      |

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

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

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

Table A-20 through Table A-25 present the CY 2021 maternal health outcomes study indicator results stratified by MCO and race/ethnicity for each managed care region of maternal residence.

**Table A-20—Central Region Maternal Health Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |      |
|----------------------------|----------------------------|-------|--|-------|--|------|--|------|
|                            | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate | Number                                   | Rate |
| <b>White, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | 133                        | 30.0% | 274                                    | 61.7% | 19                                     | 4.3% | 23                                       | 5.2% |
| HealthKeepers              | 314                        | 33.3% | 554                                    | 58.8% | 39                                     | 4.1% | 49                                       | 5.2% |
| Molina                     | 77                         | 38.3% | 126                                    | 62.7% | S                                      | S    | 12                                       | 6.0% |
| Optima                     | 151                        | 30.3% | 275                                    | 55.2% | 27                                     | 5.4% | 25                                       | 5.0% |
| UnitedHealthcare           | 57                         | 26.1% | 122                                    | 56.0% | S                                      | S    | 12                                       | 5.5% |
| VA Premier                 | 156                        | 44.1% | 254                                    | 71.8% | 23                                     | 6.5% | 14                                       | 4.0% |
| <b>Black, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | 233                        | 32.8% | 392                                    | 55.2% | 29                                     | 4.1% | 23                                       | 3.2% |
| HealthKeepers              | 404                        | 34.2% | 658                                    | 55.6% | 71                                     | 6.0% | 43                                       | 3.6% |
| Molina                     | 134                        | 43.1% | 194                                    | 62.4% | 17                                     | 5.5% | 14                                       | 4.5% |
| Optima                     | 280                        | 36.0% | 467                                    | 60.0% | 45                                     | 5.8% | 42                                       | 5.4% |
| UnitedHealthcare           | 105                        | 41.2% | 164                                    | 64.3% | 11                                     | 4.3% | 12                                       | 4.7% |
| VA Premier                 | 298                        | 46.4% | 448                                    | 69.8% | 47                                     | 7.3% | 34                                       | 5.3% |
| <b>Asian, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | 15                         | 36.6% | 24                                     | 58.5% | 0                                      | 0.0% | 0  | 0.0% |
| HealthKeepers              | 30                         | 44.8% | 44                                     | 65.7% | S                                      | S    | S  | S    |
| Molina                     | S                          | S     | S                                      | S     | 0                                      | 0.0% | 0  | 0.0% |



|                           | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |      |
|---------------------------|----------------------------|-------|--|-------|--|------|--|------|
|                           | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate | Number                                   | Rate |
| Optima                    | S                          | S     | S                                      | S     | S                                      | S    | 0  | 0.0% |
| UnitedHealthcare          | S                          | S     | 12                                     | 54.5% | 0                                      | 0.0% | S  | S    |
| VA Premier                | 14                         | 51.9% | 19                                     | 70.4% | 0                                      | 0.0% | 0  | 0.0% |
| <b>Hispanic, Any Race</b> |                            |       |  |       |  |      |  |      |
| Aetna                     | 55                         | 35.9% | 92                                     | 60.1% | S                                      | S    | S  | S    |
| HealthKeepers             | 104                        | 39.0% | 156                                    | 58.4% | 11                                     | 4.1% | 23                                       | 8.6% |
| Molina                    | 25                         | 32.1% | 43                                     | 55.1% | S                                      | S    | S  | S    |
| Optima                    | 43                         | 36.4% | 64                                     | 54.2% | S                                      | S    | S  | S    |
| UnitedHealthcare          | 30                         | 37.0% | 45                                     | 55.6% | S                                      | S    | S  | S    |
| VA Premier                | 58                         | 42.3% | 88                                     | 64.2% | S                                      | S    | S  | S    |
| <b>Other/Unknown</b>      |                            |       |  |       |  |      |  |      |
| Aetna                     | 20                         | 32.3% | 34                                     | 54.8% | S                                      | S    | S  | S    |
| HealthKeepers             | 48                         | 49.5% | 63                                     | 64.9% | S                                      | S    | S  | S    |
| Molina                    | S                          | S     | 12                                     | 60.0% | 0                                      | 0.0% | S  | S    |
| Optima                    | 16                         | 34.8% | 21                                     | 45.7% | S                                      | S    | S  | S    |
| UnitedHealthcare          | 11                         | 37.9% | 19                                     | 65.5% | S                                      | S    | S  | S    |
| VA Premier                | 26                         | 59.1% | 32                                     | 72.7% | 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 A-21—Charlottesville/Western Region Maternal Health Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |       | Postpartum Maternal Depression Screening |       |
|----------------------------|----------------------------|-------|--|-------|--|-------|--|-------|
|                            | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate  | Number                                   | Rate  |
| <b>White, Non-Hispanic</b> |                            |       |  |       |  |       |  |       |
| Aetna                      | 33                         | 11.6% | 139                                    | 48.8% | 56                                     | 19.6% | 65                                       | 22.8% |
| HealthKeepers              | 55                         | 13.2% | 169                                    | 40.6% | 47                                     | 11.3% | 57                                       | 13.7% |
| Molina                     | 20                         | 13.7% | 72                                     | 49.3% | S                                      | S     | S  | S     |
| Optima                     | 94                         | 17.0% | 308                                    | 55.8% | 89                                     | 16.1% | 124                                      | 22.5% |
| UnitedHealthcare           | 18                         | 11.3% | 74                                     | 46.5% | S                                      | S     | S  | S     |
| VA Premier                 | 98                         | 17.0% | 348                                    | 60.2% | 160                                    | 27.7% | 129                                      | 22.3% |
| <b>Black, Non-Hispanic</b> |                            |       |  |       |  |       |  |       |
| Aetna                      | 23                         | 18.4% | 70                                     | 56.0% | 22                                     | 17.6% | 19                                       | 15.2% |
| HealthKeepers              | 30                         | 16.6% | 75                                     | 41.4% | S                                      | S     | 12                                       | 6.6%  |
| Molina                     | S                          | S     | 29                                     | 39.2% | 0                                      | 0.0%  | S  | S     |
| Optima                     | 69                         | 18.2% | 195                                    | 51.3% | 48                                     | 12.6% | 45                                       | 11.8% |
| UnitedHealthcare           | S                          | S     | 36                                     | 55.4% | 0                                      | 0.0%  | 0  | 0.0%  |
| VA Premier                 | 49                         | 15.7% | 197                                    | 62.9% | 71                                     | 22.7% | 50                                       | 16.0% |
| <b>Asian, Non-Hispanic</b> |                            |       |  |       |  |       |  |       |
| Aetna                      | S                          | S     | S                                      | S     | S                                      | S     | S  | S     |
| HealthKeepers              | 0                          | 0.0%  | S                                      | S     | S                                      | S     | S  | S     |
| Molina                     | S                          | S     | S                                      | S     | S                                      | S     | S  | S     |
| Optima                     | S                          | S     | S                                      | S     | S                                      | S     | S  | S     |

|                           | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |       | Postpartum Maternal Depression Screening |       |
|---------------------------|----------------------------|-------|--|-------|--|-------|--|-------|
|                           | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate  | Number                                   | Rate  |
| UnitedHealthcare          | S                          | S     | S                                      | S     | S                                      | S     | S  | S     |
| VA Premier                | S                          | S     | S                                      | S     | S                                      | S     | S  | S     |
| <b>Hispanic, Any Race</b> |                            |       |  |       |  |       |  |       |
| Aetna                     | S                          | S     | 12                                     | 48.0% | S                                      | S     | S  | S     |
| HealthKeepers             | S                          | S     | 18                                     | 30.5% | S                                      | S     | S  | S     |
| Molina                    | S                          | S     | S                                      | S     | 0                                      | 0.0%  | 0  | 0.0%  |
| Optima                    | 12                         | 14.5% | 46                                     | 55.4% | 19                                     | 22.9% | 20                                       | 24.1% |
| UnitedHealthcare          | S                          | S     | 11                                     | 52.4% | 0                                      | 0.0%  | 0  | 0.0%  |
| VA Premier                | 15                         | 17.4% | 50                                     | 58.1% | 36                                     | 41.9% | 21                                       | 24.4% |
| <b>Other/Unknown</b>      |                            |       |  |       |  |       |  |       |
| Aetna                     | S                          | S     | S                                      | S     | S                                      | S     | S  | S     |
| HealthKeepers             | S                          | S     | 11                                     | 45.8% | S                                      | S     | S  | S     |
| Molina                    | S                          | S     | S                                      | S     | S                                      | S     | S  | S     |
| Optima                    | S                          | S     | 14                                     | 45.2% | S                                      | S     | S  | S     |
| UnitedHealthcare          | S                          | S     | S                                      | S     | S                                      | S     | S  | S     |
| VA Premier                | S                          | S     | 15                                     | 53.6% | 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 A-22—Northern & Winchester Region Maternal Health Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |      |
|----------------------------|----------------------------|-------|--|-------|--|------|--|------|
|                            | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate | Number                                   | Rate |
| <b>White, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | 72                         | 31.7% | 125                                    | 55.1% | S                                      | S    | S  | S    |
| HealthKeepers              | 169                        | 23.2% | 385                                    | 52.8% | S                                      | S    | 25                                       | 3.4% |
| Molina                     | 32                         | 31.7% | 59                                     | 58.4% | S                                      | S    | S  | S    |
| Optima                     | 39                         | 22.2% | 84                                     | 47.7% | S                                      | S    | 17                                       | 9.7% |
| UnitedHealthcare           | 78                         | 26.5% | 172                                    | 58.5% | S                                      | S    | 14                                       | 4.8% |
| VA Premier                 | 38                         | 14.3% | 161                                    | 60.8% | 18                                     | 6.8% | 15                                       | 5.7% |
| <b>Black, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | 51                         | 34.0% | 80                                     | 53.3% | S                                      | S    | S  | S    |
| HealthKeepers              | 185                        | 30.7% | 324                                    | 53.7% | S                                      | S    | 15                                       | 2.5% |
| Molina                     | 19                         | 32.8% | 25                                     | 43.1% | S                                      | S    | 0  | 0.0% |
| Optima                     | 21                         | 21.6% | 38                                     | 39.2% | S                                      | S    | S  | S    |
| UnitedHealthcare           | 61                         | 26.3% | 133                                    | 57.3% | S                                      | S    | S  | S    |
| VA Premier                 | 52                         | 21.5% | 177                                    | 73.1% | S                                      | S    | S  | S    |
| <b>Asian, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | 20                         | 30.3% | 42                                     | 63.6% | S                                      | S    | S  | S    |
| HealthKeepers              | 96                         | 27.4% | 193                                    | 55.0% | S                                      | S    | 11                                       | 3.1% |
| Molina                     | S                          | S     | 11                                     | 36.7% | S                                      | S    | 0  | 0.0% |
| Optima                     | S                          | S     | 14                                     | 50.0% | 0                                      | 0.0% | 0  | 0.0% |

|                           | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |      |
|---------------------------|----------------------------|-------|--|-------|--|------|--|------|
|                           | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate | Number                                   | Rate |
| UnitedHealthcare          | 36                         | 32.4% | 75                                     | 67.6% | S                                      | S    | S  | S    |
| VA Premier                | 17                         | 11.8% | 102                                    | 70.8% | 0                                      | 0.0% | 0  | 0.0% |
| <b>Hispanic, Any Race</b> |                            |       |  |       |  |      |  |      |
| Aetna                     | 103                        | 39.8% | 151                                    | 58.3% | S                                      | S    | 13                                       | 5.0% |
| HealthKeepers             | 324                        | 29.6% | 544                                    | 49.7% | 19                                     | 1.7% | 24                                       | 2.2% |
| Molina                    | 57                         | 37.7% | 76                                     | 50.3% | S                                      | S    | S  | S    |
| Optima                    | 56                         | 29.2% | 88                                     | 45.8% | S                                      | S    | S  | S    |
| UnitedHealthcare          | 167                        | 35.4% | 255                                    | 54.0% | S                                      | S    | 20                                       | 4.2% |
| VA Premier                | 50                         | 19.8% | 164                                    | 64.8% | 0                                      | 0.0% | S  | S    |
| <b>Other/Unknown</b>      |                            |       |  |       |  |      |  |      |
| Aetna                     | S                          | S     | 17                                     | 60.7% | 0                                      | 0.0% | 0  | 0.0% |
| HealthKeepers             | 34                         | 32.4% | 60                                     | 57.1% | 0                                      | 0.0% | S  | S    |
| Molina                    | S                          | S     | S                                      | S     | S                                      | S    | S  | S    |
| Optima                    | S                          | S     | S                                      | S     | 0                                      | 0.0% | S  | S    |
| UnitedHealthcare          | 14                         | 31.8% | 29                                     | 65.9% | 0                                      | 0.0% | S  | S    |
| VA Premier                | 13                         | 24.1% | 41                                     | 75.9% | 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 A-23—Roanoke/Alleghany Region Maternal Health Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021**

|                            | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |       | Postpartum Maternal Depression Screening |      |
|----------------------------|----------------------------|-------|--|-------|--|-------|--|------|
|                            | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate  | Number                                   | Rate |
| <b>White, Non-Hispanic</b> |                            |       |  |       |  |       |  |      |
| Aetna                      | 87                         | 24.9% | 186                                    | 53.1% | 17                                     | 4.9%  | 13                                       | 3.7% |
| HealthKeepers              | 57                         | 19.7% | 134                                    | 46.4% | S                                      | S     | S  | S    |
| Molina                     | 51                         | 27.6% | 96                                     | 51.9% | S                                      | S     | S  | S    |
| Optima                     | 57                         | 21.8% | 127                                    | 48.7% | 13                                     | 5.0%  | 18                                       | 6.9% |
| UnitedHealthcare           | 47                         | 23.3% | 105                                    | 52.0% | S                                      | S     | S  | S    |
| VA Premier                 | 165                        | 26.0% | 369                                    | 58.2% | 85                                     | 13.4% | 22                                       | 3.5% |
| <b>Black, Non-Hispanic</b> |                            |       |  |       |  |       |  |      |
| Aetna                      | 26                         | 27.4% | 49                                     | 51.6% | S                                      | S     | S  | S    |
| HealthKeepers              | 22                         | 28.6% | 40                                     | 51.9% | S                                      | S     | S  | S    |
| Molina                     | 21                         | 24.1% | 42                                     | 48.3% | S                                      | S     | S  | S    |
| Optima                     | S                          | S     | 30                                     | 44.1% | 0                                      | 0.0%  | 0  | 0.0% |
| UnitedHealthcare           | 19                         | 24.1% | 40                                     | 50.6% | S                                      | S     | S  | S    |
| VA Premier                 | 32                         | 22.2% | 73                                     | 50.7% | S                                      | S     | S  | S    |
| <b>Asian, Non-Hispanic</b> |                            |       |  |       |  |       |  |      |
| Aetna                      | S                          | S     | S                                      | S     | S                                      | S     | S  | S    |
| HealthKeepers              | S                          | S     | S                                      | S     | S                                      | S     | S  | S    |
| Molina                     | S                          | S     | S                                      | S     | S                                      | S     | S  | S    |
| Optima                     | S                          | S     | S                                      | S     | 0                                      | 0.0%  | 0  | 0.0% |

|                           | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |      |
|---------------------------|----------------------------|-------|--|-------|--|------|--|------|
|                           | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate | Number                                   | Rate |
| UnitedHealthcare          | S                          | S     | S                                      | S     | S                                      | S    | S  | S    |
| VA Premier                | S                          | S     | S                                      | S     | 0                                      | 0.0% | 0  | 0.0% |
| <b>Hispanic, Any Race</b> |                            |       |  |       |  |      |  |      |
| Aetna                     | S                          | S     | 11                                     | 44.0% | 0                                      | 0.0% | 0  | 0.0% |
| HealthKeepers             | S                          | S     | 16                                     | 59.3% | 0                                      | 0.0% | S  | S    |
| Molina                    | S                          | S     | S                                      | S     | 0                                      | 0.0% | 0  | 0.0% |
| Optima                    | S                          | S     | S                                      | S     | S                                      | S    | 0  | 0.0% |
| UnitedHealthcare          | S                          | S     | S                                      | S     | 0                                      | 0.0% | 0  | 0.0% |
| VA Premier                | 11                         | 25.0% | 22                                     | 50.0% | S                                      | S    | 0  | 0.0% |
| <b>Other/Unknown</b>      |                            |       |  |       |  |      |  |      |
| Aetna                     | S                          | S     | S                                      | S     | S                                      | S    | S  | S    |
| HealthKeepers             | S                          | S     | S                                      | S     | S                                      | S    | S  | S    |
| Molina                    | S                          | S     | S                                      | S     | S                                      | S    | 0  | 0.0% |
| Optima                    | S                          | S     | S                                      | S     | 0                                      | 0.0% | 0  | 0.0% |
| UnitedHealthcare          | S                          | S     | S                                      | S     | 0                                      | 0.0% | 0  | 0.0% |
| VA Premier                | S                          | S     | 14                                     | 77.8% | 0                                      | 0.0% | 0  | 0.0% |

\*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 A-24—Southwest Region Maternal Health Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021

|                            | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |      |
|----------------------------|----------------------------|-------|--|-------|--|------|--|------|
|                            | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate | Number                                   | Rate |
| <b>White, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | 32                         | 18.5% | 92                                     | 53.2% | S                                      | S    | S  | S    |
| HealthKeepers              | 27                         | 15.6% | 82                                     | 47.4% | S                                      | S    | 0  | 0.0% |
| Molina                     | 28                         | 29.8% | 60                                     | 63.8% | S                                      | S    | 0  | 0.0% |
| Optima                     | 24                         | 17.9% | 69                                     | 51.5% | S                                      | S    | S  | S    |
| UnitedHealthcare           | 19                         | 19.0% | 51                                     | 51.0% | S                                      | S    | 0  | 0.0% |
| VA Premier                 | 72                         | 24.7% | 213                                    | 73.2% | 15                                     | 5.2% | S  | S    |
| <b>Black, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | S                          | S     | S                                      | S     | S                                      | S    | S  | S    |
| HealthKeepers              | S                          | S     | S                                      | S     | S                                      | S    | S  | S    |
| Molina                     | 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    |
| <b>Asian, Non-Hispanic</b> |                            |       |  |       |  |      |  |      |
| Aetna                      | —                          | —     | —                                      | —     | —                                      | —    | —  | —    |
| HealthKeepers              | S                          | S     | S                                      | S     | S                                      | S    | S  | S    |
| Molina                     | —                          | —     | —                                      | —     | —                                      | —    | —  | —    |
| Optima                     | S                          | S     | S                                      | S     | S                                      | S    | S  | S    |
| UnitedHealthcare           | —                          | —     | —                                      | —     | —                                      | —    | —  | —    |

|                           | Postpartum ED Utilization* |      | Postpartum Ambulatory Care Utilization |      | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |      |
|---------------------------|----------------------------|------|--|------|--|------|--|------|
|                           | Number                     | Rate | Number                                 | Rate | Number                                 | Rate | Number                                   | Rate |
| VA Premier                | S                          | S    | S                                      | S    | S                                      | S    | S  | S    |
| <b>Hispanic, Any Race</b> |                            |      |  |      |  |      |  |      |
| Aetna                     | S                          | S    | S                                      | S    | S                                      | S    | S  | S    |
| HealthKeepers             | S                          | S    | S                                      | S    | S                                      | S    | S  | S    |
| Molina                    | 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    |
| <b>Other/Unknown</b>      |                            |      |  |      |  |      |  |      |
| Aetna                     | S                          | S    | S                                      | S    | S                                      | S    | S  | S    |
| HealthKeepers             | —                          | —    | —                                      | —    | —                                      | —    | —  | —    |
| Molina                    | 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.

—indicates that data are not available.

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

Table A-25—Tidewater Region Maternal Health Outcomes Study Indicators Stratified by MCO and Race/Ethnicity, CY 2021

|                            | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |       |
|----------------------------|----------------------------|-------|--|-------|--|------|--|-------|
|                            | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate | Number                                   | Rate  |
| <b>White, Non-Hispanic</b> |                            |       |  |       |  |      |  |       |
| Aetna                      | 41                         | 19.6% | 101                                    | 48.3% | 15                                     | 7.2% | 34                                       | 16.3% |
| HealthKeepers              | 87                         | 12.4% | 284                                    | 40.5% | 40                                     | 5.7% | 109                                      | 15.5% |
| Molina                     | 26                         | 19.1% | 52                                     | 38.2% | S                                      | S    | 15                                       | 11.0% |
| Optima                     | 123                        | 20.0% | 303                                    | 49.3% | 33                                     | 5.4% | 148                                      | 24.1% |
| UnitedHealthcare           | 17                         | 16.5% | 44                                     | 42.7% | 0                                      | 0.0% | S  | S     |
| VA Premier                 | 38                         | 17.2% | 100                                    | 45.2% | 16                                     | 7.2% | 37                                       | 16.7% |
| <b>Black, Non-Hispanic</b> |                            |       |  |       |  |      |  |       |
| Aetna                      | 96                         | 25.8% | 164                                    | 44.1% | 22                                     | 5.9% | 35                                       | 9.4%  |
| HealthKeepers              | 177                        | 14.2% | 419                                    | 33.6% | 45                                     | 3.6% | 112                                      | 9.0%  |
| Molina                     | 63                         | 23.6% | 122                                    | 45.7% | 13                                     | 4.9% | 15                                       | 5.6%  |
| Optima                     | 429                        | 27.8% | 759                                    | 49.3% | 104                                    | 6.7% | 187                                      | 12.1% |
| UnitedHealthcare           | 57                         | 28.8% | 88                                     | 44.4% | S                                      | S    | S  | S     |
| VA Premier                 | 120                        | 26.1% | 227                                    | 49.3% | 28                                     | 6.1% | 43                                       | 9.3%  |
| <b>Asian, Non-Hispanic</b> |                            |       |  |       |  |      |  |       |
| Aetna                      | S                          | S     | S                                      | S     | S                                      | S    | S  | S     |
| HealthKeepers              | S                          | S     | 15                                     | 34.1% | S                                      | S    | S  | S     |
| Molina                     | S                          | S     | S                                      | S     | S                                      | S    | S  | S     |
| Optima                     | S                          | S     | 22                                     | 31.9% | S                                      | S    | 15                                       | 21.7% |
| UnitedHealthcare           | S                          | S     | S                                      | S     | S                                      | S    | S  | S     |

|                           | Postpartum ED Utilization* |       | Postpartum Ambulatory Care Utilization |       | Prenatal Maternal Depression Screening |      | Postpartum Maternal Depression Screening |       |
|---------------------------|----------------------------|-------|--|-------|--|------|--|-------|
|                           | Number                     | Rate  | Number                                 | Rate  | Number                                 | Rate | Number                                   | Rate  |
| VA Premier                | S                          | S     | S                                      | S     | S                                      | S    | S  | S     |
| <b>Hispanic, Any Race</b> |                            |       |  |       |  |      |  |       |
| Aetna                     | 14                         | 17.9% | 31                                     | 39.7% | S                                      | S    | S  | S     |
| HealthKeepers             | 23                         | 12.2% | 70                                     | 37.0% | S                                      | S    | 20                                       | 10.6% |
| Molina                    | 15                         | 25.4% | 25                                     | 42.4% | S                                      | S    | S  | S     |
| Optima                    | 48                         | 24.4% | 93                                     | 47.2% | S                                      | S    | 37                                       | 18.8% |
| UnitedHealthcare          | S                          | S     | 15                                     | 45.5% | S                                      | S    | S  | S     |
| VA Premier                | 19                         | 29.2% | 31                                     | 47.7% | S                                      | S    | S  | S     |
| <b>Other/Unknown</b>      |                            |       |  |       |  |      |  |       |
| Aetna                     | S                          | S     | 28                                     | 65.1% | S                                      | S    | S  | S     |
| HealthKeepers             | 14                         | 13.3% | 36                                     | 34.3% | S                                      | S    | 13                                       | 12.4% |
| Molina                    | S                          | S     | S                                      | S     | S                                      | S    | S  | S     |
| Optima                    | 36                         | 28.8% | 59                                     | 47.2% | S                                      | S    | 17                                       | 13.6% |
| UnitedHealthcare          | S                          | S     | S                                      | S     | 0                                      | 0.0% | 0  | 0.0%  |
| VA Premier                | S                          | S     | 19                                     | 48.7% | 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).

HIFA Demonstration Waiver Budget INCLUDING 12 MO POSTPARTUM BENEFIT

|  |                 |                |                |                |                |                |                |                |                |                |                |
|--|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>VIRGINIA FFY 2021-2029</b>  | <b>FFY 2019</b> | <b>FFY2020</b> | <b>FFY2021</b> | <b>FFY2022</b> | <b>FFY2023</b> | <b>FFY2024</b> | <b>FFY2025</b> | <b>FFY2026</b> | <b>FFY2027</b> | <b>FFY2028</b> | <b>FFY2029</b> |
| State's Allotment  | \$378,405,500   | \$399,647,474  | \$378,056,844  | \$364,877,009  | \$400,772,821  | \$422,024,898  | \$444,403,925  | \$467,969,660  | \$492,785,034  | \$518,916,311  | \$546,433,270  |
| Funds Carried Over From Prior Year(s)                                      | \$32,832,053    | \$33,298,885   | \$74,119,249   | \$123,214,431  | \$133,611,460  | \$118,792,332  | \$176,164,636  | \$219,635,053  | \$245,867,088  | \$254,211,424  | \$238,467,326  |
| SUBTOTAL (Allotment + Funds Carried Over)                                  | \$411,237,553   | \$432,946,359  | \$452,176,093  | \$488,091,440  | \$534,384,281  | \$540,817,230  | \$620,568,561  | \$687,604,714  | \$738,672,122  | \$773,127,735  | \$784,900,596  |
| Reallocated Funds (Redistributed or Retained that are Currently Available) |                 |                |                |                |                |                |                |                |                |                |                |
| TOTAL (Subtotal + Reallocated funds)                                       | \$411,237,553   | \$432,946,359  | \$452,176,093  | \$488,091,440  | \$534,384,281  | \$540,817,230  | \$620,568,561  | \$687,604,714  | \$738,672,122  | \$773,127,735  | \$784,900,596  |
| State's Enhanced FMAP Rate   | 88.00%          | 79.76%         | 69.34%         | 69.34%         | 68.94%         | 66.11%         | 65.69%         | 65.69%         | 65.69%         | 65.69%         | 65.69%         |

|  |                                |                                |                                |                                |                                |                               |                                |                                |                                 |                                |                                |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|
| <b>COST PROJECTIONS OF APPROVED SCHIP PLAN</b>     |                                |                                |                                |                                |                                |                               |                                |                                |                                 |                                |                                |
| <b>Benefit Costs</b>                               |                                |                                |                                |                                |                                |                               |                                |                                |                                 |                                |                                |
| Managed care                                       | \$306,436,127                  | \$328,009,136                  | \$356,544,506                  | \$395,435,300                  | \$455,291,955                  | \$388,921,454                 | \$441,211,314                  | \$498,951,588                  | \$560,838,460                   | \$631,938,082                  | \$712,336,455                  |
| 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 | \$192.21 @ 171,439 avg elig/mo | \$206.98 @ 183,312 avg elig/mo | \$188.76 @ 171,696avg elig/mo | \$216.03 @ 170,197 avg elig/mo | \$232.62 @ 181,984 avg elig/mo | \$250.48 @ 194,5874 avg elig/mo | \$269.72 @ 208,063 avg elig/mo | \$290.43 @ 222,473 avg elig/mo |
| Fee for Service                                    | \$82,068,811                   | \$55,724,168                   | \$68,435,999                   | \$72,576,939                   | \$86,008,505                   | \$95,616,183                  | \$96,368,794                   | \$95,822,425                   | \$93,693,825                    | \$93,269,258                   | \$93,471,500                   |
| <b>Total Benefit Costs</b>                         | <b>\$388,504,938</b>           | <b>\$383,733,304</b>           | <b>\$424,980,505</b>           | <b>\$468,012,239</b>           | <b>\$541,300,460</b>           | <b>\$484,537,637</b>          | <b>\$537,580,108</b>           | <b>\$594,774,013</b>           | <b>\$654,532,284</b>            | <b>\$725,207,341</b>           | <b>\$805,807,956</b>           |
|  |                                |                                |                                |                                |                                |                               |                                |                                |                                 |                                |                                |
| <b>Net Benefit Costs</b>                           | <b>388,504,938</b>             | <b>383,733,304</b>             | <b>424,980,505</b>             | <b>468,012,239</b>             | <b>541,300,460</b>             | <b>484,537,637</b>            | <b>537,580,108</b>             | <b>594,774,013</b>             | <b>654,532,284</b>              | <b>725,207,341</b>             | <b>805,807,956</b>             |
|  |                                |                                |                                |                                |                                |                               |                                |                                |                                 |                                |                                |
| <b>Administration Costs</b>                        |                                |                                |                                |                                |                                |                               |                                |                                |                                 |                                |                                |
| Personnel  | \$3,163,931                    | \$4,163,841                    | \$4,145,984                    | \$3,085,810                    | \$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                      | \$561,949                      | \$559,539                      | \$416,458                      | \$702,283                      | \$722,936                     | \$748,041                      | \$771,660                      | \$796,190                       | \$822,007                      | \$848,756                      |
| Contractors/Brokers (e.g., enrollment contractors) | \$16,239,385                   | \$21,519,408                   | \$21,427,120                   | \$15,947,969                   | \$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                    | \$1,916,707                    | \$1,908,487                    | \$1,420,465                    | \$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                      | \$769,574                      | \$766,274                      | \$573,445                      | \$590,310                      | \$590,176                     | \$609,176                      | \$630,095                      | \$650,125                       | \$671,206                      | \$693,047                      |
| Other  | \$0                            | \$0                            | \$0                            | \$0                            | \$0                            | \$0                           | \$0                            | \$0                            | \$0                             | \$0                            | \$0                            |
| <b>Total Administration Costs</b>                  | <b>\$21,759,294</b>            | <b>\$28,931,478</b>            | <b>\$28,807,403</b>            | <b>\$21,441,032</b>            | <b>\$33,428,367</b>            | <b>\$34,411,467</b>           | <b>\$35,511,235</b>            | <b>\$36,730,712</b>            | <b>\$37,898,322</b>             | <b>\$39,127,206</b>            | <b>\$40,400,434</b>            |
| 10% Administrative Cap                             | \$43,167,215                   | \$42,637,034                   | \$60,144,496                   | \$52,001,360                   | \$60,144,496                   | \$53,837,515                  | \$59,731,123                   | \$66,086,001                   | \$72,725,809                    | \$80,578,593                   | \$89,534,217                   |
|  |                                |                                |                                |                                |                                |                               |                                |                                |                                 |                                |                                |
| Federal Title XXI Share                            | \$361,032,524                  | \$329,141,431                  | \$314,656,535                  | \$339,386,898                  | \$396,218,053                  | \$343,077,252                 | \$376,463,703                  | \$414,835,454                  | \$454,857,665                   | \$502,091,364                  | \$555,874,291                  |
| State Share  | \$49,231,708                   | \$83,523,352                   | \$139,131,372                  | \$150,066,373                  | \$178,510,774                  | \$175,871,851                 | \$196,627,640                  | \$216,669,271                  | \$237,572,941                   | \$262,243,183                  | \$290,334,099                  |
| <b>TOTAL COSTS OF APPROVED SCHIP PLAN</b>          | <b>\$410,264,232</b>           | <b>\$412,664,783</b>           | <b>\$453,787,908</b>           | <b>\$489,453,271</b>           | <b>\$574,728,826</b>           | <b>\$518,949,104</b>          | <b>\$573,091,343</b>           | <b>\$631,504,726</b>           | <b>\$692,430,606</b>            | <b>\$764,334,547</b>           | <b>\$846,208,390</b>           |

|  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
|--|-----------------------------|-------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>COST PROJECTIONS OF HIFA DEMONSTRATION PROPOSAL</b>   |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| <b>Benefit Costs for Demonstration Population #1 (FAMIS MOMS/CHIP pregnant women &lt; 200% FPL) AND Population #3 (FAMIS MOMS/CHIP Postpartum)</b> |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Insurance payments   |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Managed care   | \$13,333,221                | \$20,515,655                  | \$17,328,917                 | \$18,619,099                 | \$24,144,401                   | \$27,955,989                   | \$31,700,273                   | \$34,542,895                   | \$37,624,720                   | \$40,753,654                   | \$43,750,382                   |
| per member/per month rate @ # of eligibles   | \$932.91 @ 1191 avg elig/mo | \$1084.11 @ 1,577 avg elig/mo | \$867.18 @ 1,665 avg elig/mo | \$882.46 @ 1,758 avg elig/mo | \$1,083.81 @ 1,856 avg elig/mo | \$1,188.53 @ 1,960 avg elig/mo | \$1,276.42 @ 2,070 avg elig/mo | \$1,316.72 @ 2,186 avg elig/mo | \$1,357.98 @ 2,309 avg elig/mo | \$1,392.75 @ 2,438 avg elig/mo | \$1,415.71 @ 2,575 avg elig/mo |
| Fee for Service  | \$2,863,191                 | \$2,813,502                   | \$1,950,841                  | \$2,238,261                  | \$2,022,283                    | \$2,284,921                    | \$2,338,317                    | \$2,386,311                    | \$2,482,140                    | \$2,482,140                    | \$2,535,671                    |
| <b>Total Benefit Costs for Waiver Population #1</b>  | <b>\$16,196,412</b>         | <b>\$23,329,157</b>           | <b>\$19,279,758</b>          | <b>\$20,857,360</b>          | <b>\$26,166,684</b>            | <b>\$30,240,910</b>            | <b>\$34,038,590</b>            | <b>\$36,929,206</b>            | <b>\$40,056,485</b>            | <b>\$43,235,794</b>            | <b>\$46,286,053</b>            |
| <b>Benefit Costs for Demonstration Population #2 (children in premium assistance)</b>  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Insurance payments   | \$58,149                    | \$55,574                      | \$54,867                     | \$50,591                     | \$48,019                       | \$40,278                       | \$40,278                       | \$40,278                       | \$40,278                       | \$40,278                       | \$40,278                       |
| Managed care   |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| per member/per month rate @ # of eligibles   | \$95.01 @ 51 avg elig/mo    | \$82.13 @ 53 avg elig/mo      | \$87.22 @ 51 avg elig/mo     | \$89.65 @ 32 avg elig/mo     | \$131.75 @ 32 avg elig/mo      | \$125.05 @ 32 avg elig/mo      | \$104.89 @ 32 avg elig/mo      | \$104.89 @ 32 avg elig/mo      | \$104.89 @ 32 avg elig/mo      | \$104.89 @ 32 avg elig/mo      | \$104.89 @ 32 avg elig/mo      |
| Fee for Service  | \$0                         | \$0                           | \$0                          | \$0                          | \$0                            | \$0                            | \$0                            | \$0                            | \$0                            | \$0                            | \$0                            |
| <b>Total Benefit Costs for Waiver Population #2</b>  | <b>\$58,149</b>             | <b>\$55,574</b>               | <b>\$54,867</b>              | <b>\$50,591</b>              | <b>\$48,019</b>                | <b>\$40,278</b>                | <b>\$40,278</b>                | <b>\$40,278</b>                | <b>\$40,278</b>                | <b>\$40,278</b>                | <b>\$40,278</b>                |
| <b>Benefit Costs for Demonstration Population #3 (Postpartum) Included in Population #1</b>  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Insurance payments   |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Managed care   |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Per Member / Per Month Avg   |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Total Member Months  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
|  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| <b>Total Benefit Costs for Waiver Population #3</b>  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
|  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| <b>Total Benefit Costs</b>   | <b>\$16,254,561</b>         | <b>\$23,384,731</b>           | <b>\$19,334,625</b>          | <b>\$20,907,951</b>          | <b>\$26,214,703</b>            | <b>\$30,281,188</b>            | <b>\$34,078,868</b>            | <b>\$36,969,484</b>            | <b>\$40,096,764</b>            | <b>\$43,276,073</b>            | <b>\$46,326,331</b>            |
| (Offsetting beneficiary cost sharing payments) * Premium Payments will be net of cost sharing  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| <b>Net Benefit Costs</b>   | <b>\$16,254,561</b>         | <b>\$23,384,731</b>           | <b>\$19,334,625</b>          | <b>\$20,907,951</b>          | <b>\$26,214,703</b>            | <b>\$30,281,188</b>            | <b>\$34,078,868</b>            | <b>\$36,969,484</b>            | <b>\$40,096,764</b>            | <b>\$43,276,073</b>            | <b>\$46,326,331</b>            |
|  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| <b>Administration Costs</b>  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Personnel  | \$82,670                    | \$232,092                     | \$186,490                    | \$123,603                    | \$179,067                      | \$223,315                      | \$300,831                      | \$374,981                      | \$471,227                      | \$597,936                      | \$761,324                      |
| General administration   | \$18,310                    | \$31,323                      | \$25,169                     | \$16,681                     | \$39,661                       | \$49,461                       | \$66,630                       | \$83,053                       | \$104,370                      | \$132,435                      | \$168,623                      |
| Contractors/Brokers (e.g., enrollment contractors)   | \$575,900                   | \$1,199,491                   | \$963,813                    | \$638,798                    | \$1,247,425                    | \$1,555,662                    | \$2,095,658                    | \$2,612,203                    | \$3,282,676                    | \$5,303,562                    | \$5,303,562                    |
| Claims Processing  | \$179,732                   | \$106,837                     | \$85,846                     | \$56,897                     | \$389,307                      | \$485,505                      | \$654,031                      | \$815,239                      | \$1,024,487                    | \$1,299,964                    | \$1,655,182                    |
| Outreach/marketing costs   | \$14,951                    | \$42,896                      | \$34,468                     | \$22,845                     | \$32,385                       | \$40,387                       | \$54,406                       | \$67,817                       | \$85,223                       | \$108,139                      | \$137,688                      |
| Other (specify)  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| <b>Total Administration Costs</b>  | <b>\$871,563</b>            | <b>\$1,612,639</b>            | <b>\$1,295,785</b>           | <b>\$858,824</b>             | <b>\$1,887,846</b>             | <b>\$2,354,330</b>             | <b>\$3,171,557</b>             | <b>\$3,953,292</b>             | <b>\$4,967,983</b>             | <b>\$6,303,840</b>             | <b>\$8,026,379</b>             |
| 10% Administrative Cap   | \$1,625,456                 | \$2,338,473                   | \$1,933,463                  | \$2,090,795                  | \$2,621,470                    | \$3,028,119                    | \$3,407,887                    | \$3,696,948                    | \$4,009,676                    | \$4,327,607                    | \$4,632,633                    |
|  |                             |                               |                              |                              |                                |                                |                                |                                |                                |                                |                                |
| Federal Title XXI Share  | \$15,070,990                | \$19,937,902                  | \$14,305,127                 | \$15,093,081                 | \$19,373,897                   | \$21,575,341                   | \$24,469,804                   | \$26,882,172                   | \$29,603,032                   | \$32,569,045                   | \$35,704,295                   |
| State Share  | \$2,055,135                 | \$5,059,468                   | \$6,325,284                  | \$6,673,693                  | \$8,728,652                    | \$11,060,177                   | \$12,780,621                   | \$15,461,715                   | \$17,010,868                   | \$18,648,415                   | \$19,322,009                   |
| <b>TOTAL COSTS FOR DEMONSTRATION</b>   | <b>\$17,126,124</b>         | <b>\$24,997,370</b>           | <b>\$20,630,410</b>          | <b>\$21,766,775</b>          | <b>\$28,102,548</b>            | <b>\$32,635,518</b>            | <b>\$37,250,425</b>            | <b>\$40,922,777</b>            | <b>\$45,064,747</b>            | <b>\$49,579,913</b>            | <b>\$54,352,710</b>            |

|   |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>TOTAL PROGRAM COSTS (State Plan + Demonstration)</b> | <b>\$427,390,356</b> | <b>\$437,662,153</b> | <b>\$474,418,318</b> | <b>\$511,220,046</b> | <b>\$602,831,375</b> | <b>\$551,584,622</b> | <b>\$610,341,768</b> | <b>\$672,427,502</b> | <b>\$737,495,353</b> | <b>\$813,914,460</b> | <b>\$900,561,100</b> |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

|  |               |               |               |               |               |               |               |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total Federal Title XXI Funding Currently Available (Allotment + Reallocated Funds)              | \$411,237,553 | \$432,946,359 | \$452,176,093 | \$488,091,440 | \$534,384,281 | \$540,817,230 | \$620,568,561 | \$687,604,714 | \$738,672,122 | \$773,127,735 | \$784,900,596 |
| Total Federal Title XXI Program Costs (State Plan + Demonstration) - ACTUAL FROM CMS 64F (d)*    | \$376,103,513 | \$349,079,333 | \$328,961,662 | \$354,479,980 | \$415,591,950 | \$364,652,593 | \$400,933,507 | \$441,717,626 | \$484,460,697 | \$534,660,409 | \$591,578,587 |
| Unused Title XXI Funds Expiring (Allotment or Reallocated)                                       |               |               |               |               |               |               |               |               |               |               |               |
| Remaining Title XXI Funds to be Carried Over (Equals Available Funding - Costs - Expiring Funds) | \$35,134,039  | \$83,867,026  | \$123,214,431 | \$133,611,460 | \$118,792,332 | \$176,164,636 | \$219,635,053 | \$245,887,088 | \$254,211,424 | \$238,467,326 | \$193,322,009 |