



COMMONWEALTH of VIRGINIA

Office of the Governor

Ralph S. Northam
Governor

April 25, 2019

The Honorable Alex M. Azar II, Secretary
U.S. Department of Health & Human Services
200 Independence Avenue, S.W.
Washington, D.C. 20201

Dear Secretary Azar:

Attached for your review and approval is an application to extend Virginia's section 1115 demonstration "FAMIS MOMS and FAMIS Select" (No. 21-W-00058/3). I request that your office approve this change as quickly as possible.

Sincerely,


Ralph S. Northam

Attachment

cc: Jennifer S. Lee, M.D., Director
Virginia Department of Medical Assistance Services

Rachel Pryor, Deputy Director for Administration
Virginia Department of Medical Assistance Services

CHIP SECTION 1115 DEMONSTRATION RENEWAL APPLICATION

No. 21-W-00058/3

FAMIS MOMS and FAMIS Select

Virginia Department of Medical Assistance Services

VIRGINIA DEPARTMENT OF MEDICAL ASSISTANCE SERVICES
CHIP SECTION 1115 DEMONSTRATION RENEWAL APPLICATION
FAMIS MOMS and FAMIS SELECT

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DEMONSTRATION EXTENSION APPLICATION FAMIS MOMS and FAMIS Select (No. 21-W-00058/3)

Historical Summary of the Demonstration Project

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

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

For FAMIS MOMS:

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

For FAMIS Select:

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

In June 2016, Virginia received approval to continue operating the FAMIS MOMS and FAMIS Select programs under this Demonstration. The extension included the following agreements:

- Virginia will continue to provide coverage with federal reimbursement at the CHIP rate for pregnant women without creditable insurance coverage in families with income through 200% FPL.
- Virginia will continue to use Medicaid methodology for determining income eligibility.
- Virginia will continue to provide coverage for FAMIS MOMS that is identical to coverage provided to pregnant women under the Medicaid State Plan.

- Virginia will continue to deem infants born to FAMIS or FAMIS MOMS enrollees eligible for CHIP or Medicaid coverage for the first year of life.

Virginia has expanded health care coverage for pregnant women under Medicaid, and for pregnant women and children under FAMIS, to include otherwise eligible lawfully residing immigrants, including those in their first five years of lawful residency in the United States, pursuant to § 214 of the Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009.

FAMIS MOMS

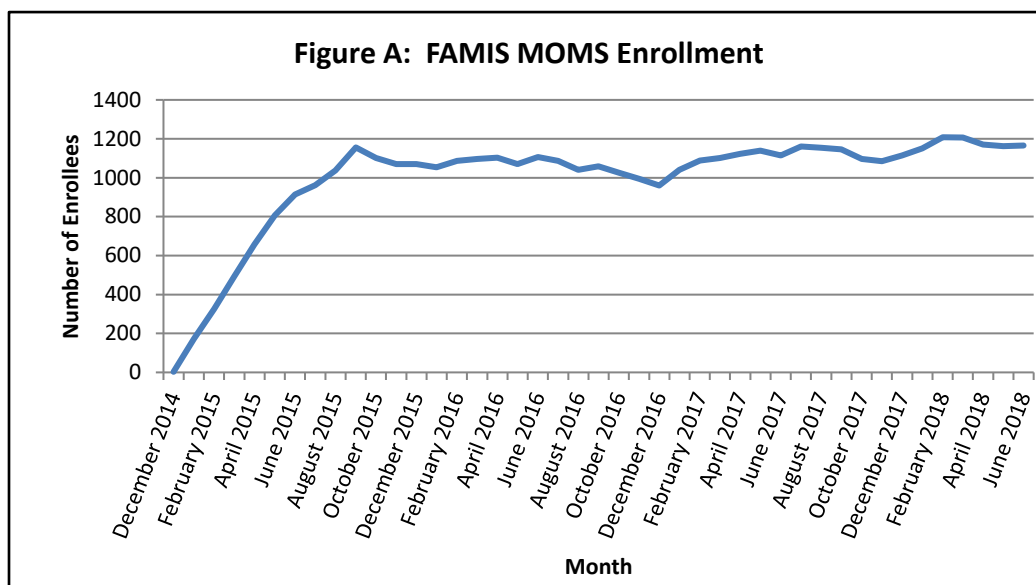
The intent of this program expansion is to provide prenatal care to uninsured women living within the Title XXI income range and likely to give birth to FAMIS-eligible children. Virginia implemented the FAMIS MOMS program incrementally beginning August 1, 2005. The first stage expanded eligibility to pregnant women with family income above the Medicaid limit of 133% FPL but less than or equal to 150% FPL. The second stage, implemented September 1, 2006, covered pregnant women with incomes through 166% FPL. Subsequent stages covered pregnant women through 185% FPL (July 1, 2007) and through 200% FPL (July 1, 2009).

Effective July 1, 2010, eligibility requirements were amended to allow enrollment of pregnant women with income below 133% FPL who do not meet eligibility requirements for full Medicaid coverage but do meet the FAMIS MOMS requirements. In addition, infants born to FAMIS children and FAMIS MOMS are deemed eligible for Medicaid or CHIP coverage, as appropriate, on the date of birth and remain eligible until attaining the age of 1 unless, after a reasonable opportunity period, the state fails to obtain satisfactory documentation of citizenship and identity.

In 2013, the Virginia General Assembly adopted an amendment to the biennial budget that directed DMAS to phase out and eliminate the FAMIS MOMS program. Following approval by the Centers for Medicare and Medicaid Services (CMS) of an amendment to the Demonstration, administrative steps were taken to implement this phase-out by stopping new enrollment (effective January 1, 2014) while maintaining current cases throughout their benefit period (two months postpartum). The 2014 General Assembly restored funding to support enrollment in FAMIS MOMS. The amended state budget for state fiscal year 2015 was passed and signed in late June 2014. An amendment to the Demonstration, reinstating enrollment at an upper income level of 200% FPL (plus a 5% income disregard), was subsequently submitted to CMS and approved effective November 1, 2014. The Department began enrolling women in FAMIS MOMS again starting December 1, 2014.

DMAS was not accepting new applications for FAMIS MOMS between December 31, 2013 and November 30, 2014. For women already enrolled, FAMIS MOMS coverage continued throughout their pregnancy and postpartum periods. FAMIS MOMS enrollment dropped from close to 1,600 on July 1, 2013; to 1,363 on January 1, 2014; to single digits at its lowest point in

late 2014. After the December 1, 2014 reinstatement of FAMIS MOMS, enrollment began to climb again, reached 1,156 by August 2015, and remains stable. Enrollment as of June 2018 was 1,166 (see Figure A).



Source: DMAS Recipient File

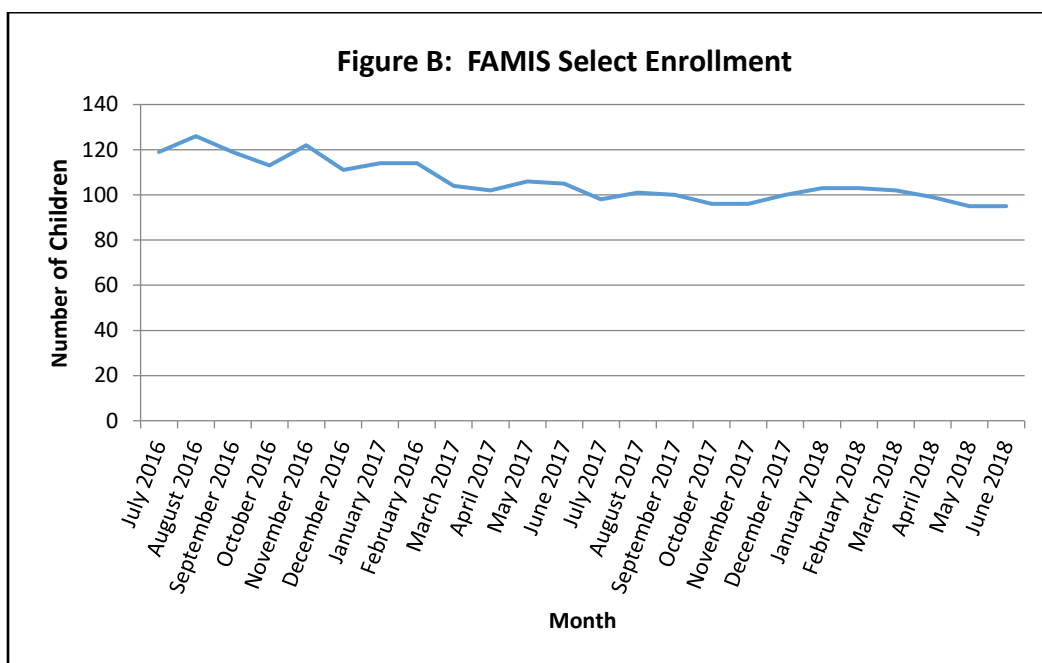
In April 2015, CMS approved an amendment to the Demonstration adding coverage for dental services to the FAMIS MOMS program, consistent with the addition of these benefits for pregnant women under Medicaid. This amendment also allowed eligibility to be expanded to include pregnant women with access to subsidized health insurance through state employee benefits.

FAMIS Select

Virginia implemented the FAMIS Select program beginning August 1, 2005. FAMIS Select replaced the former employer-sponsored health insurance (ESHI) program and provides an alternative for families with children enrolled in FAMIS who have access to private or employer-sponsored coverage. All children are first enrolled in FAMIS. In some cases, the FAMIS Select payment may make health coverage affordable for the entire family. In other cases, it may allow a child to continue to see a doctor or dentist that may not accept FAMIS.

FAMIS Select has enrolled more families and proven to be easier to administer than the former ESHI program. In August 2005, 66 children transferred from the ESHI to FAMIS Select. Enrollment in FAMIS Select has been marked by periods of growth and decline. At the end of the first year of operation, there were 266 children enrolled, more than double the highest ever enrollment in ESHI. Enrollment peaked in year four at 480 children. Average monthly enrollment for SFY2018 was 102. (Enrollment reflects the number of FAMIS-eligible children

directly enrolled in FAMIS Select. Totals do not include incidentally enrolled family members such as adults and non-FAMIS-eligible children in the family.) Figure B shows the enrollment trend during the current Demonstration period. The decline in participation is likely attributable to changes in employer-sponsored health insurance offerings. In Virginia and nationwide, employer-sponsored health insurance is becoming less widely available and more expensive, with higher employee cost-sharing, making family coverage a less affordable option for lower-income workers.



Source: DMAS Recipient File

Changes Requested

Virginia requests that the Demonstration be extended for a period of five years, with no changes in program features anticipated.

Waiver and Expenditure Authority

Virginia is requesting the same waiver and expenditure authorities as those approved in the current Demonstration. For the FAMIS MOMS and FAMIS Select populations, all CHIP and Medicaid rules not expressly waived or identified as not applicable shall apply. The following Title XXI requirements are not applicable for the Virginia FAMIS MOMS and FAMIS Select Section 1115 Demonstration:

- 1. General Requirements, Eligibility and Outreach Section 2102

The Commonwealth’s Children’s Health Insurance Program (CHIP) does not have to

reflect the Demonstration populations, and eligibility standards do not have to be limited by the general principles in section 2102(b) of the Act. To the extent other requirements in section 2102 of the Act duplicate Medicaid or other CHIP requirements for these or other populations, they do not apply, except that the Commonwealth must perform eligibility screening to ensure that the Demonstration populations do not include individuals otherwise eligible for Medicaid.

2. Cost Sharing Section 2103(e)

Rules governing cost sharing under section § 2103(e) of the Act shall not apply to the FAMIS Select population to the extent necessary to enable the Commonwealth to impose cost sharing in private or employer-sponsored insurance plans.

3. Cost-Sharing Exemption for American Indian/
Alaskan Native (AI/AN) Children Section 2102(b)(3)(D)
42 CFR Section 457.535

Virginia is permitted to impose cost sharing on AI/AN children who elect to enroll in the FAMIS Select premium assistance program.

4. Benefit Package Requirements Section 2103

The Commonwealth is permitted to offer a benefit package that does not meet the requirements of section 2103 at 42 CFR § 457.4 10(b)(1) for the Demonstration populations.

5. Federal Matching Payment and Family Coverage Limits Section 2105

Federal matching payment in excess of the 10 percent cap for expenditures related to the Demonstration population and limits on family coverage are not applicable to the Demonstration population.

6. Newborn deeming Section 1902(a)(46)
Section 2102(b)(2)

Certain provisions are waived to enable the Commonwealth to consider children who are born to pregnant women enrolled in the Demonstration on the date of the child's birth—or eligible targeted low-income children under the approved State Plan on the date of the child's birth—to have applied and been determined otherwise eligible for Medicaid or CHIP, as appropriate, on the date of birth, and to remain eligible until attaining the age of 1, unless, after a reasonable opportunity period, the Agency fails to obtain evidence to satisfy documentation of citizenship under 42 CFR 435.407(c)(1) and (2) and identity under 42 CFR 435.407(e) and (f). This does not permit waivers of either Section 1903(x) of the Act or section 2105(c), which requires states to obtain satisfactory documentary

evidence of citizenship or nationality during the reasonable opportunity period for individuals in Medicaid or CHIP.

Demonstration Objectives

The following section summarizes Virginia's performance in meeting the FAMIS MOMS and FAMIS Select Title XXI Section 1115 Demonstration's objectives.

FAMIS MOMS

Facilitate access to prenatal, obstetric, and postpartum care for low-income pregnant women who do not qualify for Medicaid.

FAMIS MOMS offers health care coverage for a vulnerable population that does not otherwise qualify for public insurance. Women enrolled in FAMIS MOMS access the same comprehensive coverage that pregnant women receive from the Virginia Medicaid program, continuing throughout their pregnancy until two months postpartum.

DMAS has identified the rate of early and adequate prenatal care for FAMIS MOMS, as reported in the annual Birth Outcomes Focused Study, as an outcome measure to gauge the program's performance on this objective. The study found that FAMIS MOMS participants accessed early and adequate prenatal care at a higher rate than a comparison group of women in the same income range. Specifically, the *2016-17 Birth Outcomes Focused Study* reported that 77.5 percent of FAMIS MOMS participants in the study population received adequate prenatal care compared to 74.4 percent in the comparison group.¹

Improve selected birth outcomes of FAMIS MOMS participants and their newborns.

FAMIS MOMS participants' rates of premature and low birthweight births compare favorably to those of the comparison group identified in the Birth Outcomes Study.

Specifically, the most recent Birth Outcomes Study found that

- The rate of preterm births (delivered at less than 37 weeks gestation) among the FAMIS MOMS study population was 9.0 percent, compared to 12.3 percent for the

¹ The *2016-17 Birth Outcomes Focused Study* performed by Health Services Advisory Group (HSAG), DMAS' external quality review organization, evaluated the adequacy of prenatal care for women in the FAMIS MOMS program, i.e., study population, versus a comparison group, using birth record data and the Kotelchuck Adequacy of Prenatal Care Utilization Index. Prenatal care was defined as adequate if care began in the first trimester of pregnancy and the number of prenatal care visits was at least 80 percent of expected visits, controlling for when care began and gestational age at delivery.

comparison group. The FAMIS MOMS study population also outperformed the overall Virginia rate of 9.3 percent preterm births.

- The rate of low birthweight deliveries (<2,500 grams) among the FAMIS MOMS study population was 7.7 percent, compared to 10.9 percent in the comparison group. The rate of low birthweight births for FAMIS MOMS was also lower than that for Virginia resident live births and for U.S. births overall.

Improve access to and use of health care services that promote inter-conception health for FAMIS MOMS participants.

In DMAS' draft evaluation plan submitted to CMS in 2017, the Department proposed reporting data on measures of FAMIS MOMS participants' access to health care services including dental care and family planning services through the Plan First program. However, this evaluation plan was not approved nor finalized, and DMAS encountered challenges in assembling the data that would be necessary for this analysis. Based upon the advice of CMS' evaluation review contractor, DMAS plans to narrow the evaluation's focus to measurable objectives that are closely aligned with central demonstration goals and for which data are readily available. Although inter-conception health for pregnant enrollees remains a priority for the agency, DMAS is removing this item from the list of Demonstration objectives to be formally monitored and reported on in the evaluation plan during the proposed renewal period.

Facilitate access to recommended pediatric primary care for newborns of FAMIS MOMS participants.

Infants born to FAMIS MOMS are deemed eligible for Medicaid or CHIP coverage, as appropriate, on the date of birth and remain eligible until attaining the age of 1. The annual Birth Outcomes Study includes a measure of FAMIS MOMS newborns' access to recommended and appropriate health care services, specifically neonatal well-care visits. The *2016-17 Birth Outcomes Focused Study* found that 30.5 percent of FAMIS MOMS newborns in the study population had two or more office visits with a PCP-type provider in the first 30 days following birth. Although this measure showed significant improvement over the prior year (23.7%), the study population fell short of the comparison group's performance. DMAS is working with its external quality review organization (EQRO) to better understand the factors contributing to this result. The data may be incomplete due to healthcare billing practices that reduce the ability to administratively identify newborn primary care visits occurring in the hospital setting in the days following the birth. DMAS will continue to work with its EQRO to understand this issue and improve the study methodology to better track neonatal well-care visits if necessary. In addition, DMAS will continue to work with its managed care organizations to ensure that deemed newborns receive recommended and appropriate care. DMAS will report on its findings to CMS and in future Birth Outcomes Studies.

The Birth Outcomes Study also reported on appropriate use of the emergency room for pediatric health concerns. The rate of ED visits in the 30 days following birth for FAMIS MOMS non-NICU singleton births was lower than for the comparison group—6.1 percent versus 10.0 percent—indicating a lower rate of non-urgent use of the emergency room.

FAMIS Select

Facilitate access to affordable private and employer-sponsored health insurance for low-income families through premium assistance.

FAMIS Select provides an alternative option for low-income families with children enrolled in FAMIS who have access to private or employer-sponsored coverage. In some cases, the FAMIS Select payment may make health coverage affordable for the entire family. In other cases, it may allow a child to continue to see a doctor, dentist, or other provider who may not accept FAMIS.

Unfortunately, in Virginia and nationwide, employer-sponsored health insurance is becoming less widely available and more expensive, with higher employee cost-sharing, making family coverage a less affordable option for lower-income workers. FAMIS Select has seen declining participation, likely due to these changes in the insurance marketplace. During the Demonstration period, the FAMIS Select program fell short of its goal of increased participation rates. In state fiscal year 2018, FAMIS Select had an average monthly enrollment of 81 children.

Increasing enrollment of eligible children in FAMIS Select and identifying families who can benefit from this program remains a priority. DMAS is hopeful that with increased outreach and promotion the program will grow to reach a larger population. Toward that aim, the agency has drafted an Outreach Plan for FAMIS Select that includes updated strategies for the Demonstration extension period. DMAS is also evaluating options for operational and program design improvements to FAMIS Select. In addition, DMAS is studying options for adjusting the subsidy amount or restructuring the subsidy for FAMIS Select.

Ensure that access to and use of health care services available to children participating in FAMIS Select is comparable to that of children participating in FAMIS.

DMAS proposes to monitor FAMIS Select children's access to and utilization of health care services during the Demonstration renewal period. Therefore, the agency has identified the above new objective in the draft evaluation plan submitted with the Demonstration renewal application. DMAS proposes to monitor this objective using consumer survey data. The survey will gather information on children's access to a regular medical home and utilization of recommended preventive care. Data for the current Demonstration period are not available at this time. Monitoring the FAMIS Select program's performance on health and access outcome measures

will help DMAS to ensure that FAMIS Select participants' health care access is comparable to that of FAMIS enrollees' as a whole, and will enable the agency to make targeted improvements to the program in the future.

Assure the aggregate cost-effectiveness of the FAMIS Select program.

The *Code of Virginia* establishes FAMIS Select as an option for children eligible for FAMIS to be enrolled in private or employer sponsored health insurance and for DMAS to contribute to the cost *if it is deemed cost effective to the Commonwealth*. Cost effectiveness is determined by calculating whether the premium subsidy amount is less than the current per-member, per-month cost of coverage of a child in FAMIS, plus administrative costs.

The FAMIS Select program continued to accomplish its goal of providing a streamlined and cost-effective alternative to the standard FAMIS program. In state fiscal year 2018, the average per enrollee, per month cost for FAMIS was \$230.37. The maximum monthly FAMIS Select premium subsidy was \$100.00 per enrollee, while the average subsidy per enrollee was \$87.18. Factoring in administrative expenses, the average monthly cost associated with a FAMIS Select enrollee was \$92.73. This resulted in a savings per FAMIS Select enrollee of \$137.64, which translates to an annual estimated savings of \$133,789.

Quality Assurance

DMAS contracted with Health Services Advisory Group (HSAG), as the External Quality Review Organization (EQRO), to conduct annual prenatal care/birth outcomes focused clinical studies. The most recent report of these studies is submitted as a separate document. The aim of the studies is twofold: 1) to evaluate the adequacy of prenatal care for pregnant women in Medicaid and FAMIS MOMS; and 2) to determine the impact of prenatal care on birth outcomes. Here are the major study findings from the *2016-17 Prenatal Care and Birth Outcomes Focused Study*, delivered in June 2018 by HSAG, for births that occurred in calendar year 2015:

- Women in the FAMIS MOMS program received adequate prenatal care at rates that compared favorably to the comparison group and were slightly below the national benchmark goal identified in the HSAG study (Healthy People 2020 Initiative goal).
- The rate of premature births (before 37 completed weeks gestation) in the FAMIS MOMS program compared favorably to the comparison group but was higher than

the study’s national benchmark for preterm births (national rate of preterm singleton births for 2015, based on National Vital Statistics Survey data).²

- The low birthweight rate for FAMIS MOMS deliveries compared favorably to that of the comparison group identified in the study. However, the rate was higher than the study’s national benchmark for low birthweight (national rate of newborns with low birthweight for 2015, based on National Vital Statistics Survey data).³

For additional information and analysis of Birth Outcomes Study results, please refer to the accompanying Interim Evaluation Report.

Financial Data

Historical and projected expenditures and financial analysis are provided in the accompanying spreadsheet. The table below summarizes expenditures and enrollment for the current approval period and the proposed five-year Demonstration renewal period.

Actual Costs

	FFY* 2016	FFY 2017	FFY 2018	FFY 2019**
Total Enrollment [†]	918 / 117	893 / 90	999 / 81	1,040 / 73
Total Costs	\$14,922,450	\$15,366,516	\$16,097,226	\$17,801,051

[†] FAMIS MOMS / FAMIS Select avg. eligible per mo

* FFY = Federal Fiscal Year

** Actual and projected based on actual to date.

Projected Costs

	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024
Total Enrollment	1,081 / 66	1,127 / 66	1176 / 66	1243 / 66	1299 / 66
Total Costs	\$17,082,301	\$17,492,794	\$17,891,770	\$18,404,459	\$18,583,313

Evaluation

A revised Demonstration evaluation plan for the proposed extension period of July 1, 2019 through June 30, 2024, incorporating recommendations from CMS and its evaluation review contractor, is included in this renewal application for CMS review.

² National Center for Health Statistics, National Vital Statistics System, *Births: Final Data for 2015, Table F*. National Vital Statistics Reports, Vol. 66, No. 1, January 5, 2017. Accessed October 2018 at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf.

³ Ibid.

The evaluation plan for the current Demonstration period has three components: (1) monitoring the rate of uninsurance, (2) reporting participation and enrollment trends, and (3) reporting on measures of health care access and outcomes. The Demonstration evaluation will consider the following hypotheses for the two target populations:

FAMIS MOMS

Hypothesis 1 FAMIS MOMS participants will receive early and adequate prenatal care at a higher rate than a comparison group of women in the same income range.

Hypothesis 2 FAMIS MOMS will experience improved birth outcomes compared to women in the same income range. Measured outcomes will include lower rates of early term and preterm births, and lower rates of low birthweight births.

Hypothesis 3 FAMIS MOMS newborns' access to recommended and appropriate health care services will compare favorably to that of newborns in the comparison group.

FAMIS Select

Hypothesis 1 FAMIS Select will increase the number of FAMIS members with access to affordable private and employer-sponsored health insurance through premium assistance.

Hypothesis 2 The FAMIS Select program will be cost-effective for the Commonwealth. Specifically, the cost of providing FAMIS Select premium assistance will be compared to the cost of the standard FAMIS Plan.

An interim evaluation report addressing these hypotheses, updated to include activities and findings from the current Demonstration extension period, is provided with this submission. The evaluation in the extension period will be expanded to include a survey of FAMIS Select participants, as recommended in the interim evaluation.⁴

Compliance with Public Notice and Tribal Notice Process

DMAS has complied with the state public notice process for application for an extension of an existing demonstration project. DMAS has made the following available

⁴ The evaluation for the extension period will include the following additional hypotheses pertaining to FAMIS Select: Hypothesis 3 – Children participating in FAMIS Select will have a high degree of access to health providers and health care services, comparable to that of FAMIS participants. Hypothesis 4 – Families who opt for FAMIS Select will have a high degree of satisfaction with their experience participating in the premium assistance program. Hypothesis 5 – Children participating in FAMIS Select will receive regular preventive care and immunizations, at a rate comparable to FAMIS children. Outcome measures for these hypotheses will be monitored based on self-reported data gathered in a periodic consumer survey.

through the DMAS website: the public notice, including a link to the Demonstration page on the CMS website; notice of the public hearings and contact information for comments; proposed Demonstration extension application; the Birth Outcomes Focused Study; and the Demonstration evaluation report. Two 30-day public comment periods were held, announced through the Virginia Regulatory Town Hall and Commonwealth Calendar and including an electronic forum on the Virginia Regulatory Town Hall website. The public comment periods took place from November 13 through December 13, 2018 and from March 4 through April 4, 2019. Announcements included links to the DMAS website. In addition, this information was sent by e-mail to registered public users of the Town Hall website and members of the Children’s Health Insurance Program Advisory Committee (CHIPAC), and published in *The Virginia Register*, the state’s administrative record.

Public hearings were held November 30, 2018, at the Virginia Department of Medical Assistance Services, 600 East Broad Street, Richmond, Virginia, with a conference call option, and on December 6, 2018, in conjunction with the CHIPAC quarterly meeting at the Virginia Community Healthcare Association, 3831 Westerre Parkway, Henrico, Virginia. The first public hearing generated no comments. At the second public hearing, two members of CHIPAC offered comments. One member inquired about the requirement that a child be enrolled in FAMIS prior to the family being able to enroll in FAMIS Select, and asked whether DMAS has explored options for simplifying or combining this enrollment process in order to boost enrollment in FAMIS Select. Another member inquired as to whether DMAS currently offers a wraparound dental benefit for FAMIS Select.

Written comments were submitted to DMAS by the Virginia Poverty Law Center. These comments are supportive of the five-year extension, stating:

FAMIS Moms provides necessary prenatal care and labor/delivery services to low income women. The program remains a unique form of health insurance because of its no cost, the availability of dental services to the pregnant woman, the availability of comprehensive services, the 60-days post-partum coverage for the mother, and the one year deemed eligibility for the newborn. Together this provides essential care to the low income woman and her family...

FAMIS Select is also very useful to the families served by it. Premium assistance for employer-based coverage can provide much needed financial relief to families struggling to pay for ESI. They would often be subject to the ACA “family glitch” without this support. While small, the program should be continued, and DMAS should increase efforts to publicize it with full explanation of the scope of the benefit. It would be more attractive to more families if wrap-around dental services to the children were made available again.

Virginia followed federal and state requirements for Tribal notification, including two 60-day notice and comment periods for the Commonwealth's seven federally recognized Indian tribes. An initial tribal notification letter and informational attachment were sent via e-mail and postal mail to all Tribal leaders on October 24, 2018, announcing a 60-day Tribal comment period. No comments were submitted by the Tribes during this period. On February 22, 2019, a second Tribal notification letter was sent via e-mail and postal mail with more detailed and complete information regarding the renewal application, including the full long-form public notice attachment and the URLs where the complete proposed application was available for review and public comment. A second 60-day Tribal comment period was held from February 22 through April 24. No comments were submitted by the Tribes during either of the Tribal or public notice periods.

Please see *Appendix: Documentation of Compliance with Public Notice and Tribal Notice Process* for documentation of public and Tribal notice correspondence and communication, including screenshots of the DMAS and Virginia Regulatory Town Hall websites, Tribal Notice letter, and long-form public notice document / Tribal notice attachment.

Agency Response to Public Comments

DMAS appreciates the comments offered by all stakeholders. DMAS agrees that there is a need to promote awareness of FAMIS Select, and the agency will continue to incorporate information about FAMIS Select in its outreach efforts. In particular, DMAS plans to boost efforts to inform local department of social services workers about FAMIS Select and to explore ways to identify families and children who may benefit from the program. With respect to the provision that children enroll in FAMIS prior to becoming eligible for FAMIS Select, it is DMAS' understanding that this element of the program design is required as part of federal rules to prevent crowd-out and cannot be waived. DMAS will work with CMS to determine if there are other available options exercised by states that allow for a more streamlined enrollment process in premium assistance programs so that eligible families are aware of the opportunity and able to conveniently enroll without a gap in coverage.

HIFA Demonstration Waiver Budget Template for States Using CHIP Funds -

VIRGINIA

	FFY 2007	FFY 2008	FFY 2009	FFY 2010	FFY 2011	FFY 2012	FFY 2013	FFY 2014	FFY 2015	FFY 2016	FFY 2017	FFY 2018
State's Allotment	\$94,070,318	\$90,338,630	\$175,860,300	\$184,454,740	\$175,234,257	\$184,004,091	\$186,575,583	\$198,337,665	\$247,585,520	\$265,184,717	\$249,339,964	\$308,267,233
Funds Carried Over From Prior Year(s)	\$82,024,157	\$65,363,651	\$24,436,278	\$51,334,942	\$70,948,254	\$71,891,110	\$78,067,362	\$71,562,071	\$69,883,820	\$124,441,240	\$120,213,324	\$85,134,608
SUBTOTAL (Allotment + Funds Carried Over)	\$176,094,475	\$155,702,281	\$200,296,578	\$235,789,682	\$246,182,511	\$255,895,201	\$264,642,945	\$269,899,736	\$317,469,340	\$389,625,957	\$369,553,288	\$393,401,841
Reallocated Funds (Redistributed or Retained that are Currently Available)												
TOTAL (Subtotal + Reallocated funds)	\$176,094,475	\$155,702,281	\$200,296,578	\$235,789,682	\$246,182,511	\$255,895,201	\$264,642,945	\$269,899,736	\$317,469,340	\$389,625,957	\$369,553,288	\$393,401,841
State's Enhanced FMAP Rate	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	65.00%	88.00%	88.00%	88.00%

COST PROJECTIONS OF APPROVED SCHIP PLAN

Benefit Costs												
Managed care	\$78,845,775	\$87,873,561	\$97,829,920	\$118,175,633	\$127,453,131	\$140,625,318	\$172,944,141	\$178,638,196	\$172,551,367	\$167,665,799	\$199,298,522	\$240,608,326
per member/per month rate @ # of eligibles	\$101.73 @ 64,589 avg elig/mo	\$100.34 @ 72,977 avg elig/mo	\$110.82* @ 80,256 avg elig/mo	\$118.03 @ 83,438 avg elig/mo	\$119.77 @ 88,682 avg elig/mo	\$121.64 @ 96,337 avg elig/mo	\$137.06 @ 105,149 avg elig/mo	\$139.65 @ 106,600 avg elig/mo	\$139.77 @ 102,876 avg elig/mo	\$134.07 @ 104,218 avg elig/mo	\$149.60 @ 111,014 avg elig/mo	\$158.12 @ 126,808 avg elig/mo
Fee for Service	\$72,239,130	\$85,693,301	\$107,227,146	\$111,163,125	\$116,678,947	\$106,258,886	\$94,462,053	\$100,406,987	\$96,284,461	\$100,971,176	\$113,620,606	\$124,442,641
Total Benefit Costs	\$151,084,905	\$173,566,862	\$205,057,066	\$229,338,758	\$244,132,078	\$246,884,203	\$267,406,194	\$279,045,183	\$268,835,828	\$268,636,975	\$312,919,128	\$365,050,967
Net Benefit Costs	151,084,905	173,566,862	205,057,066	229,338,758	244,132,078	246,884,203	267,406,194	279,045,183	268,835,828	268,636,975	312,919,128	365,050,967
Administration Costs												
Personnel	\$1,154,539	\$1,138,513	\$1,147,399	\$1,071,337	\$969,688	\$1,319,331	\$1,317,540	\$1,347,365	\$1,336,661	\$2,199,786	\$2,311,029	\$2,868,429
General administration	\$188,329	\$296,303	\$65,159	\$126,061	\$212,119	\$274,406	\$274,406	\$274,406	\$300,000	\$249,821	\$262,454	\$403,420
Contractors/Brokers (e.g., enrollment contractors)	\$7,997,479	\$12,783,983	\$8,133,472	\$8,021,970	\$5,224,596	\$6,270,703	\$6,268,049	\$12,387,459	\$12,821,853	\$13,842,266	\$14,542,270	\$11,192,895
Claims Processing	\$761,239	\$827,670	\$896,888	\$930,099	\$896,888	\$1,018,164	\$930,099	\$1,018,164	\$1,018,164	\$3,573,313	\$3,754,016	\$5,045,723
Outreach/marketing costs	\$1,048,228	\$1,264,709	\$633,782	\$542,702	\$640,966	\$676,014	\$548,334	\$488,518	\$5,000,000	\$2,726,109	\$2,863,969	\$2,667,398
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Administration Costs	\$11,149,814	\$16,311,178	\$10,876,700	\$10,692,168	\$8,017,048	\$9,558,619	\$9,426,494	\$15,515,912	\$20,476,679	\$22,591,295	\$23,733,738	\$22,177,864
10% Administrative Cap	\$16,787,212	\$19,285,207	\$22,784,118	\$25,482,084	\$27,125,786	\$27,431,578	\$29,711,799	\$31,005,020	\$29,870,648	\$29,848,553	\$34,768,792	\$40,561,219
Federal Title XXI Share	\$105,452,568	\$123,420,726	\$140,356,948	\$156,020,102	\$163,896,932	\$166,687,835	\$179,941,247	\$191,464,712	\$188,053,130	\$256,280,878	\$296,254,522	\$340,761,371
State Share	\$56,782,152	\$66,457,314	\$75,576,818	\$84,010,824	\$88,252,194	\$89,754,988	\$96,891,441	\$103,096,383	\$101,259,377	\$34,947,392	\$40,398,344	\$46,467,460
TOTAL COSTS OF APPROVED SCHIP PLAN	\$162,234,719	\$189,878,040	\$215,933,766	\$240,030,926	\$252,149,127	\$256,442,822	\$276,832,688	\$294,561,096	\$289,312,507	\$291,228,270	\$336,652,866	\$387,228,831

COST PROJECTIONS OF HIFA DEMONSTRATION PROPOSAL

Benefit Costs for Demonstration Population #1 (pregnant women < 200% FPL)												
Insurance payments												
Managed care	\$5,611,553	\$9,252,817	\$9,765,521	\$10,059,822	\$12,148,297	\$12,992,846	\$16,462,052	\$11,501,569	\$5,313,072	\$12,216,760	\$12,372,951	\$12,369,642
per member/per month rate @ # of eligibles	\$891.71 @ 524 avg elig/mo	\$881.22 @ 875 avg elig/mo	\$929.08* @ 956 avg elig/mo	\$836.27 @ 999 avg elig/mo	\$948.42 @ 1,067 avg elig/mo	\$916.80 @ 1,181 avg elig/mo	\$992.65 @ 1,382 avg elig/mo	\$1031.72 @ 929 avg elig/mo	\$1237.61 @ 358 avg elig/mo	\$1109.00 @ 918 avg elig/mo	\$1154.62 @ 893 avg elig/mo	\$1031.84 @ 999 avg elig/mo
Fee for Service	\$1,717,169	\$1,991,446	\$2,603,713	\$2,678,141	\$3,075,839	\$3,392,566	\$2,678,141	\$1,092,321	\$1,325,700	\$2,351,029	\$2,664,205	\$2,680,632
Total Benefit Costs for Waiver Population #1	\$7,328,722	\$11,244,263	\$12,369,234	\$12,737,963	\$15,224,136	\$16,385,412	\$19,504,350	\$12,593,890	\$6,638,772	\$14,567,789	\$15,037,156	\$15,050,274
Benefit Costs for Demonstration Population #2 (children in premium assistance)												
Insurance payments	\$412,366	\$440,488	\$496,536	\$456,121	\$386,394	\$367,809	\$320,847	\$267,103	\$151,690	\$142,259	\$119,217	\$84,743
Managed care												
per member/per month rate @ # of eligibles										\$101.32 @ 117 avg elig/mo	\$110.39 @ 90 avg elig/mo	\$87.81 @ 81 avg elig/mo
Fee for Service	\$15,307	\$16,837	\$0	\$761	\$243	\$165	\$87	\$0	\$0	\$0	\$0	\$0
Total Benefit Costs for Waiver Population #2	\$427,673	\$457,325	\$496,536	\$456,882	\$386,638	\$367,974	\$320,933	\$267,103	\$151,690	\$142,259	\$119,217	\$84,743
Total Benefit Costs	\$7,756,395	\$11,701,588	\$12,865,770	\$13,194,845	\$15,610,774	\$16,753,386	\$19,825,283	\$12,860,993	\$6,790,462	\$14,710,048	\$15,156,373	\$15,135,017
(Offsetting beneficiary cost sharing payments) * Premium Payments will be net of cost sharing												
Net Benefit Costs	\$7,756,395	\$11,701,588	\$12,865,770	\$13,194,845	\$15,610,774	\$16,753,386	\$19,825,283	\$12,860,993	\$6,790,462	\$14,710,048	\$15,156,373	\$15,135,017
Administration Costs												
Personnel	\$51,500	\$53,045	\$54,636	\$56,275	\$57,964	\$59,703	\$61,494	\$31,669	\$63,339	\$20,682	\$20,462	\$124,450
General administration										\$2,349	\$2,324	\$17,503
Contractors/Brokers (e.g., enrollment contractors)	\$252,500	\$255,025	\$257,575	\$260,151	\$262,753	\$265,380	\$268,034	\$203,036	\$300,000	\$130,144	\$128,760	\$485,615
Claims Processing										\$33,596	\$33,239	\$218,914
Outreach/marketing costs	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$500,000	\$25,631	\$25,358	\$115,728
Other (specify)												
Total Administration Costs	\$364,000	\$368,070	\$372,212	\$376,426	\$380,716	\$385,083	\$389,528	\$294,705	\$863,339	\$212,402	\$210,143	\$962,209
10% Administrative Cap									\$679,046	\$1,471,005	\$1,515,637	\$1,513,502
Federal Title XXI Share	\$5,278,256	\$7,845,278	\$8,604,688	\$8,821,326	\$10,394,468	\$11,140,005	\$13,139,627	\$8,551,204	\$4,974,970	\$13,131,756	\$13,522,534	\$14,165,559
State Share	\$2,842,138	\$4,224,380	\$4,633,294	\$4,749,945	\$5,597,021	\$5,998,464	\$7,075,184	\$4,604,494	\$2,678,830	\$1,790,694	\$1,843,982	\$1,931,667
TOTAL COSTS FOR DEMONSTRATION	\$8,120,395	\$12,069,658	\$13,237,982	\$13,571,271	\$15,991,490	\$17,138,469	\$20,214,811	\$13,155,698	\$7,653,801	\$14,922,450	\$15,366,516	\$16,097,226

TOTAL PROGRAM COSTS (State Plan + Demonstration)	\$170,355,114	\$201,947,698	\$229,171,747	\$253,602,197	\$268,140,616	\$273,581,291	\$297,047,499	\$307,716,793	\$296,966,307	\$306,150,720	\$352,019,382	\$403,326,057
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Total Federal Title XXI Funding Currently Available (Allotment + Reallocated Funds)	\$176,094,475	\$155,702,281	\$200,296,578	\$235,789,682	\$246,182,511	\$255,895,201	\$264,642,945	\$269,899,736	\$317,469,340	\$389,625,957	\$369,553,288	\$393,401,841
Total Federal Title XXI Program Costs (State Plan + Demonstration)	\$110,730,824	\$131,266,004	\$148,961,636	\$164,841,428	\$174,291,401	\$177,827,839	\$193,080,874	\$200,015,916	\$193,028,100	\$269,412,634	\$309,777,056	\$354,926,930
Unused Title XXI Funds Expiring (Allotment or Reallocated)												
Remaining Title XXI Funds to be Carried Over (Equals Available Funding - Costs - Expiring Funds)	\$65,363,651	\$24,436,278	\$51,334,942	\$70,948,254	\$71,891,110	\$78,067,362	\$71,562,071	\$69,883,820	\$124,441,240	\$120,213,324	\$85,134,608	\$38,474,910

HIFA Demonstration Waiver Budget Template for States Using CHIP Funds -

VIRGINIA

	FFY 2019	FFY2020	FFY2021	FFY2022	FFY2023	FFY2024
State's Allotment	\$274,353,001	\$293,557,711	\$322,913,482	\$355,204,830	\$390,725,313	\$429,797,845
Funds Carried Over From Prior Year(s)	\$38,474,910	-\$76,785,552	-\$137,820,851	-\$159,675,438	-\$200,276,849	-\$265,506,384
SUBTOTAL (Allotment + Funds Carried Over)	\$312,827,911	\$216,772,159	\$185,092,631	\$195,529,393	\$190,448,464	\$164,291,461
Reallocated Funds (Redistributed or Retained that are Currently Available)						
TOTAL (Subtotal + Reallocated funds)	\$312,827,911	\$216,772,159	\$185,092,631	\$195,529,393	\$190,448,464	\$164,291,461
State's Enhanced FMAP Rate	88.00%	76.50%	65.00%	65.00%	65.00%	65.00%

COST PROJECTIONS OF APPROVED SCHIP PLAN						
Benefit Costs						
Managed care	\$319,652,711	\$343,609,577	\$412,280,535	\$495,828,482	\$595,733,638	\$696,850,174
per member/per month rate @ # of eligibles	\$192.24 @ 138,562 avg elig/mo	\$190.49 @ 150,316 avg elig/mo	\$203.39 @ 162,282 avg elig/mo	\$221.58 @ 177,362 avg elig/mo	\$240.22 @ 194,826 avg elig/mo	\$261.75 @ 212,302 avg elig/mo
Fee for Service	\$82,653,343	\$79,420,800	\$76,355,224	\$70,279,765	\$61,616,222	\$57,294,624
Total Benefit Costs	\$402,306,054	\$423,030,377	\$488,635,759	\$566,108,247	\$657,349,860	\$754,144,798
Net Benefit Costs	402,306,054	423,030,377	488,635,759	566,108,247	657,349,860	754,144,798
Administration Costs						
Personnel	\$2,927,614	\$3,027,479	\$3,124,129	\$3,223,564	\$3,325,872	\$3,375,719
General administration	\$411,743	\$425,789	\$439,381	\$453,366	\$467,754	\$474,765
Contractors/Brokers (e.g., enrollment contractors)	\$11,423,841	\$11,813,525	\$12,319,660	\$12,587,666	\$12,977,881	\$13,172,388
Claims Processing	\$5,149,833	\$5,325,502	\$5,495,513	\$5,670,425	\$5,850,390	\$5,938,073
Outreach/marketing costs	\$2,722,435	\$2,815,301	\$2,905,177	\$2,997,643	\$3,092,781	\$3,139,134
Other	\$0	\$0	\$0	\$0	\$0	\$0
Total Administration Costs	\$22,635,468	\$23,407,596	\$24,283,860	\$24,932,664	\$25,714,678	\$26,100,079
10% Administrative Cap	\$44,700,673	\$47,003,375	\$54,292,862	\$62,900,916	\$73,038,873	\$83,793,866
Federal Title XXI Share	\$373,948,539	\$341,525,050	\$333,397,753	\$384,176,592	\$443,991,950	\$507,159,170
State Share	\$50,992,983	\$104,912,924	\$179,521,867	\$206,864,319	\$239,072,588	\$273,085,707
TOTAL COSTS OF APPROVED SCHIP PLAN	\$424,941,522	\$446,437,973	\$512,919,619	\$591,040,911	\$683,064,538	\$780,244,877

COST PROJECTIONS OF HIFA DEMONSTRATION PROPOSAL						
Benefit Costs for Demonstration Population #1 (pregnant women < 200% FPL)						
Insurance payments						
Managed care	\$14,159,957	\$13,512,038	\$13,888,669	\$14,328,189	\$14,895,933	\$15,094,745
per member/per month rate @ # of eligibles	\$1134.61 @ 1040 avg elig/mo	\$1041.63 @ 1081 avg elig/mo	\$1010.07 @ 1127 avg elig/mo	\$994.35 @ 1176 avg elig/mo	\$967.59 @ 1243 avg elig/mo	\$756.92 @ 1299 avg elig/mo
Fee for Service	\$2,575,455	\$2,575,635	\$2,640,160	\$2,634,914	\$2,624,307	\$2,636,845
Total Benefit Costs for Waiver Population #1	\$16,735,412	\$16,087,673	\$16,515,422	\$16,931,295	\$17,460,534	\$17,654,009
Benefit Costs for Demonstration Population #2 (children in premium assistance)						
Insurance payments	\$76,269	\$68,642	\$68,642	\$68,642	\$68,642	\$68,642
Managed care						
per member/per month rate @ # of eligibles	\$87.18 @ 73 avg elig/mo	\$87.18 @ 66 avg elig/mo	\$87.18 @ 66 avg elig/mo	\$87.18 @ 66 avg elig/mo	\$87.18 @ 66 avg elig/mo	\$87.18 @ 66 avg elig/mo
Fee for Service	\$0	\$0	\$0	\$0	\$0	\$0
Total Benefit Costs for Waiver Population #2	\$76,269	\$68,642	\$68,642	\$68,642	\$68,642	\$68,642
Total Benefit Costs	\$16,811,681	\$16,156,315	\$16,584,064	\$16,999,937	\$17,529,176	\$17,722,651
(Offsetting beneficiary cost sharing payments) * Premium Payments will be net of cost sharing						
Net Benefit Costs	\$16,811,681	\$16,156,315	\$16,584,064	\$16,999,937	\$17,529,176	\$17,722,651
Administration Costs						
Personnel	\$127,963	\$119,765	\$117,533	\$115,347	\$113,207	\$111,316
General administration	\$17,997	\$16,844	\$16,530	\$16,223	\$15,922	\$15,656
Contractors/Brokers (e.g., enrollment contractors)	\$499,323	\$467,334	\$458,625	\$450,097	\$441,745	\$434,366
Claims Processing	\$225,093	\$210,673	\$206,747	\$202,902	\$199,137	\$195,811
Outreach/marketing costs	\$118,994	\$111,371	\$109,296	\$107,263	\$105,273	\$103,514
Other (specify)						
Total Administration Costs	\$989,370	\$925,986	\$908,730	\$891,833	\$875,284	\$860,662
10% Administrative Cap	\$1,681,168	\$1,615,632	\$1,658,406	\$1,699,994	\$1,752,918	\$1,772,265
Federal Title XXI Share	\$15,664,925	\$13,067,960	\$11,370,316	\$11,629,650	\$11,962,899	\$12,079,153
State Share	\$2,136,126	\$4,014,341	\$6,122,478	\$6,262,119	\$6,441,561	\$6,504,159
TOTAL COSTS FOR DEMONSTRATION	\$17,801,051	\$17,082,301	\$17,492,794	\$17,891,770	\$18,404,459	\$18,583,313

TOTAL PROGRAM COSTS (State Plan + Demonstration)	\$442,742,572	\$463,520,274	\$530,412,413	\$608,932,680	\$701,468,997	\$798,828,190
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Total Federal Title XXI Funding Currently Available (Allotment + Reallocated Funds)	\$312,827,911	\$216,772,159	\$185,092,631	\$195,529,393	\$190,448,464	\$164,291,461
Total Federal Title XXI Program Costs (State Plan + Demonstration)	\$389,613,464	\$354,593,010	\$344,768,068	\$395,806,242	\$455,954,848	\$519,238,323
Unused Title XXI Funds Expiring (Allotment or Reallocated)						
Remaining Title XXI Funds to be Carried Over (Equals Available Funding - Costs - Expiring Funds)	-\$76,785,552	-\$137,820,851	-\$159,675,438	-\$200,276,849	-\$265,506,384	-\$354,946,863

Demonstration No. 21-W-00058/3
FAMIS MOMS and FAMIS Select
Virginia Department of Medical Assistance Services

COMPLIANCE WITH SPECIAL TERMS AND CONDITIONS

I. PREFACE

The following documents compliance with the Special Terms and Conditions (STCs) for the Virginia FAMIS MOMS and FAMIS Select programs, a Children’s Health Insurance Program (CHIP) Section 1115 Demonstration, during the Demonstration renewal period beginning July 1, 2016. The referenced STCs became applicable effective June 28, 2016, superseding previous STCs. The STCs are arranged into the following subject areas: Program Description and Objectives, General Program Requirements, General Reporting Requirements, Eligibility and Enrollment, Benefits, Cost Sharing, Delivery System, Evaluation of the Demonstration, and General Financial Requirements for FAMIS MOMS (Demonstration population 1) and FAMIS Select (Demonstration population 2).

II. PROGRAM DESCRIPTION AND OBJECTIVES

Current Status: The Demonstration provides coverage for two populations: (1) uninsured pregnant women in families with income from 143 percent up to and including 200 percent of the federal poverty level (FPL) through the FAMIS MOMS program, and (2) children ages 0 through 18, in families with income from 143 percent up to and including 200 percent of FPL, who are otherwise eligible for direct CHIP coverage, through a premium assistance program known as FAMIS Select.

The FAMIS MOMS component of the Demonstration has continued to cover pregnant women without creditable coverage in families with income from 143 percent up to and including 200 percent FPL. Coverage of lawfully residing pregnant women is consistent with the guidance set forth in the CMS State Health Official letter (SHO #10-006) dated 7/1/2010. Coverage for this population is applicable only for periods when Medicaid coverage of lawfully residing pregnant women is also in effect. Effective April 3, 2015, FAMIS MOMS coverage was expanded to include pregnant women with access to state employee health benefit coverage, in accordance with the hardship exception as provided in section 2110(b)(6)(C) of the Social Security Act (the Act), thereby aligning coverage for pregnant women with the expansion of CHIP coverage to children of state employees, which was effective January 1, 2015. FAMIS MOMS coverage is the same as that provided to pregnant women under the Medicaid State Plan. Under the Demonstration, Virginia also deems infants born to FAMIS MOMS to be eligible for Medicaid or CHIP coverage, as appropriate. These infants are deemed eligible on the date of birth and remain eligible until attaining the age of 1 unless, after a reasonable opportunity period, the

Agency fails to obtain evidence to satisfy documentation of citizenship under 42 CFR 435.407(c)(1) and (2), and identity under 42 CFR 435.407(e) and (f).

The FAMIS Select program has continued to provide uninsured children in families with income from 143 percent up to and including 200 percent FPL, who would otherwise be eligible for direct CHIP coverage, with the option to receive premium assistance for private or employer-sponsored insurance and supplemental immunization benefits. These individuals retain the right to elect to receive direct CHIP coverage at any time.

Historical Background: The Virginia FAMIS MOMS and FAMIS Select Demonstration was initially approved on June 30, 2005, and implemented August 1, 2005. The Demonstration was most recently renewed for the period July 1, 2016 through June 30, 2019.

Effective October 1, 2013, the Demonstration was amended to use the modified adjusted gross income (MAGI)-based methodology in eligibility determinations for all new applicants. The upper income limit associated with implementing MAGI rules was set at 210 percent FPL for the FAMIS MOMS group. This income eligibility level was in place through the remainder of calendar year 2013. Beginning January 1, 2014, the waiver was amended to phase out the FAMIS MOMS program subsequent to action by the Virginia General Assembly. An amendment was later submitted on August 20, 2014, seeking approval to reinstate enrollment in FAMIS MOMS, pursuant to General Assembly action; this was approved with an effective date of November 1, 2014. Virginia continued to use the MAGI-based methodology for determining income eligibility for FAMIS MOMS, with an upper income level of 200 percent FPL. This income eligibility range aligns with children's coverage levels under the CHIP program.

Under the Demonstration, FAMIS MOMS continued to provide health care benefits that are identical to those provided to pregnant women under the Medicaid State Plan, including the addition of comprehensive dental services as approved in April 2015. Also in April 2015, Virginia began to allow FAMIS MOMS enrollment of state employees and dependents that have access to subsidized health insurance, if otherwise eligible. In April 2017, outpatient substance abuse treatment services were expanded to include intensive outpatient, partial hospitalization, medication-assisted treatment, and case management. Peer support services were added in July 2017. In addition, the prior authorization requirement for outpatient mental health services was removed.

The FAMIS Select premium assistance program continued with no changes. Wrap-around coverage continued to be provided for immunizations only.

III. GENERAL PROGRAM REQUIREMENTS

1. **Compliance with Federal Non-Discrimination Statutes.** Virginia complies with all applicable federal statutes relating to non-discrimination. These include, but are not limited to, the Americans with Disabilities Act of 1990, Title VI of the Civil Rights Act

of 1964, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975.

2. **Compliance with Medicaid and Children’s Health Insurance Program (CHIP) Law, Regulation, and Policy.** All requirements of the Medicaid and CHIP programs expressed in law, regulation, and policy statement, not expressly waived or identified as not applicable in the waiver and expenditure authority documents (of which the terms and conditions are part) were applied to the Demonstration.
3. **Changes in Medicaid and CHIP Law, Regulation, and Policy.** CMS has not notified the Commonwealth of any applicable changes to these Special Terms and Conditions that would require actions to come into compliance with federal law, regulation, or policy.
4. **Impact of Changes in Federal Law, Regulation, and Policy on the Demonstration.** No change in federal law, regulation, or policy required either a reduction or an increase in federal financial participation (FFP) for expenditures made under this Demonstration. There were no changes in federal law mandating state legislative changes during the Demonstration period.
5. **State Plan Amendments.** No population eligible through the Medicaid State Plan or CHIP State Plan was affected by changes to the Demonstration during this Demonstration period; therefore no conforming amendments to a state plan were required. The Commonwealth is not required to submit Title XIX or Title XXI State Plan Amendments for changes affecting any populations made eligible solely through the Demonstration.
6. **Changes Subject to the Amendment Process.** No changes subject to the Demonstration amendment process were made to the Demonstration during the renewal period.
7. **Amendment Process.** No Demonstration amendments were submitted during the renewal period.
8. **Extension of the Demonstration.** The Governor of Virginia submitted a Demonstration extension application to the Secretary of Health and Human Services on December 26, 2018. The application was withdrawn on January 11, 2019, and revised to provide additional information and clarity on how demonstration objectives have been met, how the demonstration will be evaluated for continued success, and actual and projected program enrollment and costs. The revised extension application is being submitted to CMS on or before April 30, 2019, after the close of an additional public comment period and tribal comment period. The Demonstration extension application provides documentation of compliance with the following:

- a. **Demonstration Summary and Objectives:** The Demonstration extension application provides a historical narrative summary of the Demonstration project and reiterates the objectives set forth at the time the Demonstration was proposed. The application, and accompanying interim evaluation, provide evidence of how these objectives have been met as well as future goals of the program.
- b. **Changes to the Demonstration Design:** The Demonstration extension application notes that no changes are being proposed to the Demonstration design.
- c. **Special Terms and Conditions (STCs):** This section of the application documents compliance with the STCs.
- d. **Waiver and Expenditure Authorities:** The Demonstration extension application notes that Virginia is requesting the same waiver and expenditure authorities as those approved in the current Demonstration. For these populations, all CHIP and Medicaid rules not expressly waived or identified as not applicable, apply. The following Title XXI requirements are not applicable for the FAMIS MOMS and FAMIS Select Demonstration:
 - i. *General Requirements, Eligibility and Outreach (Section 2102)*
The Commonwealth's Children's Health Insurance Program (CHIP) is not required to reflect the Demonstration populations, and eligibility standards need not be limited by the general principles in section 2102(b) of the Act. To the extent other requirements in section 2102 of the Act duplicate Medicaid or other CHIP requirements for these or other populations, they do not apply, except that Virginia performs eligibility screening to ensure that the Demonstration populations do not include individuals otherwise eligible for Medicaid.
 - ii. *Cost Sharing (Section 2103(e))*
Rules governing cost sharing under § 2103(e) of the Act do not apply to the FAMIS Select population to the extent necessary to enable Virginia to impose cost sharing in private or employer-sponsored insurance plans.
 - iii. *Cost-Sharing Exemption for American Indian / Alaska Native (AI/AN) Children (Section 2102(b)(3)(D); 42 CFR § 457.535)*
Virginia is permitted to impose cost sharing on AI/AN children who elect to participate in the premium assistance program.
 - iv. *Benefit Package Requirements (Section 2103)*
Virginia is permitted to offer a benefit package that does not meet the requirements of section 2103 at 42 CFR §457.4 10(b)(1) for the Demonstration populations.

v. *Federal Matching Payment and Family Coverage Limits (Section 2105)*

Federal matching payment in excess of the 10 percent cap on expenditures related to the Demonstration population and limits on family coverage are not applicable to the Demonstration population.

vi. *Newborn deeming (Section 1902(a)(46) and 2102(b)(2))*

Certain provisions are waived to enable the Commonwealth to consider children who are born to pregnant women enrolled in the Demonstration, or who are eligible as targeted low-income children under the approved CHIP state plan, to have applied and been determined eligible for Medicaid or CHIP on the date of birth and remaining eligible until attaining the age of 1.

- e. **Quality:** A summary of the most recent focused study conducted by the External Quality Review Organization is provided in the Demonstration extension application submission.
 - f. **Financial Data:** Financial data demonstrating historical and projected expenditures are provided with the Demonstration extension application submission.
 - g. **Evaluation Report:** A narrative summary of the evaluation design and status (including evaluation activities and findings to date) is provided with the Demonstration extension application.
 - h. **Compliance with Public Notice Process:** A summary of the public notice process described in § 431.408, including a report of the issues raised during the comment period and how Virginia considered the comments in developing the extension application, is included in the Demonstration extension application.
9. **Demonstration Phase-Out.** Virginia does not plan to suspend or terminate this Demonstration, in whole or in part, prior to the expiration date.
10. **Enrollment Limitation During Demonstration Phase-Out.** Virginia anticipates that this Demonstration will be extended. Enrollment will be suspended if CMS notifies Virginia in writing that the Demonstration will not be renewed.
11. **CMS Right to Terminate or Suspend.** CMS has not suspended or terminated the Demonstration (in whole or in part).
12. **Finding of Non-Compliance.** CMS has not found that Virginia materially failed to comply with Demonstration requirements.

13. **Withdrawal of Waiver Authority.** CMS has not withdrawn waiver or expenditure authorities.
14. **Adequacy of Infrastructure.** Virginia has made available adequate resources for implementation and monitoring of the Demonstration, including education, outreach, and enrollment; maintaining eligibility systems; compliance with cost-sharing requirements; and reporting on financial and other Demonstration components.
15. **Public Notice, Tribal Consultation, and Consultation with Interested Parties.** No program changes to the Demonstration are proposed by the Commonwealth. However, in the event that program changes are proposed, Virginia will comply with State Notice Procedures set forth in 59 Fed. Reg. 49249 (September 27, 1994). The Commonwealth will also comply with the tribal consultation requirements in section 1902(a)(73) of the Act as amended by section 5006(e) of the American Recovery and Reinvestment Act (ARRA) of 2009, the implementing regulations for the Review and Approval Process for Section 1115 demonstrations at 42 CFR 431.408, and the tribal consultation requirements contained in the Commonwealth's approved CHIP State Plan. For the Demonstration renewal application, consultation with Virginia's federally recognized Indian tribes has been conducted in accordance with the Commonwealth's Medicaid State Plan. Virginia has no Indian health programs or urban Indian organizations.
16. **Federal Financial Participation (FFP).** No federal matching funds for expenditures for this Demonstration were requested for this demonstration period prior to the effective date identified in the demonstration approval letter.

IV. GENERAL REPORTING REQUIREMENTS

17. **Monitoring Calls.** CMS and the Commonwealth held monitoring calls as needed to discuss issues associated with the continued operation of the Demonstration.
18. **Post Award Forum.** During the current demonstration period, the Commonwealth has afforded the public a regular opportunity to provide meaningful comment on the progress of the Demonstration. In conjunction with public meetings of the CHIP Advisory Committee (CHIPAC), which are convened quarterly by DMAS, the agency has presented Demonstration outcomes data measured through the Birth Outcomes Study and has provided regular updates on the FAMIS MOMS and FAMIS Select programs. CHIPAC's role is to assess the policies, operations, and outreach efforts for DMAS' programs for children and pregnant women and to evaluate enrollment, utilization of services, and health outcomes for these programs. Milestones, concerns, and challenges in the operation of FAMIS MOMS and FAMIS Select are discussed in this forum, and public comment is invited at every meeting. DMAS provides Demonstration outcomes data to the Committee that is presented and discussed in a quarterly dashboard at each meeting.

Due to significant staff changes during the current demonstration period, detailed reports and public comments specific to the Demonstration have not been compiled and are not available at this time; however, all CHIPAC meeting minutes are posted publicly on the Virginia Regulatory Town Hall website and can be viewed at <http://townhall.virginia.gov/>.

In accordance with 42 CFR 431.420(c), the Commonwealth will hold a post-award forum within six months of the Demonstration's renewal and annually thereafter and will document these forums and provide this information in quarterly and annual reports to CMS. The Commonwealth will include a summary of the comments and issues raised by the public at these forums and include the summary in the quarterly report, as specified in STC 19, associated with the quarter in which the forum was held. The Commonwealth will also include the summary in its annual report as required in STC 20.

19. **Quarterly Reports.** Virginia's Annual Report for state fiscal year 2018, which also serves as the quarterly report for the fourth quarter of the 2018 demonstration year, was submitted in December 2018. Enrollment data are entered into the Statistical Enrollment Data System within 30 days after the end of each quarter. In addition, Virginia provides enrollment data in the written report format agreed to by CMS and the Commonwealth.
20. **Demonstration Annual Report.** Virginia submitted an annual report for both programs, FAMIS MOMS and FAMIS Select, in August 2017 for the period July 2016 through June 2017. Virginia submitted an annual report for the period July 2017 through June 2018 in December 2018.
21. **Final Demonstration Report.** Virginia proposes to extend the Demonstration so does not plan to submit a final report at this time.

V. ELIGIBILITY AND ENROLLMENT

22. **Eligibility Groups Affected by the Demonstration.** There are two populations eligible under this Demonstration:

FAMIS MOMS. Coverage is provided to uninsured pregnant women in families with income from 143 percent FPL up to and including 200 percent FPL, including those women lawfully residing in the United States. FAMIS MOMS coverage is also provided to pregnant women with access to state employee health benefit coverage (in accordance with the hardship exception as provided in section 2110(b)(6)(C) of the Act), thereby aligning the Commonwealth's coverage of pregnant women with the expansion of CHIP coverage to children of state employees. FAMIS MOMS coverage is the same as that provided to pregnant women under the Medicaid State Plan. Pregnant women are

eligible for the duration of their pregnancy and for 60 days after the pregnancy ends, plus any remaining days in the month in which the 60th day falls.

Under the Demonstration, Virginia is also authorized to deem infants born to FAMIS MOMS to be eligible for Medicaid or CHIP coverage, as appropriate. These infants are deemed eligible on the date of birth and remain eligible until attaining the age of 1.

FAMIS Select. Children eligible for Virginia’s separate CHIP program may enroll in FAMIS Select and receive CHIP premium assistance payments to purchase individual or employer-sponsored insurance (ESI), with wrap-around immunization benefits. Such enrollment is voluntary and based on informed choice regarding all implications of choosing premium assistance in lieu of direct CHIP State Plan coverage, including the possibility of reduced benefits and increased cost-sharing, and that the CHIP cost-sharing limit of 5 percent on annual, aggregate cost-sharing will not apply. The Commonwealth ensures that enrollees are annually notified that they may choose direct coverage at any time. The Commonwealth informs families that all age-appropriate immunizations in accordance with the recommendations of the Advisory Committee on Immunization Practices (ACIP) are covered by CHIP if their individual or ESI coverage does not provide for such immunizations. Families are informed that this coverage is a factor to consider in choosing individual or ESI. The Commonwealth provides information as to where children may receive immunizations in the event these services are not covered in the employer-sponsored plan or individual health plan in which they are enrolled. In the case of Title XXI eligibles whose employer or individual insurance does not include immunizations, the Commonwealth has an established mechanism in effect to reimburse providers for the cost of immunizations.

23. **Application of Modified Adjusted Gross Income (MAGI).** The state maintained its converted eligibility standards and methodologies for all eligibility groups subject to MAGI through the State Plan effective January 1, 2014.
24. **Screening for Medicaid.** Virginia continued to screen all applicants for the Demonstration for Medicaid eligibility. Demonstration applicants eligible for Medicaid are enrolled in Medicaid and receive the full Medicaid benefit package.
25. **Enrollment Limits.** There is no enrollment cap for FAMIS MOMS and FAMIS Select. Enrollment in a private or employer-sponsored plan is voluntary, and the child may elect to switch from FAMIS Select back to direct FAMIS coverage at any time.
26. **Applicability of Title XXI Maintenance of Effort to Demonstration Populations.**
Demonstration Population 1 (FAMIS MOMS): This provision is not applicable to pregnant women. The Commonwealth will notify CMS 60 days in advance of any such action. Demonstration Population 2 (FAMIS Select): The maintenance of effort provision at section 2105(d)(3) of the Act requires that, with certain exceptions, as a

condition of receiving federal financial participation for Medicaid, states must maintain CHIP “eligibility standards, methodologies, and procedures” for children that are no more restrictive than those in effect on March 23, 2010. The Commonwealth has complied with these requirements.

VI. BENEFITS

27. **Demonstration Benefits.** There are two distinct benefit packages offered under this demonstration:

FAMIS MOMS Coverage. FAMIS MOMS receive the same benefits as pregnant women under the approved Medicaid State Plan.

FAMIS Select Premium Assistance. For children whose families choose to receive coverage through the premium assistance program, the benefit package available through the private or employer-sponsored insurance plan is the benefit package delivered, along with wrap-around benefits for immunizations, if necessary.

28. **Cost Effectiveness.** Consistent with 2105(c)(3) of the Social Security Act, cost-effectiveness for the purchase of employer-sponsored insurance has been determined, relative to the amount of expenditures under the State Children’s Health Insurance Plan that the state would have made to provide comparable coverage to the targeted low-income child or family involved.

29. **Minimum Essential Coverage (MEC).** CMS has determined that coverage provided to pregnant women and newborn children under the FAMIS MOMS component of the demonstration is recognized as Minimum Essential Coverage (MEC). CMS has concluded that the Commonwealth’s coverage provided under the FAMIS Select component of the Demonstration is not recognized as MEC.

VII. COST SHARING

30. **Cost Sharing.** DMAS has stipulated the following cost-sharing requirements for this demonstration:

FAMIS MOMS Coverage. The cost-sharing requirements for the FAMIS MOMS component of the Demonstration are consistent with those described in the Title XIX State Plan. There are no premiums or enrollment fees. Co-payments for services received by FAMIS MOMS are identical to co-payments required of pregnant women covered by Medicaid. By policy, there are no co-payments required for pregnancy-related services or for medical conditions that may complicate the pregnancy, including dental services. Also, it is a contractual requirement that managed care organizations (MCOs) may not charge pregnant women co-payments for any services. Therefore, the

only co-payments that may be charged to a pregnant woman receiving services through Medicaid or FAMIS MOMS would be for non-pregnancy-related services delivered through fee-for-service.

FAMIS Select Premium Assistance. For children whose families choose to receive coverage through premium assistance, cost-sharing requirements continue to be set by their private or employer-based coverage.

VIII. DELIVERY SYSTEM

31. **Demonstration Delivery System.** The Demonstration delivery system varies by population, as described below:

- a. **FAMIS MOMS** - Health care services are delivered primarily through one of the MCOs contracted by DMAS to provide Medicaid and FAMIS benefits. Initially, benefits are provided on a fee-for-service basis until the pregnant woman is enrolled in an MCO. Dental services are provided by the contracted Smiles for Children service provider, DentaQuest.
- b. **FAMIS Select Premium Assistance** - For families who select premium assistance, health care services are delivered through the individual or ESI plan of choice. For these families, the Commonwealth only provides a monthly per-child subsidy payment to help cover the cost of insurance premiums.

IX. EVALUATION OF THE DEMONSTRATION

32. **Submission of an Updated Evaluation Design Subject to CMS Approval.** The Commonwealth submitted a draft evaluation design subsequent to CMS approval of the renewal application for the 2016-19 Demonstration period. The draft evaluation design discussed outcome measures that would be used in evaluating the impact of the Demonstration during the period of approval, the data sources and sampling methodology for assessing these outcomes, and other required design components. In response to CMS recommendations, the Commonwealth is submitting a revised evaluation design with this renewal application. To the extent applicable, the following items are specified for each design option considered:

- i. Quantitative or qualitative outcome measures;
- ii. Proposed baseline and/or control comparisons;
- iii. Proposed process and improvement outcome measures and specifications;
- iv. Data sources and collection frequency;
- v. Robust sampling designs;
- vi. Cost estimates;

vii. Timelines for deliverables.

33. **Cooperation with Federal Evaluators.** Should CMS undertake an evaluation of any component of the Demonstration, the Commonwealth shall cooperate fully with CMS or the evaluator selected by CMS. In addition, the Commonwealth shall submit the required data to CMS or its contractor.
34. **Final Evaluation Design and Implementation.** CMS shall provide comments on the revised evaluation design described in STC 32. The Commonwealth shall implement the revised evaluation plan within 60 days of CMS' approval of the final evaluation design. The Commonwealth will report evaluation activities in quarterly and annual progress reports described in STC 19 and 20. The evaluation design may be revised during the Demonstration approval period as needed or required by the STCs.
35. **Interim Evaluation Report.** The Commonwealth is submitting an interim evaluation report to CMS as part of its request to extend the Demonstration. The interim evaluation report discusses evaluation progress and presents findings to date.
36. **Final Evaluation Report.** The Commonwealth must submit to CMS a draft of the evaluation final report within 60 days prior to the expiration of the Demonstration. The Commonwealth will take into consideration CMS' comments for incorporation into the final evaluation report. The final evaluation report is due to CMS no longer than 60 days after receipt of CMS' comments.

X. GENERAL FINANCIAL REQUIREMENTS

Virginia continues to report Demonstration expenditures through the Medicaid and State Children's Health Insurance Program Budget and Expenditure System (MBES/CBES), following routine CMS-21 reporting instructions as outlined in section 2115 of the State Medicaid Manual. Title XXI Demonstration expenditures are reported on separate Forms CMS-21 Waiver and/or CMS-21P Waiver, identified by the Demonstration project number assigned by CMS (including project number extension, which indicates the Demonstration year in which services were rendered or for which capitation payments were made). Virginia continues to identify the program code and coverage (children or adults) on the appropriate waiver forms.

37. **General Financial Requirements.** The Commonwealth complies with all general financial requirements under Title XXI as set forth in Attachment A of the STCs.
38. **Administrative Costs.** Administrative costs are not included in the allotment neutrality limit, but the Commonwealth will separately track and report additional administrative costs that are directly attributable to the Demonstration, using Forms CMS-64.10 Waiver and/or 64.10P Waiver, with waiver name "ADM."

39. **Extent of Federal Financial Participation (FFP) for the Demonstration.** Subject to CMS approval of the source(s) of the non-federal share of the funding, CMS will provide FFP at the applicable federal matching rate for the Demonstration as outlined below, subject to the Commonwealth's Title XXI allotment limit:
- a. Administrative costs, including those associated with the administration of the Demonstration.
 - b. Net expenditures and prior period adjustments of the Medicaid or CHIP program that are paid in accordance with the approved state plans.
 - c. Medical Assistance expenditures made under Section 1115 demonstration authority, including those made in conjunction with the Demonstration, net of enrollment fees, cost-sharing, pharmacy rebates, and all other types of third-party liability or CMS payment adjustments.
40. **Sources of Non-Federal Share.** Virginia continues to certify Commonwealth/local monies used as matching funds for the Demonstration and certifies that such funds are not used as matching funds for any other federal grant or contract, except as permitted by federal law. All sources of non-federal funding are compliant with section 1903(w) of the Act and applicable regulations.
41. **Title XXI Limits.** Virginia has not expended its available Title XXI federal funds for any claiming period.
42. **Administrative Costs.** Total expenditures for outreach and other reasonable costs to administer the Title XXI State Plan and the Demonstration renewal that are applied against Virginia's Title XXI allotment have not exceeded 10 percent of total Title XXI expenditures.
43. **Claiming Period.** Virginia makes all claims for expenditures related to the Demonstration (including any cost settlements) within 2 years after the calendar quarter in which the Commonwealth made the expenditures. All claims for services during the Demonstration period (including cost settlements) will be made within 2 years after the conclusion or termination of the Demonstration. During the latter 2-year period, the Commonwealth will continue to identify separately, on the Form CMS-21, net expenditures related to dates of service during the operation of the Demonstration.
44. **Standard CHIP Funding Process.** The standard CHIP funding process continued to be used during the Demonstration period. Virginia continues to estimate matchable CHIP expenditures on the quarterly Form CMS-21B. Virginia provided updated estimates of expenditures for the Demonstration population on a separate CMS-21B. Within 30 days

after the end of each quarter, Virginia submits the Form CMS-21 quarterly CHIP expenditure report.

45. **Risk.** If Virginia exhausts the available Title XXI federal funds in a federal fiscal year during this renewal period of the Demonstration, the Commonwealth will continue to provide coverage to the approved Title XXI State Plan separate child health program population and the Demonstration population(s) with Commonwealth funds.

46. **Enrollment Limits.** Virginia has not set any enrollment limits during this Demonstration period and does not plan to do so during the renewal period.

INTERIM EVALUATION REPORT

Virginia Title XXI Section 1115 Demonstration: FAMIS MOMS and FAMIS Select

Project Number **21-W-00058/3**

Demonstration Period July 1, 2016 through June 30, 2019

Interim Evaluation Period July 1, 2016 through June 30, 2018

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**Virginia Title XXI Section 1115 Demonstration:
FAMIS MOMS and FAMIS Select**

Project Number 21-W-00058/3

Demonstration Period July 1, 2016 through June 30, 2019

Interim Evaluation Period July 1, 2016 through June 30, 2018

Executive Summary

Virginia's Title XXI Section 1115 Demonstration has two components. First, it expands Title XXI (CHIP) coverage to uninsured pregnant women with family income up to 200% of the federal poverty level (FPL) who are not eligible for Medicaid, through a program known as FAMIS MOMS. Second, it uses Title XXI funds to support a health insurance premium assistance program known as FAMIS Select. Virginia's Title XXI Section 1115 Demonstration was approved for a three-year extension for the period July 1, 2016, through June 30, 2019. This evaluation report provides a summary of findings for the initial portion of the extension period.

The Demonstration continues to offer health coverage options for pregnant women and families with children in population groups with high rates of uninsurance. Virginia is comparable to the United States population as a whole on overall rates of insurance coverage. However, a smaller proportion of the Commonwealth's population is covered through Medicaid and CHIP, and there remains a substantial uninsured population. The uninsurance rate for low-income Virginians just above the income level that would qualify them for Medicaid is approximately 150% of that for Virginians overall. Although uninsurance among children is lower than for the general population, Virginia's low-income children continue to have higher rates of uninsurance than their peers. In addition, adults in the child-bearing age group are more likely than other age groups to be uninsured.

Enrollment of new applicants in the FAMIS MOMS program was suspended January through November 2014 and reinstated December 1, 2014. After enrollment was reinstated, the number of women participating increased steadily, and currently stands at a monthly average enrollment of 1,152 for state fiscal year 2018. During the Demonstration period thus far, the FAMIS MOMS program has continued to accomplish its goal of providing quality prenatal care to participating uninsured women living within the Title XXI income range and likely to give birth to a FAMIS-eligible child. Quality indicators associated with birth outcomes demonstrated that pregnant women served by the FAMIS MOMS program had better results on many health and access indicators than women in the comparison group. This held true for adequacy of prenatal care, rates of premature birth and low birthweight, and newborn visits to the emergency department.

Participation in FAMIS Select has continued to decline. This is likely due, at least in part, to changes in employer-sponsored insurance options. From 2005 to 2017, the percentage of Virginia workers in establishments that offered employer-sponsored health insurance benefits

decreased. The combination of reduced offerings, more stringent criteria to be eligible for employer-sponsored insurance, and increased cost to employees has contributed to an overall drop in the proportion of Virginia workers who choose employer-based coverage.

Despite declining enrollment, the FAMIS Select program continued to accomplish its goal of providing a streamlined and cost-effective alternative to the standard FAMIS program. In state fiscal year 2018, the average per enrollee per month cost for FAMIS was \$230.37, while that for FAMIS Select was \$92.73; the difference of \$137.64 represents overall annualized savings of \$133,789.

Changes to the Demonstration were approved most recently in April 2015, to allow state employees who otherwise qualify to enroll in FAMIS MOMS, and to add coverage for dental services for FAMIS MOMS to reflect benefits offered to pregnant women in Medicaid. These changes will continue to enhance participation and quality of care.

The results of this interim evaluation indicate that Virginia's Title XXI Section 1115 Demonstration adds value while improving access and outcomes for vulnerable populations, and should be continued. Trends in private and employer-sponsored insurance markets should continue to be monitored for impact on FAMIS Select. As opportunities are identified to enhance the Demonstration, appropriate amendments will be submitted.

Background

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

By targeting these two populations—pregnant women with family income up to 200% FPL and income-eligible children with access to employer-sponsored or other private health insurance—Virginia hopes to make progress toward the following goals:

- Facilitate access to prenatal, obstetric, and postpartum care for low-income pregnant women who are not eligible for Medicaid,
- Improve selected birth outcomes of FAMIS MOMS participants and their newborns,
- Improve access to and use of health care services that promote inter-conception health for FAMIS MOMS participants,
- Facilitate access to recommended pediatric primary care for newborns of FAMIS MOMS,
- Facilitate access to affordable private and employer-sponsored health insurance for low-income families through premium assistance,
- Ensure that access to and use of health care services available to children participating in FAMIS Select is comparable to that of children participating in FAMIS,
- Assure the aggregate cost effectiveness of the FAMIS Select program.

The Department of Medical Assistance Services (DMAS) administers the FAMIS MOMS and FAMIS Select Demonstration. The Demonstration was approved most recently for a three-year extension for the period July 1, 2016, through June 30, 2019. This report provides interim evaluation findings for the latter part of the 2013-2016 Demonstration extension period and the beginning of the current 2016-19 Demonstration extension period. DMAS will provide an update to this report upon completion of the *2017-18 Birth Outcomes Focused Study*, scheduled for release in the spring of 2019.

FAMIS MOMS

The intent of this program expansion is to provide prenatal care to uninsured women living within the Title XXI income range and likely to give birth to a FAMIS-eligible child. Virginia implemented the FAMIS MOMS program incrementally beginning August 1, 2005. The final stage, implemented July 1, 2009, covers pregnant women with family income through 200% FPL. Effective July 1, 2010, eligibility requirements were amended to allow enrollment of pregnant women with income below 133% FPL who do not meet eligible requirements for full

Medicaid coverage but do meet the FAMIS MOMS requirements. Coverage was expanded to include otherwise eligible lawfully residing pregnant women July 1, 2012.

In 2013, the Virginia General Assembly adopted an amendment to the biennial budget that directed DMAS to phase out and eliminate the FAMIS MOMS program when health benefits exchange coverage became available in Virginia, in order to remove disincentives for subsidized private healthcare coverage through publicly offered alternatives. Following approval by CMS of an amendment to the demonstration, administrative steps were taken to implement this phase-out by stopping new enrollment (effective January 1, 2014) while maintaining current cases throughout their benefit period (two months postpartum).

The 2014 General Assembly restored funding to support enrollment in FAMIS MOMS, recognizing that many low-income individuals are not eligible for subsidized coverage through the federally facilitated marketplace (FFM) due to family circumstances, application difficulties, and enrollment deadlines. The amended state budget for SFY 2015 was passed and signed in late June 2014. An amendment to the demonstration, reinstating enrollment at an upper income level of 200% FPL (plus a 5% disregard), was subsequently submitted to CMS and approved effective November 1, 2014. The Department began enrolling women in FAMIS MOMS again starting December 1, 2014.

The FAMIS MOMS program provides eligible pregnant women the same comprehensive coverage that pregnant women receive from the Virginia Medicaid program. There is no difference in covered services, service limitations, or pre-authorization requirements. The cost sharing requirements for FAMIS MOMS are consistent with those described in the Medicaid state plan for pregnant women. There are no premiums or enrollment fees, but co-payments apply to services that are not pregnancy-related. The Title XXI cost sharing limits are not applied to FAMIS MOMS. However, consistent with Title XXI requirements, to be eligible for FAMIS MOMS a pregnant woman must be uninsured, a citizen or lawfully residing immigrant, and not an inmate or an inpatient in an institution for mental diseases (IMD).

FAMIS MOMS uses the same health care services delivery systems (fee-for-service and managed care organizations) as FAMIS. All pregnant women are initially enrolled under FFS. Over 90% of women transfer to a managed care organization within two months of enrolling.

FAMIS Select

Virginia implemented the FAMIS Select program beginning August 1, 2005. FAMIS Select replaced the former Employer Sponsored Health Insurance (ESHI) program under the Title XXI state plan and provides an alternative for families with children enrolled in FAMIS who have access to private or employer-sponsored coverage.

All children are first enrolled in FAMIS. With FAMIS Select, the family of a FAMIS-enrolled child may buy into their employer's health insurance program or a private health insurance plan, submit a paystub or other proof of payment to the FAMIS Select program, and be reimbursed \$100 per month, per FAMIS-eligible child, not to exceed the total amount of the premium. The child then receives the health care services provided by the private/employer-

sponsored health plan, and the family is responsible for any cost-sharing requirements associated with that policy. For families with enrolled children who choose to receive coverage through premium assistance, cost-sharing requirements are set by their private or employer-based coverage with no FAMIS wraparound benefits other than immunizations. Virginia has established a mechanism to reimburse providers for the cost of immunizations not covered by the employer or private insurance.

For some families, the FAMIS Select option may make health coverage affordable for the entire household. In other cases, it may allow a child to continue to see a doctor or dentist that does not accept FAMIS, or may enable a family with special health care needs to access a broader choice of providers.

Evaluation Design

A revised Demonstration evaluation plan for the proposed extension period of July 1, 2019 through June 30, 2024, incorporating recommendations from CMS and its evaluation review contractor, accompanies this application for CMS review.

The evaluation plan for the current Demonstration period has three components: (1) monitoring the rate of uninsurance, (2) reporting participation and enrollment trends, and (3) reporting on outcome measures regarding access and outcomes. The Demonstration evaluation will consider the following hypotheses for the two target populations:

FAMIS MOMS

Hypothesis 1 FAMIS MOMS participants will receive early and adequate prenatal care at a higher rate than a comparison group of women in the same income range.

Hypothesis 2 FAMIS MOMS will experience improved birth outcomes compared to women in the same income range. Measured outcomes will include lower rates of early term and preterm births, and lower rates of low birthweight births.

Hypothesis 3 FAMIS MOMS newborns' access to recommended and appropriate health care services will compare favorably to that of newborns in the comparison group.

FAMIS Select

Hypothesis 1 FAMIS Select will increase the number of FAMIS members with access to affordable private and employer-sponsored health insurance through premium assistance.

Hypothesis 2 The FAMIS Select program will be cost-effective for the Commonwealth. Specifically, the cost of providing FAMIS Select premium assistance will be compared to the cost of the standard FAMIS Plan.

DMAS has contracted with Health Services Advisory Group (HSAG) to conduct annual prenatal care and birth outcomes focused clinical studies. The most recent report of these studies, the *2016-17 Prenatal Care and Birth Outcomes Focused Study*, which details the methodology used to measure the FAMIS MOMS outcomes described in this interim evaluation report, is submitted as a separate document.

DMAS enrollment and budget data are used to assess FAMIS Select participation and cost effectiveness. The evaluation in the extension period will be expanded to include a survey

of FAMIS Select participants, as recommended in the interim evaluation.¹

Monitoring the Rate of Uninsurance

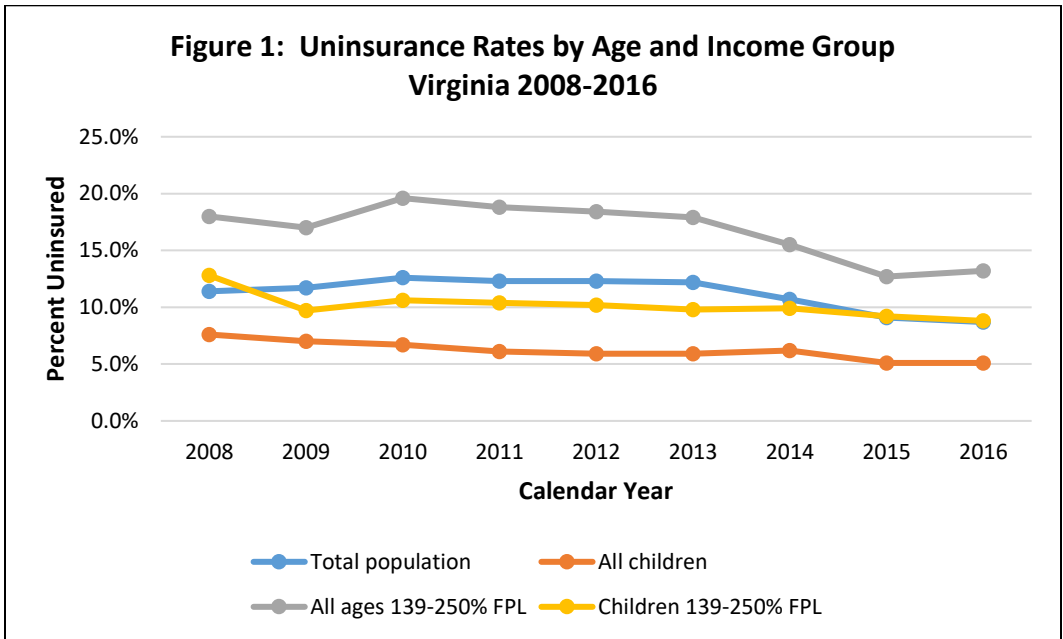
Estimates of uninsurance rates for the overall Virginia population and for the child population in low-income households above the Medicaid income eligibility range (similar to Demonstration population 2, FAMIS Select) are shown in Table 1 and Figure 1.² The uninsurance rate for the overall Virginia population has generally trended downward during the last decade. The uninsurance rate for children through 18 years of age has been consistently lower than that of the population as a whole. Uninsurance rates for the Virginia population with income between 139% and 250% of the federal poverty level were higher than for the population as a whole. In 2016, that gap was 4.5 percentage points; it has ranged from 3.6 to 7.0 percentage points during the time period covered in Table 1. Uninsurance for Virginia children was also significantly elevated in the 139%-250% FPL income range, although child uninsurance has declined in recent years for low-income children and for children overall. The Virginia-wide uninsurance rate for children 0-18 dropped from 7.6% in 2008 to 5.1% in 2016. In the 139-250% FPL income range, the rate dropped from 12.8% to 8.8%.

**Table 1: Uninsured Population Estimates by Age and Poverty Level Groups
Virginia: Calendar Years 2008-2016**

Calendar Year	All ages All income levels	Age 0-18 Yrs All income levels	All ages 139-250% FPL	Age 0-18 Yrs 139-250% FPL
	Percent	Percent	Percent	Percent
2008	11.4	7.6	18.0	12.8
2009	11.7	7.0	17.0	9.7
2010	12.6	6.7	19.6	10.6
2011	12.3	6.1	18.8	10.4
2012	12.3	5.9	18.4	10.2
2013	12.2	5.9	17.9	9.8
2014	10.7	6.2	15.5	9.9
2015	9.1	5.1	12.7	9.2
2016	8.7	5.1	13.2	8.8

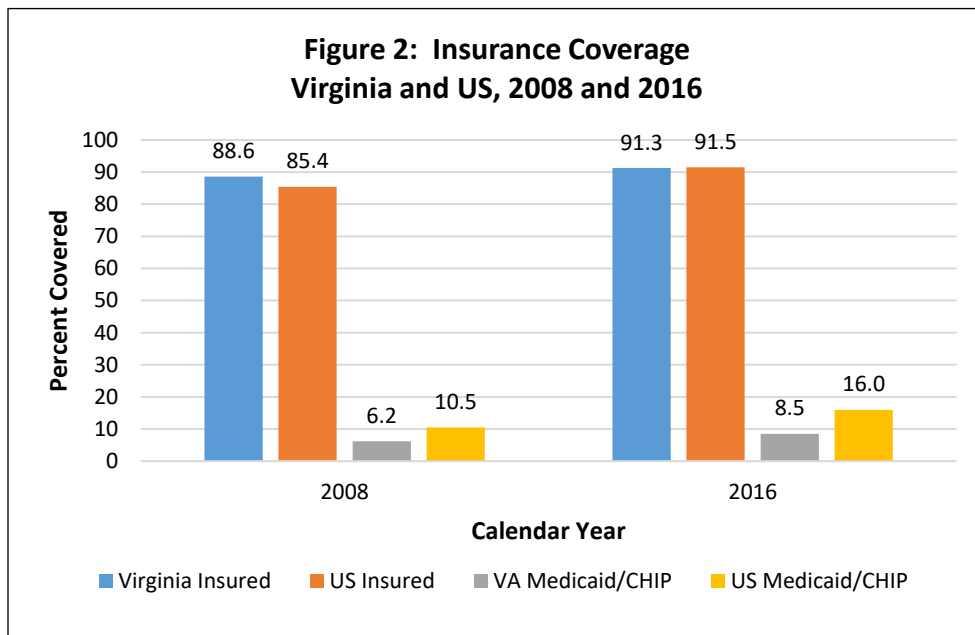
¹ The evaluation for the extension period will include the following additional hypotheses pertaining to FAMIS Select: Hypothesis 3 – Children participating in FAMIS Select will have a high degree of access to health providers and health care services, comparable to that of FAMIS participants. Hypothesis 4 – Families who opt for FAMIS Select will have a high degree of satisfaction with their experience participating in the premium assistance program. Hypothesis 5 – Children participating in FAMIS Select will receive regular preventive care and immunizations, at a rate comparable to FAMIS children. Outcome measures for these hypotheses will be monitored based on self-reported data gathered in a periodic consumer survey.

² Estimates for 2008-2016 made available through the State Health Access Data Assistance Center (SHADAC) analysis of American Community Survey (ACS) Public Use Microdata Sample (PUMS) files. State Health Compare, SHADAC, University of Minnesota, statehealthcompare.shadac.org, accessed October 2018.



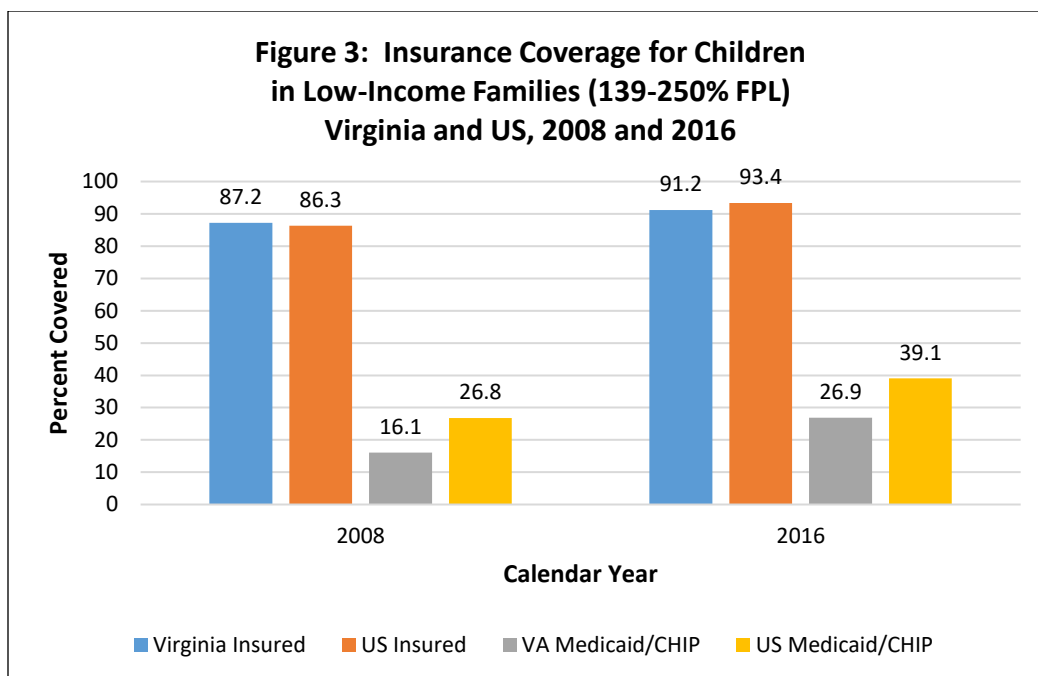
Source: SHADAC analysis of American Community Survey (ACS) Public Use Microdata Sample (PUMS) files, State Health Compare, SHADAC, University of Minnesota, statehealthcompare.shadac.org, accessed October 2018.

Figure 2 compares health insurance coverage and Medicaid/CHIP coverage for Virginians to that of the overall U.S. population in 2008 and 2016, the most recent data analyzed by SHADAC. In 2008, an estimated 88.6% of Virginians were insured, compared to 85.4% in 2016. In 2008, a higher percentage of Virginians were insured than the U.S. population overall, but in 2016, Virginia's insured rate was slightly lower than the U.S. rate. A lower percentage of the Virginia population was covered by Medicaid and CHIP than in the U.S. population overall, and this gap has widened in recent years. In 2008, 6.2% of Virginians were covered by Medicaid or CHIP compared to 10.5% of the U.S. population. In 2016, an estimated 8.5% of Virginians were covered by Medicaid or CHIP compared to 16.0% of the U.S. population. Virginia, like the rest of the country, experienced an increase from 2008 to 2016 in the proportion of the population covered by Medicaid or CHIP.



Source: SHADAC analysis of American Community Survey (ACS) Public Use Microdata Sample (PUMS) files, State Health Compare, SHADAC, University of Minnesota, statehealthcompare.shadac.org, accessed October 2018.

The comparison between Virginia and the U.S. is similar for coverage of children through 18 years of age in families with income between 139% and 250% FPL (Figure 3). Within these low-income families, the increase in the health care coverage rate in recent years was greater for children than for other ages. In 2008, 87.2% of children in these low-income families in Virginia were insured compared to 86.3% in the U.S. population. In 2016, an estimated 91.2% of these children in low-income families in Virginia were insured, compared to 93.4% in the U.S. population. In 2008, 16.1% of Virginia children in this subpopulation were covered by Medicaid or CHIP compared to 26.8% in this subpopulation in the U.S. In 2016, an estimated 26.9% of children in these low-income families in Virginia were covered by Medicaid or CHIP compared to 39.1% in the U.S. overall.

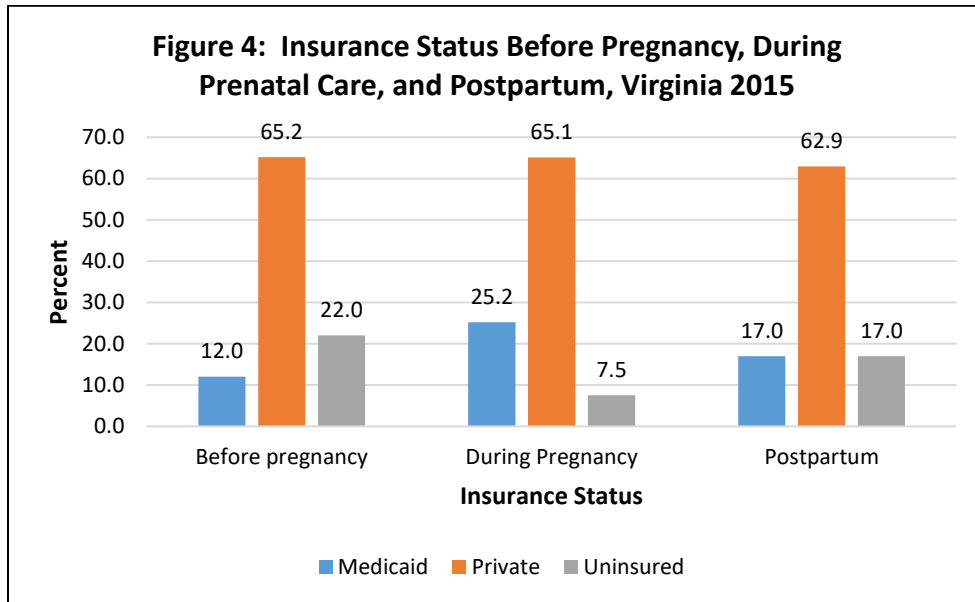


Source: SHADAC analysis of American Community Survey (ACS) Public Use Microdata Sample (PUMS) files, State Health Compare, SHADAC, University of Minnesota, statehealthcompare.shadac.org, accessed October 2018.

According to the SHADAC analysis, the highest rate of uninsurance in Virginia in 2016 was in the 26- to 34-year-old age group (14.8%), followed closely by the adjacent age groups of 35- to 44-year-olds (13.8%) and 19- to 25-year-olds (13.3%). Individuals with income below 200% FPL were found to have significantly higher rates of uninsurance than those with higher income. In addition, Virginia Behavioral Risk Factor Surveillance System (BRFSS) data indicate that 82.1% of women ages 18-44 had insurance coverage in 2012, but coverage was 88.6% among women 45 and older. A VDH study of women’s health indicators using BRFSS data from 2008-2012 showed that by age, women 18-24 were the least likely to have health insurance, with 22% reporting no insurance coverage. FAMIS MOMS provides health coverage for pregnant women in these population groups with persistently high rates of uninsurance.

The Virginia Pregnancy Risk Assessment Monitoring System (PRAMS) provides information about insurance coverage among pregnant women. PRAMS is a survey associated with live births and does not capture information about pregnancies that terminated in a natural fetal death or induced abortion. The PRAMS survey asks women about Medicaid and CHIP coverage at three points in time: prior to pregnancy, for prenatal care, and for delivery. The Virginia PRAMS survey of births that occurred in 2015 estimates that 12.0 percent of women were covered by Medicaid, FAMIS, or FAMIS MOMS before they became pregnant (Figure 4). Private insurance covered 65.2 percent of those surveyed, and 22.0 percent were uninsured. Outreach for FAMIS MOMS to date has targeted women who become eligible for full Medicaid or CHIP coverage only when they are pregnant. The percentage of women covered before pregnancy will likely increase with expanded Medicaid coverage for childless Virginia adults with income under 138% FPL, slated to begin on January 1, 2019.

Medicaid, FAMIS, or FAMIS MOMS paid for prenatal care for 25.2 percent of mothers surveyed. Private insurance covered 65.1 percent, and only 7.5 percent were uninsured. For postpartum care, the percentage of women covered by Virginia’s medical assistance programs remained elevated, at 17.0 percent, compared to 62.9 percent with private insurance and 17.0 percent uninsured.³



Source: Virginia PRAMS data, CDC.gov

Summary

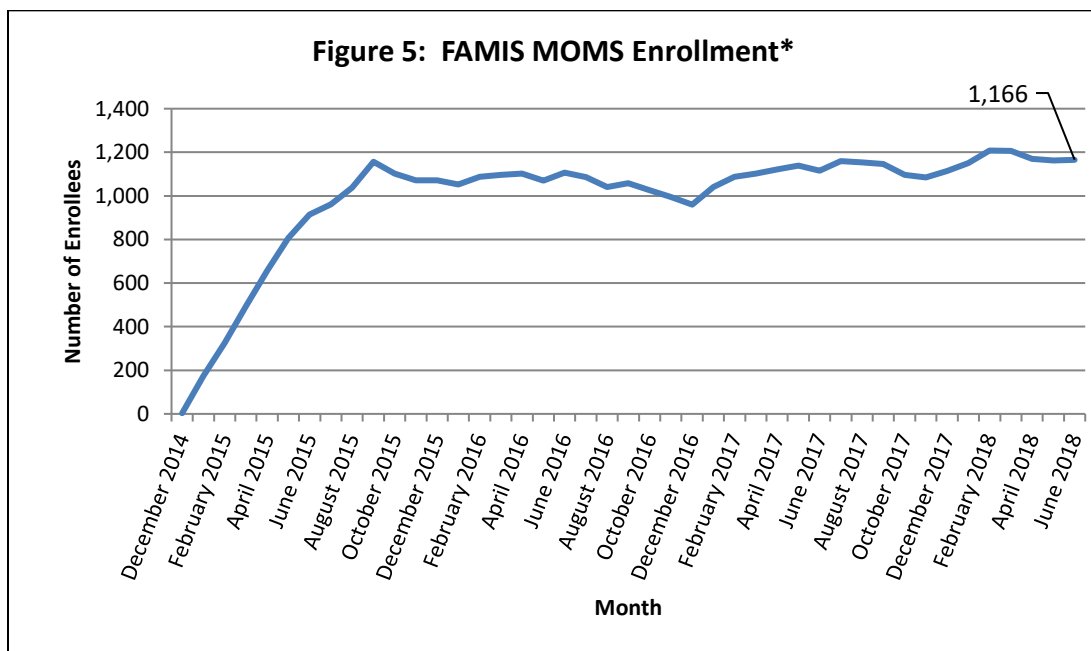
Virginia is comparable to the U.S. population as a whole on rates of insurance coverage but covers a smaller proportion of the population through Medicaid and CHIP. There remains a substantial population that is uninsured. The uninsurance rate for low-income Virginians is significantly higher than that of the population as a whole. Adults in the child-bearing age group are more likely than others to be uninsured. Virginia’s Title XXI Section 1115 Demonstration continues to target pregnant women and families with children in population groups with high rates of uninsurance. Medicaid, FAMIS, or FAMIS MOMS paid for prenatal care for 25.2 percent of pregnant women in Virginia in 2015. Only about 12.0 percent of soon-to-be mothers were covered by Medicaid or FAMIS before they became pregnant, but that number can be expected to increase with next year’s Medicaid expansion.

³ Virginia Pregnancy Risk Assessment Monitoring System (PRAMS). Data from 2015 accessed at CDC.gov, October 2018. <https://www.cdc.gov/prams/pramstat/pdfs/mch-indicators/Virginia-508.pdf>

Participation and Enrollment Trends 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.

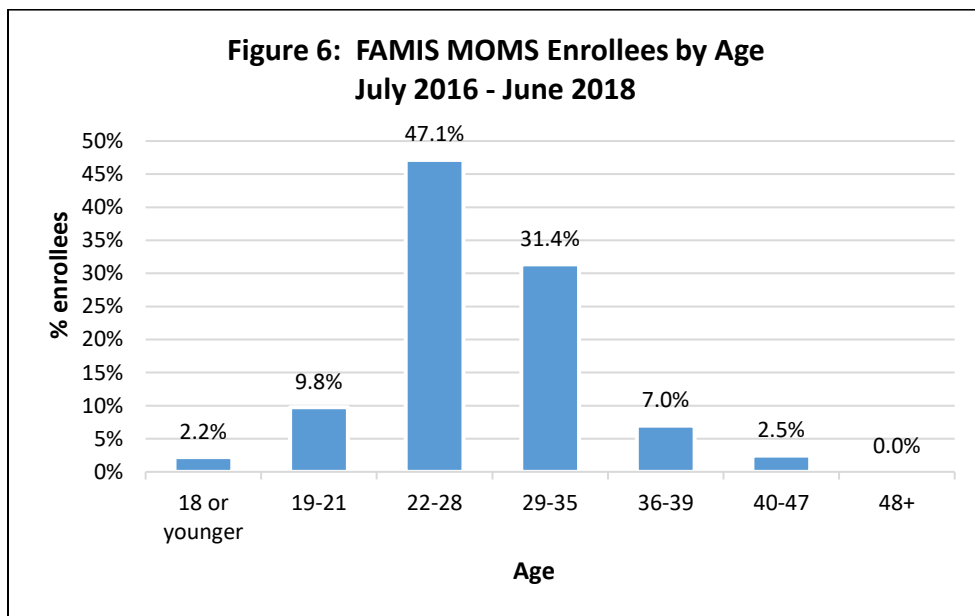
Participation in FAMIS MOMS was stable up to the point when new enrollment was stopped in January 2014. During the period of January 1, 2014 through November 30, 2014, DMAS phased out FAMIS MOMS because the Virginia General Assembly adopted budget language directing DMAS to eliminate the program when health insurance coverage became available through the federally facilitated marketplace. DMAS reinstated enrollment in FAMIS MOMS in December of 2014. As of June 2018, 1,166 women were enrolled. Enrollment has grown over the past year, and average monthly enrollment for SFY 2018 was 1,152, up 8.3% from SFY 2017. Figure 5 shows the trend since enrollment was reinstated.



* Number enrolled the first day of the month

Source: DMAS Recipient file

Between July 2016 and June 2018, 47.1% of women enrolled in FAMIS MOMS were 22 to 28 years of age; 31.4% were 29 to 35 years old; 9.8% of enrollees were 19 to 21 years old; and 7.0% were 36 to 39 years old (Figure 6). As expected, FAMIS MOMS participation continued to be concentrated in the population centers of Northern Virginia, Greater Richmond, and Hampton Roads.



Source: DMAS Recipient file

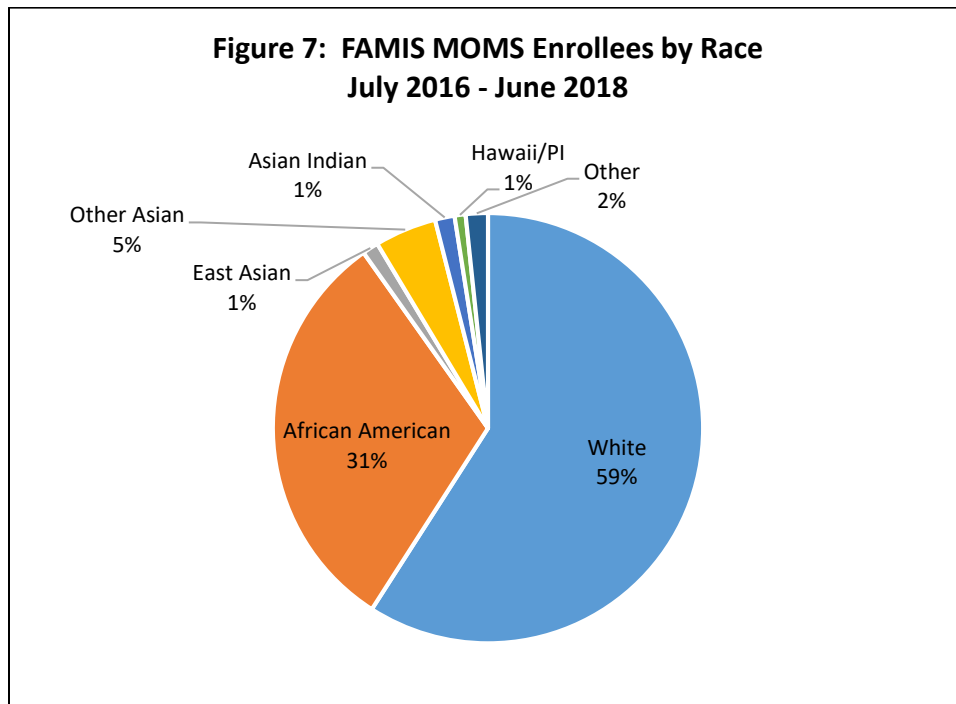
Past Demonstration evaluations have reported on DMAS' outreach efforts to the Commonwealth's growing Hispanic population, including residents whose primary language is Spanish. Between the 2000 and 2010 U.S. Census, the locality with the highest rate of growth was Roanoke, increasing from one to six percent of the population. Other areas of substantial growth included the Northern, Central, and Tidewater cities and counties that have traditionally seen the highest proportion of Hispanic residents.

Since the last interim evaluation report, the proportion of women enrolled in FAMIS MOMS who identified as Hispanic has decreased, from 12% in June 2013 to 8% in March 2015, to 3.4% in the current Demonstration period to date (July 2016-June 2018). DMAS is researching this trend but has been unable to draw conclusions as to whether the decline results from (1) a change in data collection categories and methods (e.g., the shift to VaCMS; the inclusion of a question about Hispanic/Latino ethnicity in the application that is separate from the question about race), (2) reluctance to disclose or collect this optional information at the point of application, (3) declining Hispanic enrollment, possibly due to the cessation of new enrollment in FAMIS MOMS for most of 2014, (4) reduced resources available to conduct targeted outreach to the Spanish-speaking community, and/or other factors.

Through December 2016, two part-time bilingual Outreach Coordinators actively promoted the FAMIS MOMS program to the Hispanic community in Northern Virginia and

Central Virginia. Since then, only one remains in Central Virginia. She has participated in events and festivals aimed specifically at the Hispanic community and leveraged low-cost advertising on Spanish radio in the Richmond region. She also oversees translation, review, and dissemination of Spanish print materials and makes sure translated documents are available in Spanish through the Cover Virginia website for the statewide audience.

As illustrated by Figure 7, 59% of women enrolled in FAMIS MOMS identified their race as white, 31% identified as African American, 1% identified as being of East Asian descent, 1% identified as Asian Indian; and an additional 5% identified as Other Asian. Two percent of enrolled women specified another race or more than one race.



Source: DMAS recipient file

Summary

Participation in FAMIS MOMS was stable up to the point when enrollment was stopped in January 2014. Since enrollment resumed in December 2014, the number of women participating has steadily increased. The steady demand for coverage through FAMIS MOMS and the program's ability to rebound from challenges and continue to attract applicants demonstrates a clear need for this coverage option and underscores the value recognized by providers and community partners who refer women to the program.

Outcome Measures for FAMIS MOMS

Since December 2014, when DMAS reinstated FAMIS MOMS enrollment, significant work has taken place to support the goal of facilitating access to prenatal care and improving birth outcomes for all pregnant women, with a particular focus on high-risk women. Quality indicators associated with birth outcomes demonstrate that pregnant women served by the FAMIS MOMS program had better results on many health and access indicators than women in the comparison group. This held true for adequacy of prenatal care, rates of premature birth and low birthweight, and newborn visits to the emergency department.

DMAS has contracted with Health Services Advisory Group (HSAG) to evaluate outcomes for FAMIS MOMS and Medicaid for pregnant women. (Coverage and delivery systems are the same for both programs.) The most recent findings are published in the *2016-17 Birth Outcomes Focused Study*. The HSAG study population consists of pregnant women who were eligible for coverage under the FAMIS MOMS or the Medicaid for pregnant women eligibility category and who were continuously enrolled in a managed care organization (MCO) or the fee-for-service delivery system for at least 43 days prior to, and including, the date of delivery. Enrollment data for the study population was linked to data from birth records to obtain the month prenatal care began, number of prenatal care visits, birth weight and gestational age at delivery, as well as prevalence of PCP visits and ED visits in the first 30 days after birth for newborns born to enrollees. The HSAG study population definition excluded women who enrolled in FAMIS MOMS or an MCO less than 43 days before the date of delivery, because late enrollment affords the delivery system limited opportunity to provide prenatal care and impact pregnancy outcome. A comparison population was identified of women who were enrolled on the day of delivery, but were not consistently enrolled for 43 days prior.

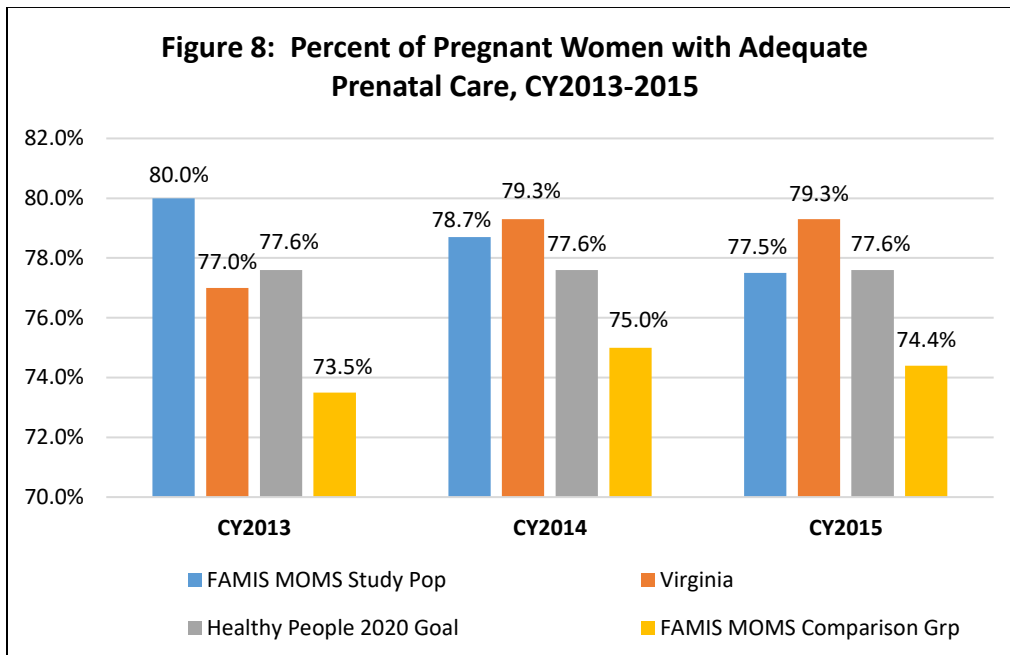
Women who enter prenatal care late or who deliver prematurely are at higher risk for delivering an infant with low birth weight. The data suggest that birth outcomes for pregnant women who were enrolled in a FAMIS MOMS health care delivery system before the last six weeks of their pregnancy were better than birth outcomes for women in the comparison group. The data also indicate that there is room for improvement in bringing birth outcomes for this population closer to rates for all Virginia residents, and for women nationally. A summary of the HSAG study findings specific to FAMIS MOMS and related to the Demonstration hypotheses follows, supplemented by data from other sources.

Hypothesis 1: FAMIS MOMS participants will receive early and adequate prenatal care at a higher rate than a comparison group of women in the same income range.

The HSAG *2016-17 Birth Outcomes Focused Study* evaluated the adequacy of prenatal care for women in the FAMIS MOMS program, i.e., study population (n=816 for 2014; n=930 for 2015), and comparison group (n=28 for 2014⁴; n=211 for 2015) using birth record data and the Kotelchuck Adequacy of Prenatal Care Utilization Index. Prenatal care was defined as adequate if care began in the first trimester of pregnancy *and* the number of prenatal care visits

⁴ Note: Because of the FAMIS MOMS enrollment freeze during most of CY2014, the FAMIS MOMS comparison group for that year is of insufficient size to draw conclusions from the data.

was at least 80% of expected visits, controlling for when care began and gestational age at delivery.⁵ FAMIS MOMS outperformed the comparison group on this measure for 2015 and 2014. The HSAG study found that 77.5% of FAMIS MOMS participants in the study population giving birth in CY2015 received adequate prenatal care, and 78.7% received adequate prenatal care in 2014. Among the comparison group, 74.4% received adequate prenatal care in 2015, and 75.0% received adequate prenatal care in 2014. (See Figure 8.) In CY 2015, a comparable percentage—31.2% of FAMIS MOMS participants in the study group—received “Adequate Plus” prenatal care versus 31.3% of the comparison group.



Sources: Health Services Advisory Group, *2016-17 Birth Outcomes Focused Study*. March of Dimes PeriStats, derived from National Center for Health Statistics Final Natality Data. Healthy People 2020 Goal.

In past evaluation reports, findings were compared with the national Medicaid managed care average for the HEDIS measure “Frequency of Ongoing Prenatal Care.” However, this HEDIS measure was retired by the National Committee for Quality Assurance. In place of the national or state performance data for this HEDIS measure, a benchmark from the Healthy People 2020 Goal is used in the figure above.⁶ The FAMIS MOMS study population outperformed this benchmark of 77.6% in 2013 and 2014, and came within a tenth of a percentage point in 2015. The percentage of all Virginia women giving birth who received adequate prenatal care improved between 2013 and 2015, rising from 77.0% to 79.3%, according

⁵ Data analysis for the HSAG study was based on all prenatal care visits reported on the birth record, including visits prior to enrollment in FAMIS MOMS or an MCO. DMAS program staff and community health care providers have observed that many women initiate prenatal care at a local health department or other safety net provider or under the DMAS fee-for-service delivery system prior to enrolling in an MCO.

⁶ Healthy People 2020. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Accessed October 2018 at <http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>.

to the National Center for Health Statistics.⁷ Neither of these comparison statistics on adequacy of prenatal care is strictly comparable to the HSAG FAMIS MOMS study population. However, taken together these data provide context for assessing the adequacy of prenatal care for women enrolled in FAMIS MOMS relative to that of Virginia's population overall and in comparison to a nationwide benchmark.

Hypothesis 2: FAMIS MOMS will experience improved birth outcomes compared to women in the same income range.

The HSAG 2016-17 *Birth Outcomes Focused Study* evaluated birth outcomes for women in the FAMIS MOMS study population based on birth weight and gestational age from the birth record data. When possible, findings were compared with state and national birth weight and gestational age data or benchmarks.

FAMIS MOMS enrollees will experience lower rates of early term (37-38 weeks gestation) and preterm (less than 37 weeks gestation) births.

Prematurity is the primary risk factor for low birth weight and infant mortality. A preterm birth is defined as a birth delivered at less than 37 completed weeks gestation. Figure 9 compares the rate of preterm births in the FAMIS MOMS study population with that of the comparison group, along with that of all Virginia and United States births of the same year.⁸ Preterm births among the FAMIS MOMS study population compared favorably to the comparison group in CY2015: 9.0% versus 12.3%. The FAMIS MOMS study population also outperformed the overall Virginia rate of 9.3% preterm births.⁹ In the U.S. in 2015, the rate was 9.6% overall and 7.8% for singleton births.¹⁰ This was a significant nationwide improvement from 2013, when the rate was 11.4% overall and 9.7% for singleton births.¹¹

⁷ March of Dimes PeriStats website, derived from National Center for Health Statistics Final Natality Data. Accessed October 2018 at

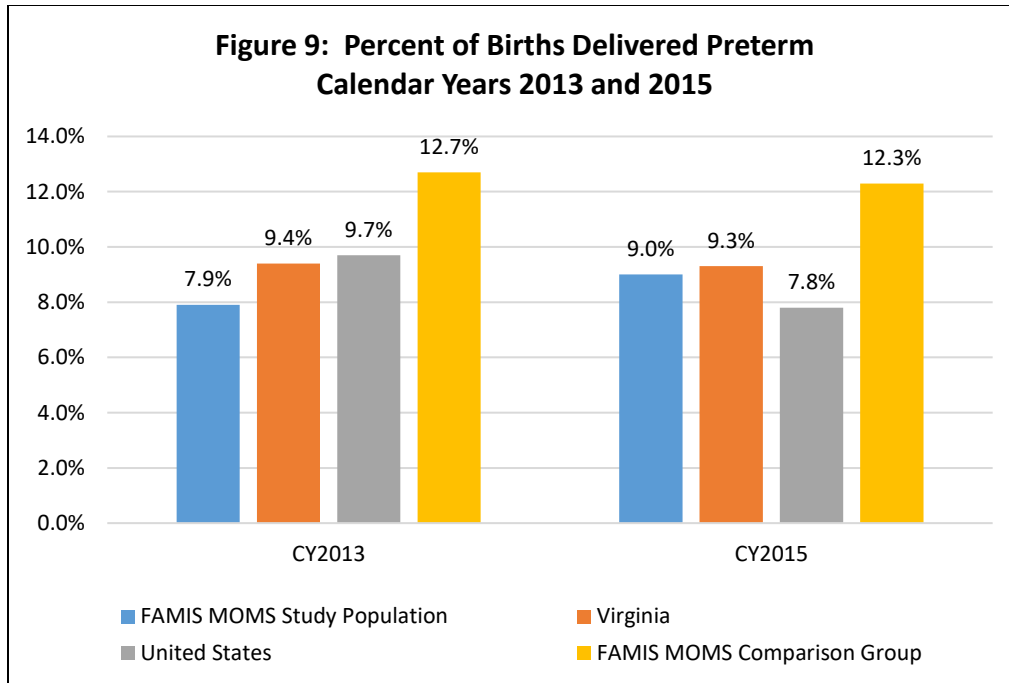
<https://www.marchofdimes.org/Peristats/ViewSubtopic.aspx?reg=51&top=5&stop=29&lev=1&obj=1&cmp=00&slv=4&sty=2013&eny=2015&chy=>

⁸ CY 2014 is omitted from this figure. Because of the FAMIS MOMS enrollment freeze during most of 2014, the FAMIS MOMS comparison group for that year is of insufficient size to draw conclusions from the data.

⁹ *Maternal and Child Health Services Title V Block Grant, Virginia, FY2019 Application / FY2017 Annual Report*. Created 9/10/2018. P. 220. Derived from National Vital Statistics System (NVSS) data. Accessed October 2018 at <http://www.vdh.virginia.gov/content/uploads/sites/16/2018/09/Title-V-MCH-Block-Grant-AY19-AR17-for-Public-Comment.pdf>.

¹⁰ National Center for Health Statistics, National Vital Statistics System, *Births: Final Data for 2015*, Table F. National Vital Statistics Reports, Vol. 66, No. 1, January 5, 2017. Accessed October 2018 at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf.

¹¹ National Center for Health Statistics, National Vital Statistics System, *Births: Final Data for 2013*, Table F. National Vital Statistics Reports, Vol. 64, No. 1, January 15, 2015. Accessed October 2018 at https://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_01.pdf.



Sources: Health Services Advisory Group, 2016-17 Birth Outcomes Focused Study, VDH Division of Health Statistics, and National Center for Health Statistics.

The FAMIS MOMS study population compared favorably to the comparison group on the percentage of term, late-term, and post-term births in CY2015: 66.9% versus 66.8%. The comparison group had a lower percentage of early term births (37-38 weeks) than the FAMIS MOMS population, however: 20.9% of the comparison group’s births were early term, compared to FAMIS MOMS’ 24.1%.

FAMIS MOMS enrollees will have a lower rate of low birthweight births.

The percentage of births that were low birthweight was consistently lower for FAMIS MOMS than for the comparison group. This statistic also compared favorably with overall births in Virginia and the U.S. The HSAG study found that the rate of low birthweight (<2,500 grams) among the FAMIS MOMS study population was 7.1% in 2013 and 7.7% in 2015.¹² These results were slightly better than Virginia Department of Health, Division of Health Statistics data on low birthweight rates.¹³ However, the latter are based on the entire U.S. population, not restricted to low-income women, and is therefore limited in true comparability. In the FAMIS MOMS comparison group the rates were 10.9% in 2015 and 12.7% in 2013.

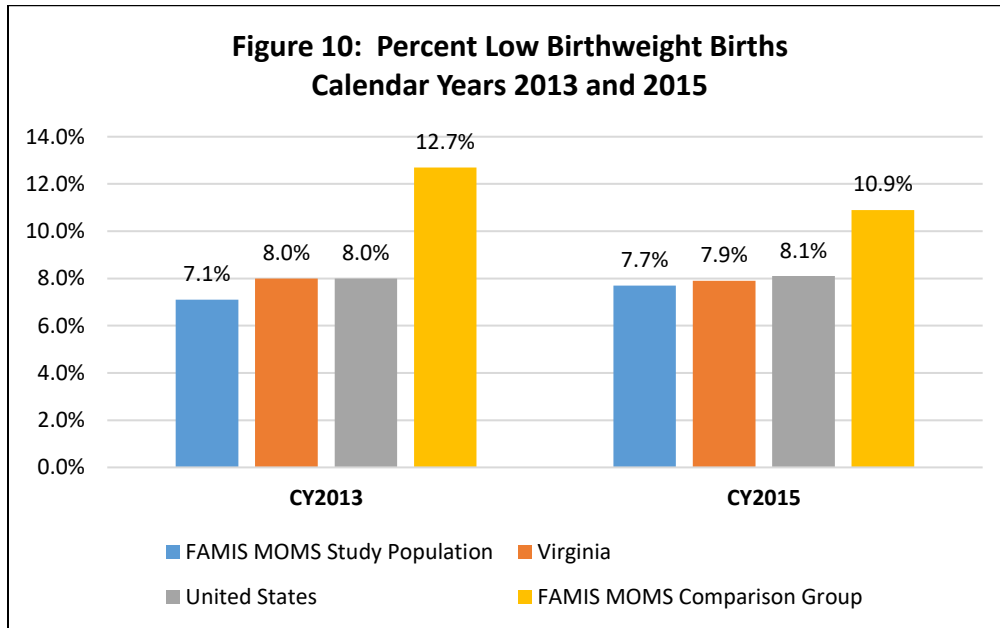
Figure 10 compares the HSAG study population with birthweight data for the total Virginia and United States populations of the same year. The Virginia Division of Health

¹² CY 2014 is omitted from this figure. Because of the FAMIS MOMS enrollment freeze during most of 2014, the FAMIS MOMS comparison group for that year is of insufficient size to draw conclusions from the data.

¹³ Virginia Department of Health, Division of Health Statistics, “Resident low weight live births and very low weight births,” accessed October 2018 at

<https://www.vdh.virginia.gov/healthstats/documents/2010/pdfs/LWBirths14.pdf> and https://www.vdh.virginia.gov/healthstats/documents/2010/pdfs/birth_1-10.pdf.

Statistics reported that 7.9% of Virginia resident live births were low birthweight in 2015 and 8.0% in 2013. Nationally, low birth weight remained similarly stable: 8.1% in 2015 and 8.0% in 2013.



Sources: Health Services Advisory Group, 2016-17 Birth Outcomes Focused Study. Virginia Department of Health, Division of Health Statistics, *Resident low weight live births and very low weight births, 2013-2015*.

The HSAG study also found that very low birth weight (< 1,500 grams) births were less common among the FAMIS MOMS study population than among the comparison population: 1.5% versus 3.3% of births in CY2015. The Virginia Division of Health Statistics reported that 1.5% of all Virginia resident births were very low weight in 2015.¹⁴ At the same time, very low birth weight rates nationally remained stable at 1.4% of births.¹⁵ While higher than the national rate, very low birth weight among FAMIS MOMS is comparable to that of the Virginia population as a whole.

Hypothesis 3: FAMIS MOMS newborns’ access to recommended and appropriate health care services will compare favorably to that of newborns in the comparison group.

The American Academy of Pediatrics recommends that infants receive a newborn visit within the first 24 to 48 hours following birth, a visit within 3 to 5 days, and a visit at one month of age. Adherence to neonatal well-care visits is crucial in avoiding unnecessary pediatric ED visits.

¹⁴ Virginia Department of Health, Division of Health Statistics, “Resident low weight live births and very low weight births,” accessed October 2018 at https://www.vdh.virginia.gov/healthstats/documents/2010/pdfs/birth_1-10.pdf.

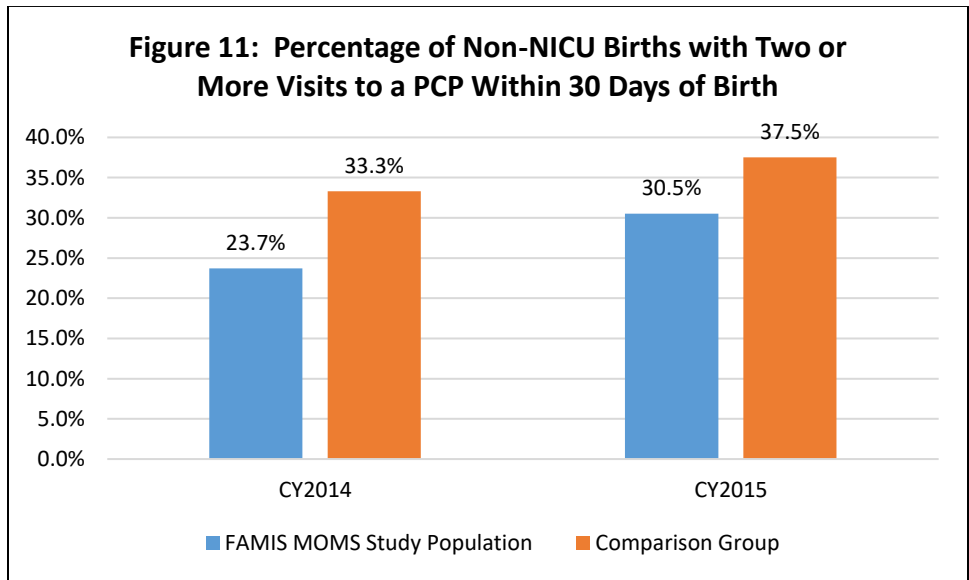
¹⁵ National Center for Health Statistics, National Vital Statistics System, Births: Final Data for 2015, Table F. National Vital Statistics Reports, Vol. 66, No. 1, January 5, 2017. Accessed October 2018 at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf.

Numerous studies have found that many parents utilize EDs for ambulatory care issues that could be resolved through preventive care consultation with a PCP and management of clinical conditions such as jaundice, respiratory issues, and feeding problems. Consistent use of primary care may decrease the risk of hospitalization in infants and young children.

FAMIS MOMS newborns will access recommended pediatric primary care at a higher rate compared to newborns of mothers in the same income range.

Among singleton births without NICU admissions during CY2015, 30.5% of FAMIS MOMS newborns had two or more office visits with a PCP-type provider in the first 30 days following birth.¹⁶ As seen in Figure 11, this rate was higher among births in the comparison group (37.5% in 2015), versus the study population. However, the percentage of FAMIS MOMS newborns with two or more office visits increased from CY2014 to CY2015.

Also concerning, among non-NICU singleton births in CY2015, 57.0% of FAMIS MOMS newborns had zero office visits with a PCP-type provider, versus 50% in the comparison group. This number has improved over the CY2014 rate of 67.2% of newborns in the FAMIS MOMS group with zero PCP visits.



Source: Health Services Advisory Group, 2016-17 Birth Outcomes Focused Study.

¹⁶ Note regarding methodology: Medicaid claims and encounters for newborns were required to assess office visits with a PCP-type provider within the first 30 days of life and ED visits during the first 30 days of life. Since a newborn may not receive a unique Medicaid ID until several weeks after birth, two methods were considered to link births in the focused study with claims and encounters necessary to assess PCP visits and ED visits. The first method identified claims/encounters billed under a temporary Medicaid ID consisting of the first nine digits of the mother’s Medicaid ID, and “001” as the last three digits. The second method identified claims/encounters billed using the newborn’s permanent Medicaid ID, if already assigned. The newborn’s permanent Medicaid ID was identified by linking the mother’s Medicaid ID to the R_MON_ID data field in the baby’s demographic record. For additional detail, please see 2016-17 Birth Outcomes Focused Study.

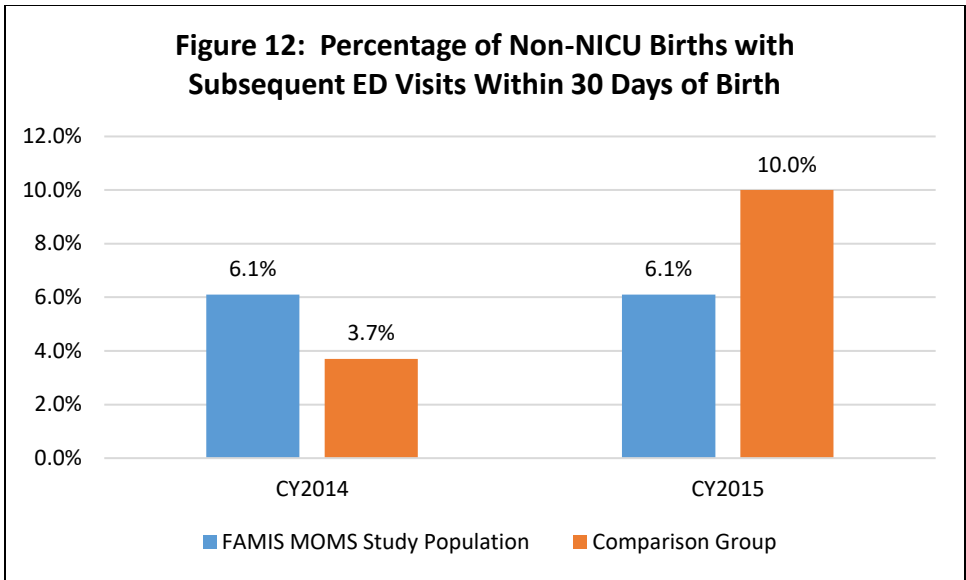
DMAS is working with HSAG to better understand the underlying factors contributing to this result. The data may be influenced by healthcare billing practices that reduce the ability to administratively identify newborn primary care visits occurring in the hospital setting in the days following the birth. In addition, because women in the comparison group are not evenly distributed throughout Virginia, PCP utilization findings may be related to local initiatives in specific regions. For example, birthing hospitals or local stakeholders in the Northern/Winchester region, which has a large portion of the distribution of the comparison population, may have been working to ensure access to primary care among newly enrolled FAMIS MOMS recipients, which could disproportionately impact those in the comparison group who have been enrolled for less than 43 days. Similarly, as the results for Hypothesis 3(b) will show, the comparison group had a larger percentage of births with one or more ED visits when compared to the study group. This may suggest an increase in overall healthcare utilization, not exclusive to PCP visits.

Newborns born to mothers in FAMIS MOMS will have a lower rate of Emergency Department visits compared to newborns of mothers in the same income range.

Many pediatric ED visits are for non-urgent health concerns that may be managed more efficiently in newborn nurseries before discharge or with appropriate follow-up in a pediatric primary care setting following discharge. Moreover, unlike primary care, ED visits concentrate on the presenting illness/issue and do not provide comprehensive health assessments or preventive care. Non-urgent ED use may waste essential healthcare resources, and the expense of ED care may result in financial burdens for families.

As previously highlighted, the neonatal/infant well-care visit compliance rates among non-NICU singleton births for FAMIS MOMS are low, with less than a third of FAMIS MOMS infants receiving the recommended number of PCP visits in the 30 days after birth. Studies have shown that the failure to establish a pediatric medical home influences the use of EDs for ambulatory care. Relatedly, appropriate continuity of care for infants following birth is associated with decreased ED utilization.

During CY2015, 6.1% of FAMIS MOMS singleton births without NICU stays experienced at least one ED visit in the 30 days following birth. The percentage of infants with at least one ED visit during 2015 was higher among women in the comparison group (10.0%). Figure 12 presents the percentage of non-NICU births with subsequent ED visits for CY2014 and 2015.



Source: Health Services Advisory Group, 2016-17 Birth Outcomes Focused Study.

Conclusions and Recommendations for FAMIS MOMS

The FAMIS MOMS program has continued to accomplish its goal of providing quality prenatal care to women living within the Title XXI income range and likely to give birth to FAMIS-eligible children. FAMIS MOMS continued to provide eligible pregnant women the same comprehensive coverage that pregnant women receive from the Virginia Medicaid program. The quality indicators associated with birth outcomes demonstrated that pregnant women served by the FAMIS MOMS program had better results than women in an identified comparison group. This held true for adequacy of prenatal care, rates of low birthweight and premature birth, and newborn visits to the ED.

The comparison group for the evaluation consisted of women who were not enrolled in FAMIS MOMS for at least 43 days prior to delivery, and the difference in outcomes for the two groups underscores the importance of continued outreach to enroll more women earlier in their pregnancies. One area of concern highlighted by the FAMIS MOMS outcome measures is the low rate of newborns receiving two or more office visits with a PCP-type provider in the first 30 days following birth, although these numbers did improve between CY2014 and CY2015. DMAS will continue to work with HSAG to better understand the data and factors contributing to this result.

DMAS' recent transition to the Medallion 4.0 program for Medicaid and FAMIS managed care organizations (MCOs) provides an opportunity to reassess existing quality improvement strategies related to peripartum care and resulting clinical outcomes among newborns. Moving forward, the MCOs' quality initiatives can be designed to ensure alignment with Medallion 4.0's targeted topics regarding maternity services and services for infants. The following recommendations were offered in the *2016-17 Birth Outcomes Focused Study*.

- DMAS should continue with collaborative efforts such as those described in the *Maternal and Infant Improvement Project (MIIP) Activities Report 2015-16*.¹⁷ For example, partnership between DMAS and the Virginia Department of Social Services (VDSS) resulted in the production of instructional material that could be utilized by FAMIS MOMS recipients. DMAS should expand these collaborations to include other agencies pursuing similar objectives (e.g., Virginia Department of Health's Family Home Visiting Program). Such collaboration allows influential groups to design interventions without duplicating efforts and may allow the respective stakeholders to reach a larger audience.
- DMAS should consider conducting a focused evaluation of access to care to determine the availability of, and members' ability to access, PCPs, including pediatricians; providers of prenatal and postpartum care; and facilities related to perinatal care (e.g., hospitals and freestanding birth centers, pharmacies, and laboratory and x-ray providers). In addition to considering providers' capacity and availability, evaluation could include an assessment of potential socio-demographic and clinical factors influencing members' access to perinatal care. Results from an access evaluation would aid DMAS in

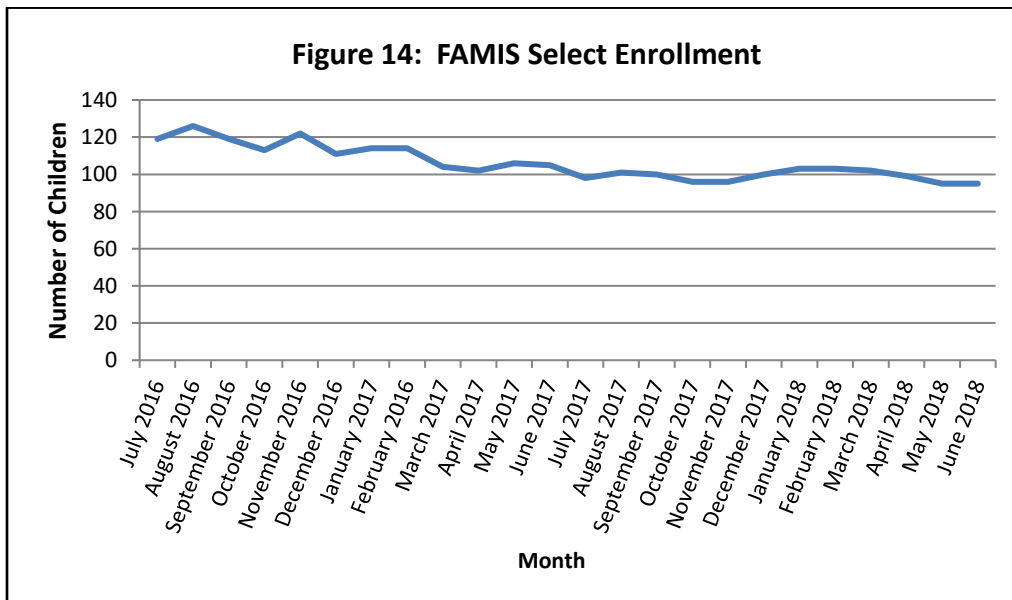
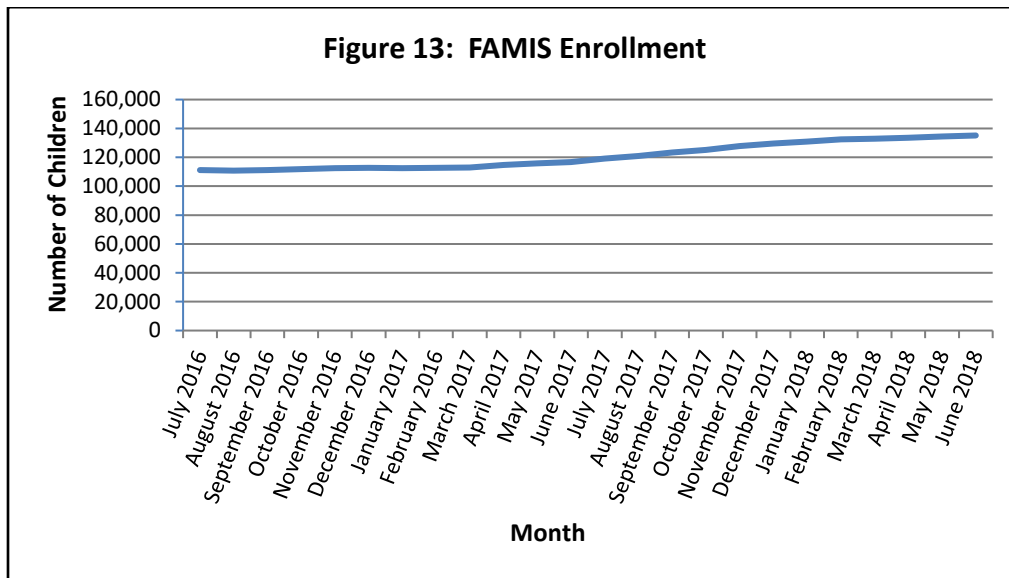
¹⁷ Virginia Department of Medical Assistance Services. Maternal and Infant Improvement Project (MIIP) Activities Report 2015-16. Accessed May 2018 at http://www.dmas.virginia.gov/Content_atchs/mch/MIIP%20Activities%20Report_12012016_Approved.pdf.

identifying barriers experienced by women seeking perinatal care and looking to establish consistent primary care for their newborns.

- DMAS may use existing or planned provider network evaluation results to determine the extent to which MCOs' utilization management policies may impact members' ability to receive timely, clinically appropriate care before, during, and after a pregnancy. Such efforts may be aligned with the Medallion 4.0 focus on long-acting reversible contraceptives (LARCs) to determine the extent to which postpartum care is available, accessible, and used as an opportunity to educate members about their reproductive health options.
- DMAS should continue to monitor, trend, and evaluate prenatal care and birth outcomes among enrollees. DMAS should use the detailed Birth Outcomes Focused Study results and accompanying analytic dataset, in conjunction with qualitative and quantitative data from stakeholders, to evaluate the impact of demographic elements on prenatal care and birth outcomes. Results from these data mining efforts may provide targets for further analysis or targeted quality improvement activities under Medallion 4.0. Further monitoring will also provide information regarding the efficacy of ongoing interventions by DMAS and stakeholders.
- As many clinical conditions among neonates may warrant emergency care, evaluation measures may consider the impact of clinical decision-making on the prevalence of ED visits. For example, further analysis may consider using the New York University (NYU) ED algorithm to identify the proportion of non-emergent ED visits, or to assess infants' claims and encounter data to determine whether or not an ED visit was preceded by an office visit with a PCP-type provider.

Participation and Enrollment Trends 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 13 and 14 show the trend in FAMIS and FAMIS Select enrollment over the course of the current Demonstration extension period. Although FAMIS enrollment has steadily increased during this time, enrollment in FAMIS Select continued to decline. As of June 2018, only 95 children, less than one percent of FAMIS recipients, were enrolled in FAMIS Select statewide.



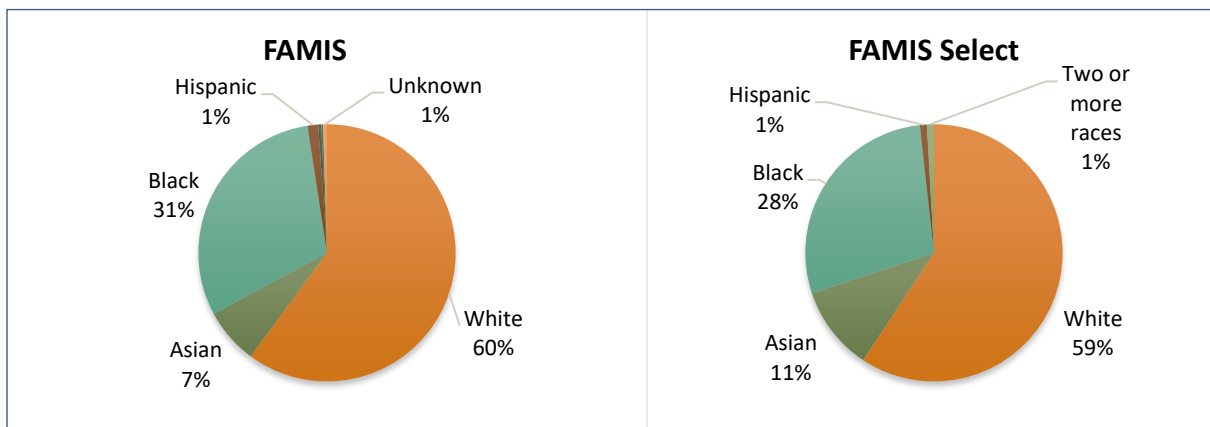
* Number enrolled as of the first day of the month.

Source: DMAS Recipient file

As illustrated in Figure 15, the racial/ethnic distribution of FAMIS Select participants is similar to that of all children enrolled in FAMIS. During this initial portion of the extension period, 59% of children in FAMIS Select were non-Hispanic white, 28% were non-Hispanic black, 11% were Asian, 1% were Hispanic, and 1% were of two or more races. Among FAMIS enrollees, 60% were non-Hispanic white, 31% were non-Hispanic black, 7% were Asian, 1% were Hispanic, and 2% were of unknown race. However, the small number of FAMIS Select participants in relation to the total FAMIS population does not lend itself to drawing conclusions about differences between the groups.

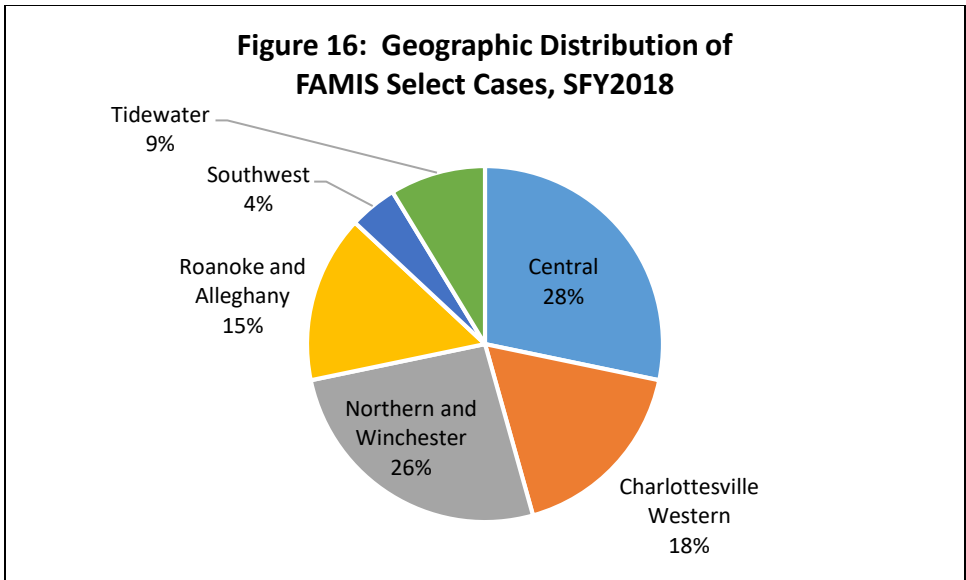
As with FAMIS MOMS, participation in FAMIS and FAMIS Select has shifted to reflect much lower proportions of members identifying as Hispanic, despite growth in the Hispanic population in Virginia. As noted above, DMAS is researching this trend but has been unable to draw conclusions as to whether the decline results from (1) a change in data collection categories and methods, (2) reluctance to disclose or collect this optional information, (3) declining Hispanic enrollment, (4) diminishing resources available to conduct targeted outreach to the Spanish-speaking community, and/or other factors.

**Figure 15: FAMIS and FAMIS Select Enrollees by Race and Ethnicity
July 2016 - June 2018**



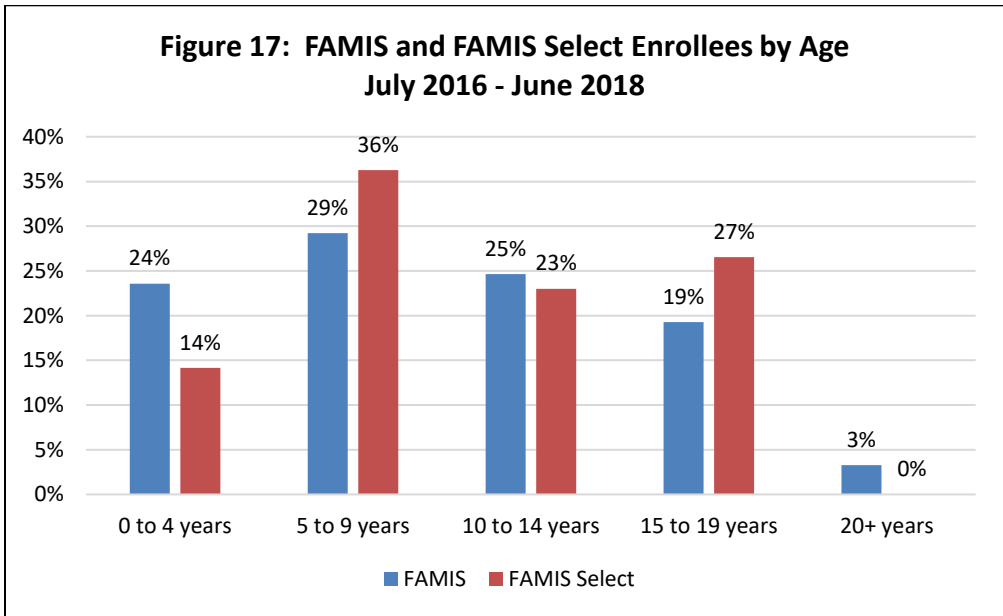
Source: DMAS Recipient File

Figure 16 illustrates the geographic distribution of FAMIS Select cases, which is generally reflective of the overall FAMIS population. As expected, cases are concentrated in Northern Virginia, and particularly in Fairfax County, and in Central Virginia, with a relatively large number of cases in Henrico County. The Roanoke/Allegheny region and the Charlottesville/Western region also have relatively high numbers of FAMIS Select participants.



Source: DMAS Recipient file

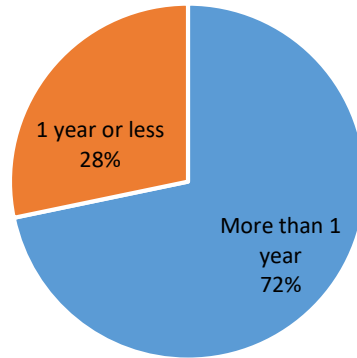
Figure 17 compares the ages of children in FAMIS and FAMIS Select from July 2016 through June 2018. As found in past analyses, young children in the 0-4 age group accounted for a smaller share of FAMIS Select enrollees than FAMIS enrollees. Only 14% of enrollees in FAMIS Select were under the age of five, while nearly a quarter of FAMIS enrollees were in this age group. This is consistent with findings that FAMIS Select’s current subsidy structure is more attractive to families with larger numbers of subsidy-eligible children; families with more than one eligible child are more likely to have at least one child in the older age groups.



Source: DMAS Recipient file

An analysis of FAMIS Select cases indicates that the majority of households participating in the program in SFY2018 had been enrolled in FAMIS Select for longer than a year. Households that had been participating for a year or less comprised 28 percent of FAMIS Select cases, while households that had been participating for longer than a year comprised 72 percent of cases (Figure 18). Among households enrolled for longer than one year, mean length of time on FAMIS Select was 4.6 years and median length of time was 2.7 years. The longest a household had been enrolled was 12.8 years, possibly since the inception of the program. These findings underscore the value this program has had for a small group of participating households who have opted to continue on FAMIS Select. The findings also indicate that there may be untapped potential and opportunities to expand new enrollment with additional promotion and broader education about the program.

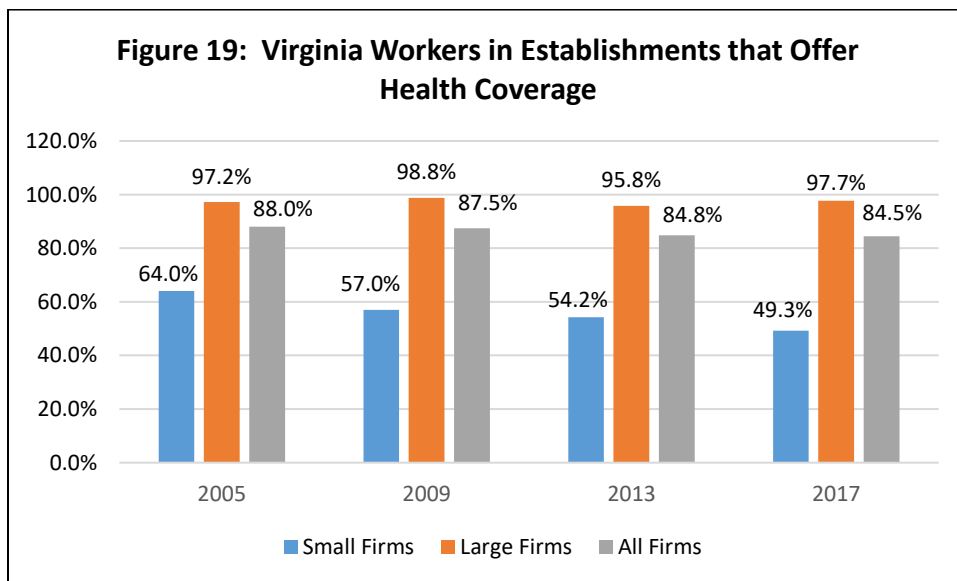
**Figure 18: Households' Length of Time on FAMIS Select
(as of SFY2018)**



Source: DMAS Recipient file

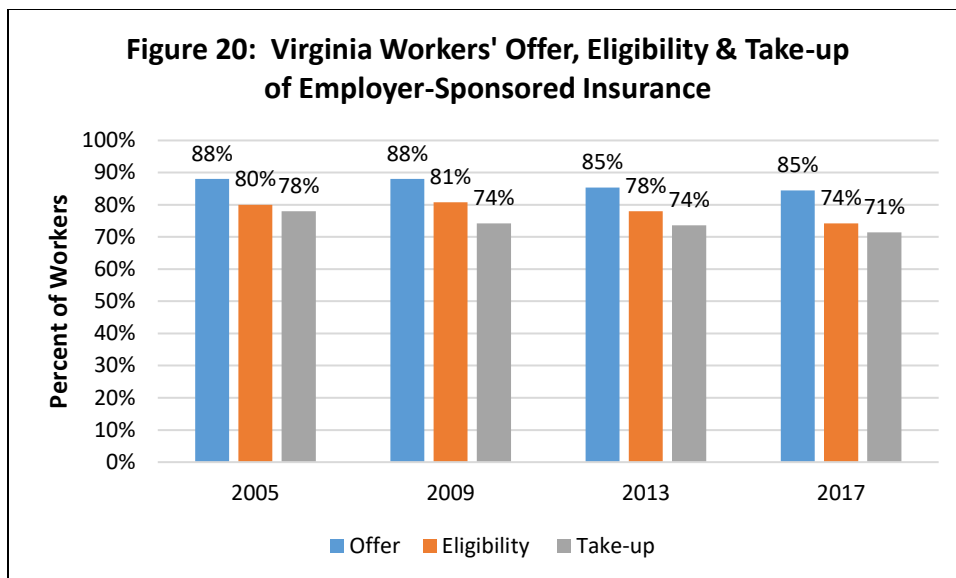
Analysis of Employer-Sponsored Health Insurance

The decline in use of FAMIS Select is likely due in large part to changes in employer-sponsored health insurance (ESHI) options. According to a State Health Access Data Assistance Center (SHADAC) analysis of data from the Medical Expenditures Panel Survey (MEPS) – Insurance Component, the percentage of Virginia workers in establishments that offered health insurance coverage dropped from 88.0% in 2005, the year the Demonstration began, to 84.5% in 2017, the latest year for which data are available (Figure 19). This trend affected employees of small firms (those with fewer than 50 employees) to a much greater extent than those employed by large firms (with 50 or more employees). Availability of employer-sponsored insurance among the former group declined by 14.7 percentage points while the latter actually increased by 0.5 percentage points.



Source: SHADAC analysis of Medical Expenditure Panel Survey - Insurance Component (MEPS-IC), Agency for Healthcare Research and Quality (AHRQ), Center for Financing, Access and Cost Trends (CFACT). State Health Compare, SHADAC, University of Minnesota, statehealthcompare.shadac.org, Accessed October 2018.

Analysis by SHADAC articulates three components to 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. The trend among Virginia workers for these three components is shown in Figure 20. Workers in firms that offered ESHI decreased from 88 percent in 2005 to 85 percent in 2017. In 2017, 74 percent of workers in Virginia were eligible for the ESHI offered them, down from 80 percent in 2005. Finally, the proportion of workers who opted to purchase ESHI dropped from 78 percent in 2005 to 71 percent in 2017.



Source: SHADAC analysis of Medical Expenditure Panel Survey - Insurance Component (MEPS-IC), Agency for Healthcare Research and Quality (AHRQ), Center for Financing, Access and Cost Trends (CFACT). State Health Compare, SHADAC, University of Minnesota, statehealthcompare.shadac.org, Accessed October 2018.

The cost of ESHI is clearly a main contributor 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 Title XXI Section 1115 Demonstration, annual insurance premiums for employer-sponsored family coverage in the Commonwealth increased from an average of \$10,367 in 2005 to \$18,264 in 2017. While employers often cover a large share of these premium costs, the share paid by employees has been increasing. Between 2005 and 2017, the employee’s share of the cost of employer-sponsored family coverage increased from 26.5 percent to 34.1 percent.

In Virginia in 2017, the average annual family plan premium for a private sector worker getting ESHI was \$1,522 per month, compared to \$525 for individual ESHI coverage. Of these costs, on average 34.1 percent of the family plan premium was the employee’s responsibility, while under an individual plan a smaller share of cost, 25.8 percent, was passed to the employee. Based on these figures, the following scenario exemplifies what an average family in the FAMIS-eligible income bracket might face:

- The average employee contribution toward an employer-sponsored family premium was \$6,228/year, or \$519/month.
- A family of three (one parent and two children) with a monthly gross income of \$3,463 (200% FPL) would qualify for FAMIS.
- The employee contribution to the employer-sponsored premium for family coverage would be approximately 15% of monthly gross income.
- Under FAMIS Select, the employee would be reimbursed \$200/month to cover two children, leaving the employee's net out-of-pocket expense at \$319/month.
- By comparison, the employee could purchase individual coverage from the employer for \$1,625/year, or \$135/month (approximately 4% of income) and enroll the children in FAMIS.
- Cost-sharing in FAMIS is capped at \$180 or \$350 maximum per family per year (depending on income), while cost-sharing in the employer-sponsored plan is likely to be much higher.

Given the financial realities associated with ESI for low-income workers, it is not surprising that participation in FAMIS Select has declined.

FAMIS Select Cost Effectiveness Analysis

Despite declining participation, FAMIS Select continues to be a cost-effective alternative.

Table 2 presents the state fiscal year 2018 analysis of FAMIS Select expenses and offsetting savings based on FAMIS expenses. The average per enrollee, per month cost under FAMIS was \$230.37. The maximum monthly FAMIS Select premium subsidy was \$100.00 per enrollee, while the average subsidy per enrollee was \$87.18. Factoring in administrative expenses, the average monthly cost associated with a FAMIS Select enrollee was \$92.73. This resulted in a savings per FAMIS Select enrollee of \$137.64, which translates to an annual estimated savings of \$133,789.

Table 2:

Cost Analysis of the FAMIS Select program (State Fiscal Year 2018)	
Program Expense Categories	Costs
Premium Subsidies	\$84,743
Administration	\$5,388
Total	\$90,131
Cost Effectiveness Comparison	
Average Per Enrollee Per Month Cost for FAMIS	\$230.37
Maximum FAMIS Select Premium Assistance Subsidy Per Enrollee	\$100.00
Actual Average Monthly Premium Subsidy Per FAMIS Select Enrollee	\$87.18
Actual Average Monthly Cost for FAMIS Select Enrollee with administrative and other costs	\$92.73
Savings Per FAMIS Select Enrollee	\$137.64
<i>Estimated Average Annual Savings</i>	<i>\$133,789</i>

Conclusions and Recommendations for FAMIS Select

This interim evaluation report presents findings on two hypotheses concerning FAMIS Select:

Hypothesis 1 FAMIS Select will increase the number of FAMIS members with access to affordable private and employer-sponsored health insurance through premium assistance.

Hypothesis 2 The FAMIS Select program will be cost-effective for the Commonwealth. Specifically, the cost of providing FAMIS Select premium assistance will be compared to the cost of the standard FAMIS Plan.

The FAMIS Select program continues to accomplish its goal of providing a streamlined and cost-effective alternative to the standard FAMIS program. However, the program fell short of its goal of increased participation rates. Enrollment continued to decline during this demonstration period. Factors likely contributing to the decline include the increasing costs of participation in employer-sponsored plans, and the availability of the alternative FAMIS plan with a comprehensive benefits package and very low cost-sharing. The FAMIS Select program is generally more advantageous for families with larger numbers of FAMIS-eligible children and/or with generous employer-sponsored plans.

It is worth noting that FAMIS Select has a small but loyal group of longer-term enrollees whose decision to continue participating underscores the program's value and potential. A recent analysis of FAMIS Select cases indicates that the majority of households participating in the program in SFY2018 had been enrolled in FAMIS Select for longer than a year. Among households enrolled for longer than one year, mean length of time on FAMIS Select was 4.6 years and median length of time was 2.7 years. The longest a household had been enrolled was 12.8 years, possibly since the start of the program. As DMAS examines options for broadening participation in FAMIS Select, these long-term enrollees may have valuable insights regarding their decision to remain in the program.

Within the past three years, DMAS has undergone internal reorganization affecting FAMIS Select personnel and processes. Increasing enrollment of eligible children in FAMIS Select remains a priority, and DMAS is hopeful that with increased outreach and promotion the program will grow to reach a larger population. Toward that aim, the agency has drafted an Outreach Plan for FAMIS Select that includes the following updated strategies for the Demonstration extension period:

- **Refresh communication materials.** Update the current FAMIS Select brochure to a colorful and succinct one-page flyer.
- **Share updated flyer** in the new FAMIS member welcome packets and post flyer to website.
- **Research strategies for a targeted member mailing** to FAMIS member families that may benefit from the program.

- **Send blast e-mails to the Department of Social Services.** DMAS will send a blast email communication to Department of Social Service workers across the Commonwealth to increase understanding and awareness of the program. The email will include eligibility information and promotional materials about FAMIS Select.
- **Explore opportunities through state government human resources.** DMAS will reach out to the state government human resources department to explore partnerships for educating HR professionals about FAMIS Select and how to share information about the program with potentially eligible employees.

In addition to these enhancements to the current outreach strategy, DMAS is evaluating options for operational and program design improvements to FAMIS Select. DMAS' Section 1906/1906(a) Medicaid premium assistance programs, Health Insurance Premium Payment Plan (HIPP) and HIPP for Kids, are currently piloting a modernized and streamlined premium assistance application portal that will simplify the application process while more efficiently capturing data from applicants. In addition, DMAS has begun to research options for adjusting the subsidy amount or restructuring the subsidy system for FAMIS Select. The \$100 per child, per month subsidy has not been updated since program inception and has not kept pace with the rising cost to employees of employer-sponsored health insurance. Restructuring or increasing the subsidy necessitates careful review and legislative approval of any change with a state budget impact. However, the FAMIS Select cost effectiveness analysis indicates that there is likely room for minor adjustments that would increase the program's appeal to families while ensuring the program remains cost-effective for the Commonwealth and the federal government.

Finally, DMAS is submitting a revised evaluation plan for the July 2019 to June 2024 Demonstration extension period that includes significant modifications to the FAMIS Select evaluation. The revised evaluation plan incorporates a survey to gather information on consumer satisfaction and monitor additional outcomes for the program, such as children's access to a regular medical home and utilization of recommended preventive care. Monitoring FAMIS Select program's performance on health and access outcome measures will help DMAS to ensure that FAMIS Select participants' health care access is comparable to that of FAMIS enrollees' as a whole, and will enable the agency to make targeted improvements to the program in the future.

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**DRAFT REVISED EVALUATION PLAN
FAMIS MOMS and FAMIS Select
TITLE XXI SECTION 1115 DEMONSTRATION**

GOALS OF THE DEMONSTRATION

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

For FAMIS MOMS:

- ❖ Facilitate access to prenatal, obstetric, and postpartum care for a vulnerable population that does not otherwise qualify for public insurance -- pregnant women with family income from the Medicaid income limit of 143% of the federal poverty level (FPL) to 200% FPL;
- ❖ Improve birth outcomes of FAMIS MOMS participants;
- ❖ Facilitate access to recommended and appropriate health care for newborns of FAMIS MOMS.

For FAMIS Select:

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

In response to recommendations from NORC, CMS’ evaluation review contractor, the Department of Medical Assistance Services (DMAS) has drafted this revised proposal for the FAMIS MOMS and FAMIS Select Demonstration evaluation plan during the 2019-2024 requested renewal period. DMAS has focused on clarifying the relationship between demonstration goals, objectives, research questions, hypotheses, and outcome measures; narrowing the scope of the evaluation to focus on research questions and outcome measures for which data is readily available; describing the study and comparison groups; identifying state and national benchmarks for selected outcome measures; and providing a more detailed explanation of other aspects of the study methodology. The framework for evaluation of the two components of the Demonstration is provided below, followed by descriptions of the study methodology and timelines for the two program evaluations.

FAMIS MOMS

DMAS contracts with an external quality review organization (currently Health Services Advisory Group, HSAG) to conduct an annual prenatal care/birth outcomes focused clinical study. As part of this annual study, the contractor evaluates FAMIS MOMS birth outcomes. The outcome measures analyzed and reported in the study are used in DMAS' demonstration evaluation of the FAMIS MOMS program.

Objectives

1. Facilitate access to prenatal, obstetric, and postpartum care for low-income pregnant women who do not qualify for Medicaid.
2. Improve birth outcomes for low-income pregnant women who do not qualify for Medicaid.
3. Ensure use of recommended and appropriate health care for FAMIS MOMS newborns.

Research Questions

1. Is enrollment in FAMIS MOMS enabling pregnant women to better access adequate prenatal care?
2. Is enrollment in FAMIS MOMS improving birth outcomes of participants?
3. Are FAMIS MOMS newborns accessing recommended and appropriate care?

Hypotheses

1. FAMIS MOMS participants will receive adequate prenatal care at a higher rate than comparable women in the same income range who do not participate in FAMIS MOMS.
2. FAMIS MOMS will experience improved birth outcomes compared to women in the same income range. Specifically:
 - a) FAMIS MOMS enrollees will experience lower rates of early term (37-38 weeks gestation) and preterm (less than 37 weeks gestation) births.
 - b) FAMIS MOMS will have a lower rate of low birthweight births.
3. FAMIS MOMS newborns' access to recommended and appropriate health care services will compare favorably to that of newborns in the comparison group.
 - a) FAMIS MOMS newborns will access recommended pediatric primary care at a higher rate compared to newborns of other mothers in the same income range.
 - b) Newborns born to mothers in FAMIS MOMS will have a lower rate of Emergency Department visits compared to newborns of other mothers in the same income range.

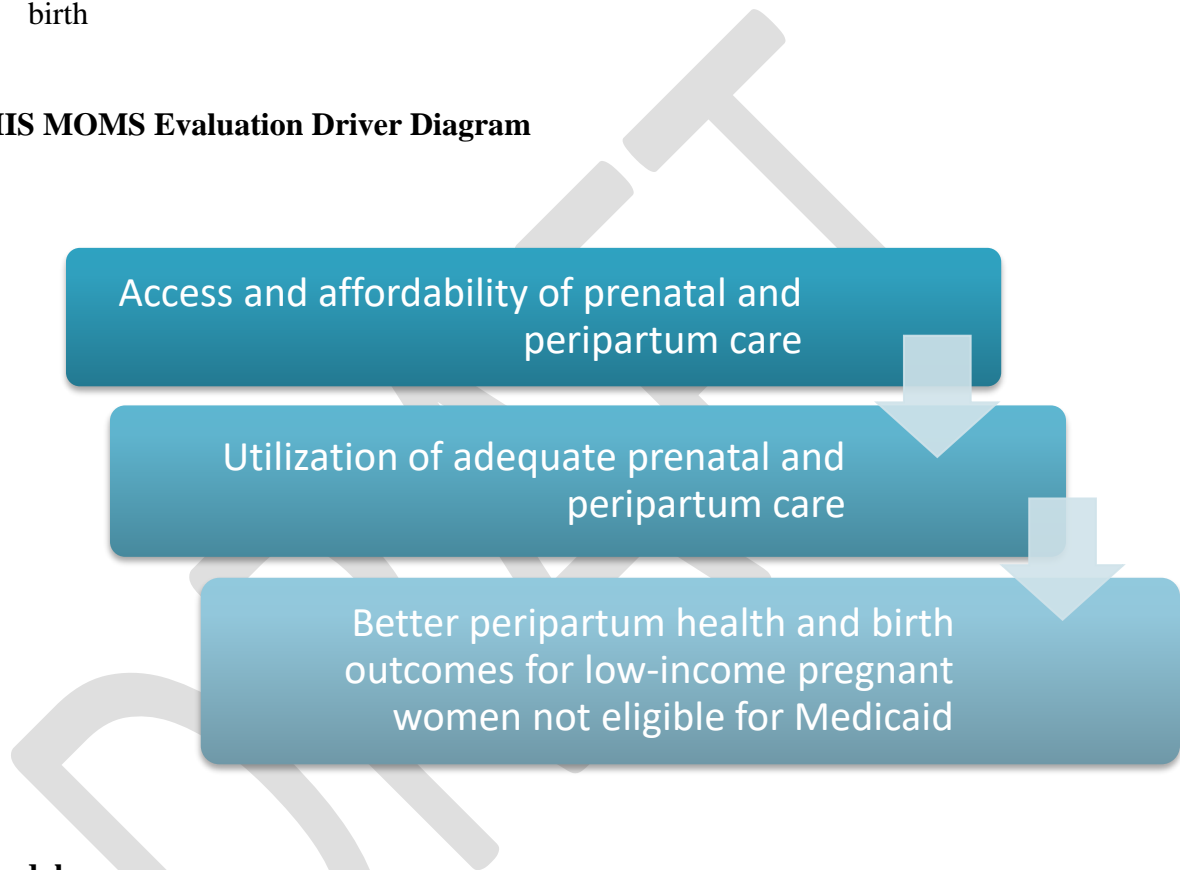
Outcome measures

1. Percentage of FAMIS MOMS births with early and adequate prenatal care¹

¹ "Early and adequate prenatal care" for a given pregnancy will be defined as having a Kotelchuck Index (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).

2. (a) Rate of early term (37-38 weeks gestation) and preterm (less than 37 weeks gestation) births for FAMIS MOMS participants
- (b) Percentage of low birthweight births for FAMIS MOMS participants
3. (a) Percentage of non-NICU births by number of office visits with a PCP within the first 30 days after birth (for each of three categories: zero visits, one visit, at least two visits)
- (b) Percentage of non-NICU births with at least one ED visit within 30 days following birth

FAMIS MOMS Evaluation Driver Diagram



Methodology

FAMIS MOMS birth outcomes will be assessed through a contracted Calendar Year Birth Outcomes Study. The study includes all singleton, live births paid by DMAS during each calendar year. The study subpopulation analyzed for the FAMIS MOMS evaluation is women continuously enrolled in the FAMIS MOMS program for a minimum of 43 days up to and including the day of delivery. The comparison group includes women enrolled in FAMIS MOMS on the day of delivery but for fewer than 43 days, i.e., without prior continuous enrollment. The study period is a calendar year of births.

The Birth Outcomes Study uses deterministic and probabilistic data linking to match eligible medical assistance recipients (Medicaid, FAMIS MOMS, and “Other Medicaid,” a category that

includes Emergency Medicaid²) with birth registry records to identify births paid by Virginia Medicaid during the calendar year. Medicaid recipient, claims, and encounter data files are linked with birth registry data provided through a data sharing agreement with the Virginia Department of Health. All probabilistically or deterministically linked birth registry records are included in the eligible focused study population, and births are further classified into a study population and a comparison group based on the timing and length of the mother's enrollment, as described above.

The following data are included:

- Enrollment period: continuously enrolled for an identified period prior to delivery (study population) compared to enrolled at delivery (comparison group)
- Program: FAMIS MOMS, Medicaid, and Other Medicaid (This evaluation will examine the study and comparison populations specific to FAMIS MOMS)
- Delivery system: fee-for-service and managed care
- Race/Ethnicity
- Immigration status: citizen, documented alien, undocumented alien
- Geographic region: managed care organization (MCO) region

The following study indicators will be used for the FAMIS MOMS evaluation:

1. Percentage of 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., births scoring in the “Adequate” or “Adequate Plus” categories).
 - The FAMIS MOMS study population will be compared to the FAMIS MOMS comparison population.
 - Calendar year performance will be compared to prior calendar years' performance.
 - As a national benchmark, the study population will be compared to the Healthy People 2020 Goal for Increasing the Proportion of Pregnant Women Who Receive Early and Adequate Prenatal Care.³ As a state benchmark, the study population will be compared to National Center for Health Statistics Final Natality Data for Virginia on this measure.⁴

² The “Other Medicaid” (OM) category includes births paid by Medicaid that do not fall within the FAMIS MOMS or the Medicaid for Pregnant Women programs (i.e., the pregnancy aid categories). Births among the OM programs may also include women with Medicaid coverage for emergency services only.

³ “MICH-10.2—Increase the Proportion of Pregnant Women Who Receive Early and Adequate Prenatal Care.” Healthy People 2020 Target. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Accessed October 2018 at <http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>. In the past, findings for this outcome measure were compared with the national Medicaid managed care average for the HEDIS measure “Frequency of Ongoing Prenatal Care.” However, this HEDIS measure was retired by the National Committee for Quality Assurance.

⁴ National Center for Health Statistics, Final Natality Data for Births with Early and Adequate Prenatal Care (also based on the Kotelchuck Index definitions).

2. (a) Percentage of births by gestational estimate category, with a focus on births before 37 weeks completed gestation.
 - The FAMIS MOMS study population will be compared to the FAMIS MOMS comparison population.
 - Calendar year performance will be compared to prior calendar years' performance.
 - As a national benchmark, the study population will be compared to National Center for Health Statistics, National Vital Statistics System data.⁵ As a state benchmark, the study population will be compared to NVSS data specific to Virginia.⁶
- (b) Percentage of newborns with low birthweight—i.e., births at less than 1,500 grams and births between 1,400 and 2,499 grams.
 - The FAMIS MOMS study population will be compared to the FAMIS MOMS comparison population.
 - Calendar year performance will be compared to prior calendar years' performance.
 - As a national benchmark, the study population will be compared to National Center for Health Statistics, National Vital Statistics System data.⁷ As a state benchmark, the study population will be compared to Virginia Department of Health, Division of Health Statistics data.⁸
3. (a) Percentage of newborns receiving at least two visits with a primary care provider (PCP) in the 30 days following birth. Office visits may include comprehensive well-child visits or problem-focused (i.e., “sick”) visits.
 - The FAMIS MOMS study population will be compared to the FAMIS MOMS comparison population.
 - Calendar year performance will be compared to prior calendar years' performance.
- (b) Percentage of newborns who had at least one emergency department (ED) visit in the last 30 days.
 - The FAMIS MOMS study population will be compared to the FAMIS MOMS comparison population.
 - Calendar year performance will be compared to prior calendar years' performance.

⁵ National Center for Health Statistics, National Vital Statistics System, National Vital Statistics Reports.

⁶ For example: National Center for Health Statistics, National Vital Statistics System, Births: Final Data for 2015, Table F. National Vital Statistics Reports, Vol. 66, No. 1, January 5, 2017. Accessed October 2018 at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf.

⁷ For example: National Center for Health Statistics, National Vital Statistics System, Births: Final Data for 2015, Table F. National Vital Statistics Reports, Vol. 66, No. 1, January 5, 2017. Accessed October 2018 at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf.

⁸ For example: Virginia Department of Health, Division of Health Statistics, “Resident low weight live births and very low weight births,” accessed October 2018 at https://www.vdh.virginia.gov/healthstats/documents/2010/pdfs/birth_1-10.pdf.

For additional detail on the Birth Outcomes Study methodology and results of the most recent report, please refer to the *2016-17 Birth Outcomes Focused Study* that is included as an appendix to Virginia’s Title XXI Section 1115 Demonstration Renewal Application.⁹

FAMIS MOMS Study Timeline¹⁰

Study Development	
DMAS and contractor meet to discuss study timeline and methodology	May 2018
Draft activity timeline and methodology developed and reviewed	May 2018
Activity timeline and methodology finalized	June 2018
Work plan developed based on approved timeline	June 2018
Data Collection and Analysis	
Contractor develops and submits data requirements to DMAS	May 2018
DMAS submits member and encounter data to contractor	June 2018
Contractor processes, loads, and validates data received from DMAS	June-July 2018
Contractor submits finder files for birth registry data linking and data linking guidelines to DMAS	July 2018
DMAS obtains linked calendar year birth registry data and submits files to contractor	July-Sept. 2018
Contractor conducts file review on birth registry data and works with DMAS to address any questions	Sept.-Oct. 2018
Contractor conducts and validates data analysis	Oct.-Nov. 2018
Contractor generates and validates analytic tables and figures for calendar year tables	Nov.-Dec. 2018
Contractor generates and validates analytic dataset and corresponding data dictionary	Jan.-Feb. 2019
Contractor submits analytic dataset and corresponding data dictionary to DMAS, concurrent with final report	March 2019
Report Preparation and Deliverables	
Contractor develops report outline and submits for DMAS review	Sept. 2018
DMAS reviews report outline and provides feedback to contractor	Sept.-Oct. 2018
Contractor incorporates DMAS feedback, finalizes report outline	Oct.-Nov. 2018
Contractor submits final report outline	Nov. 2018
Draft report based on data analysis results submitted to DMAS for review	Jan. 2019
DMAS reviews and provides feedback on draft report	Feb. 2019
Contractor incorporates DMAS feedback into final report	Feb. 2019
Contractor submits final report to DMAS	March 2019
Public release of report; DMAS to submit latest Birth Outcomes Study to CMS as addendum to Interim Evaluation Report for Title XXI Section 1115 Demonstration Renewal Application	May 2019

⁹ The study can also be accessed at the following link:
<http://www.dmas.virginia.gov/files/links/1502/2016%20Birth%20Outcomes%20Focused%20Study.pdf>

¹⁰ Timeline for Birth Outcomes Study covering CY 2016 and 2017 data, currently in progress.

FAMIS Select

Objectives

1. Facilitate access to the option of affordable private and employer-sponsored health insurance for low-income families through a premium assistance program. Ensure that families who opt for FAMIS Select are satisfied with their experience.
2. Ensure that children participating in FAMIS Select have a high degree of access to health care providers and health care services.
3. Ensure that children participating in FAMIS Select are receiving regular preventive care.
4. Maintain the aggregate cost-effectiveness of the FAMIS Select program.

Research Questions

1. Is the self-reported consumer experience of participants in FAMIS Select satisfactory or better? How does consumer satisfaction compare to that of other FAMIS enrollees? Other than by income eligibility, how do FAMIS Select participants compare to FAMIS enrollees, demographically, geographically?
2. Do children in FAMIS Select have access to health care services when they need them? Is the reported access comparable to that of services for children participating in FAMIS?
3. Do children participating in FAMIS Select have a medical home, i.e., a primary care physician (PCP) or other provider that they see regularly? Are children served by the premium assistance program receiving recommended preventive services and screenings?
4. How does the cost of providing the premium assistance program compare to the cost of providing the FAMIS program?

Hypotheses

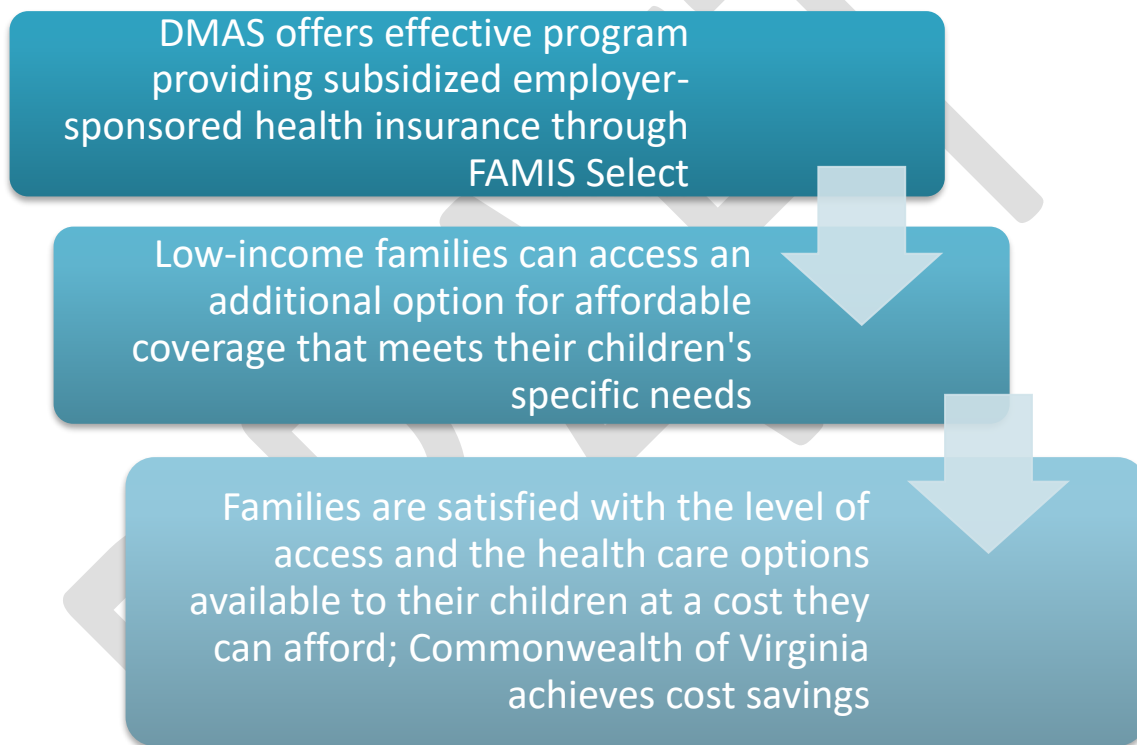
1. FAMIS Select participants will report satisfactory or better consumer experiences with the program. Participants who choose FAMIS Select will generally reflect the FAMIS population, without indications of significant disparities in access/uptake (other than disparities in access to employer-sponsored insurance).
2. Compared to national benchmarks and consumer survey data for FAMIS, families in FAMIS Select will report a high level of access to needed health care services.
3. Children participating in FAMIS Select will be comparable to or surpass national benchmarks for receiving recommended preventive services and screenings. FAMIS Select participants will be comparable to or surpass national benchmarks for reporting that they have a regular medical home or PCP.
4. FAMIS Select will be cost-advantageous to the Commonwealth.

Outcome Measures

1. FAMIS Select enrollees' survey responses will average Satisfactory or better on a 5-point Likert scale for questions related to satisfaction with FAMIS Select and their health insurance plan.

2. FAMIS Select enrollees' survey responses will average Satisfactory or better on a 5-point Likert scale for questions related to access to health care services. FAMIS Select enrollees' responses will be comparable to, or compare favorably to, FAMIS enrollees' responses in the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey on similar measures.
3. The percentage of FAMIS Select children whose families report a positive response on survey measures of access to a regular medical home and attainment of regular preventive care services will be comparable to or surpass national averages.
4. The aggregate cost of providing FAMIS Select premium assistance will be calculated using DMAS enrollment and expenditure data and compared to the cost of providing FAMIS.

FAMIS Select Evaluation Driver Diagram



Methodology

Survey

FAMIS Select is a small program, and low enrollment makes evaluation of the program challenging. DMAS plans to administer a survey to participants to better understand and evaluate their experiences, including level of satisfaction with the program; access to and use of benefits available through their insurance plan, particularly preventive services; and the reason(s) for opting for premium assistance rather than direct enrollment in FAMIS. Please refer to the attached Draft Survey Instrument.

The study population will consist of children enrolled in FAMIS Select for one or more months at the point in time when the survey is administered. Due to the low number of FAMIS Select participating families, the survey will be mailed to all responsible parties associated with children in the program, rather than a sample. Non-respondents will receive postcard reminders and a second survey mailing. In future years, as the FAMIS Select population grows in size, more complex sampling strategies may be explored. The study period will cover a calendar year, and the survey will be administered every other year.

For part of the analysis (Outcome Measures 1 and 2) the comparison population will consist of FAMIS children whose families participate in the annual Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey. This survey asks questions about member satisfaction, and gathers data on the general FAMIS population regarding children’s access to care. Although survey questions are not identical, comparable measures can be identified to provide a constructive comparison. Additionally, as a national benchmark, FAMIS Select enrollees’ survey responses will be compared to nationwide data from the National Survey of Children’s Health (NSCH). Questions in the draft survey instrument have been formulated to enable comparison to similar questions in the NSCH.

The survey instrument at the end of this evaluation plan is a draft and will be further refined in consultation with CMS and DMAS subject matter experts. The consumer survey will be administered and data compiled by DMAS staff following the proposed timeline attached. DMAS staff with advanced training and background in survey design, evaluation, and statistical analysis will be consulted in both the survey design and the analysis of survey responses.

Cost-effectiveness Analysis

Finally, cost-effectiveness will be assessed by calculating the average per-enrollee premium cost and administrative expense associated with the FAMIS Select enrolled population, compared to the per-enrollee cost of providing the FAMIS benefit plan.

FAMIS Select Evaluation Timeline

This is the proposed timeline for the pilot survey evaluation to be conducted in 2019. DMAS proposes that a survey be administered every other year to FAMIS Select participating families.

Task	Timeline
Finalize FAMIS Select evaluation plan and survey instrument in consultation with CMS and DMAS subject matter experts	March-June 2019
Mail Round 1 survey with cover letter to parent/caretaker of each child member	July 2019
Send Postcard 1 reminder to non-respondents 4-10 days after mailing the first survey	July 2019
Send Round 2 survey and letter to non-respondents approximately 35 days after mailing the first survey	August 2019
Send Postcard 2 reminder to non-respondents 4-10 days after mailing the second survey	August 2019

DMAS compiles and analyzes survey results	Sept.-Oct. 2019
DMAS composes update on FAMIS Select Evaluation incorporating survey results	Nov. 2019
DMAS delivers report to CMS	Dec. 2019

DRAFT

DRAFT Survey for Families Participating in FAMIS Select

Virginia Department of Medical Assistance Services (DMAS), the agency that administers the FAMIS Select program, requests your assistance in evaluating the success of the program and identifying areas for improvement. The survey below may be completed by any adult in the household participating in FAMIS Select. Please return the completed survey in the enclosed self-addressed, stamped envelope by [DATE].

Your participation in this survey is voluntary and you may decide not to participate or may choose not to answer specific questions. The results of this survey are anonymous and confidential and will not be used by any party other than DMAS or for any purposes other than the ones described. The survey takes approximately 20 minutes to complete.

1. How many children (age 18 and younger) do you have enrolled in FAMIS Select? _____
2. Please list the ages of the children who are enrolled: _____
3. What is your relationship to the children enrolled in FAMIS Select (please check one)?

<input type="checkbox"/> Parent	<input type="checkbox"/> Other Relative
<input type="checkbox"/> Stepparent	<input type="checkbox"/> Guardian
<input type="checkbox"/> Grandparent	<input type="checkbox"/> Other: _____
4. How many adults in your household (age 19 and older) are covered by insurance through FAMIS Select? _____

Please check (✓) your response to the following statements.

	Strongly Agree	Agree	No opinion	Disagree	Strongly Disagree
5. My experience with FAMIS Select has been positive					
6. The FAMIS Select materials provided me with all of the information I needed to understand the program					
7. FAMIS Select has met our expectations					
8. My child is able to see our preferred doctors or medical providers					
9. If FAMIS Select was not available, we would not be able to afford health insurance for the family					
10. I would recommend the FAMIS Select program to others					
11. My children are able to receive the medical care that they need without a long wait					
12. I am satisfied with the health care coverage my children receive					

Please fill in the age of each child in your household covered through the FAMIS Select program, then answer each question in the column for that child Y or N (Yes or No)

	Child 1 (Age: _____)	Child 2 (Age: _____)	Child 3 (Age: _____)	Child 4 (Age: _____)	Child 5 (Age: _____)	Child 6 (Age: _____)
13. During the past 12 months, did this child see a doctor, nurse, or other health care professional for a well-child checkup, physical exam, immunization, or other preventive care?						
14. Is there a medical practice, physician, or provider this child usually goes to when he or she needs routine preventive care?						
15. During the past 12 months, was there a time when this child needed medical care but did not receive it?						
16. During the past 12 months, was there a time when this child needed medical care but your insurance did not cover it?						
17. During the past 12 months, did this child visit an ER?						
18. While in FAMIS Select, has your child needed any of the following services and found that insurance did not cover them: Dental services, vision services, mental health services?						
19. During the past 12 months, did your family have problems paying for any of this child's medical or health care bills?						

20. How did you first hear about FAMIS Select?

- Local Department of Social Services
- Mailing from FAMIS/DMAS
- Other: _____
- A friend or family member
- FAMIS material on website

21. What is the most important benefit of FAMIS Select to your family? (Check only one)

- Helps us afford health insurance for the entire family
- Allows us to enroll in the employer's/private health plan that we prefer
- Children can continue to see doctors we want
- Other: _____

22. Please share any additional information or comments about your experience with FAMIS Select. _____

Thank you for your participation!

VIRGINIA DEPARTMENT OF MEDICAL ASSISTANCE SERVICES
CHIP SECTION 1115 DEMONSTRATION RENEWAL APPLICATION

FAMIS MOMS and FAMIS SELECT

APPENDIX

Documentation of Compliance with Public Notice and Tribal Notice Process

DMAS Website Screen Shots

Main page: <http://www.dmas.virginia.gov/#/index>

The screenshot shows the Virginia Department of Medical Assistance Services (DMAS) website. The header includes the Virginia.gov logo, navigation links for Agencies and Governor, a language selector, and a search bar. The main navigation menu on the left lists various services, with 'CHIP Demonstration' highlighted in a red box. The central banner features a man in a wheelchair and text stating that Medicaid's four home and community based waivers support over 46,700 Virginians. Below the banner are sections for 'New Initiatives' and 'Quick Links'. The right sidebar identifies the Virginia Governor as Ralph S. Northam and the Agency Director as Dr. Jennifer Lee. The 'COVER VIRGINIA' logo is also present in the bottom right corner.

Virginia.gov Agencies | Governor Select Language Search Virginia.gov

VIRGINIA'S MEDICAID PROGRAM
DMAS
INNOVATION • QUALITY • VALUE

Department of Medical Assistance Services Search this website

New Adult Eligibility!

Medicaid's four home and community based waivers support over 46,700 Virginians to receive services in community setting of their choosing.

Virginia Governor
Ralph S. Northam

Agency Director
Dr. Jennifer Lee

COVER VIRGINIA
Connecting Virginians to Affordable Health Insurance

Navigation Menu:

- About Medicaid
- Eligibility Guidance
- FAMIS**
 - FAMIS
 - FAMIS Moms
 - FAMIS Plus
 - FAMIS Select
 - CHIP Demonstration**
- Managed Care Benefits
- Programs & Services
- Long Term Care
- For Providers
- Report Fraud or Abuse
- Appeals
- DMAS Open Data

New Initiatives:

- Medicaid Expansion Dashboard
- Medicaid Expansion: What Providers and Stakeholders Need to Know
- 1115 Waiver
- Electronic Visit Verification (EVV)

Quick Links:

- Virginia Medical Assistance Eligibility Manual
- Medical Assistance Eligibility and Guidance
- Information for Providers
- Procedure Fee Files and CPT Codes

Home

About Medicaid

Eligibility Guidance

FAMIS

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Long Term Care

For Providers

Report Fraud or Abuse

Appeals

DMAS Open Data

CHIP Demonstration

Renewal

FAMIS MOMS and FAMIS Select Title XXI Section 1115 Demonstration Renewal

Pursuant to 42 CFR §431.408, DMAS is providing a follow-up notice of intent to submit to the federal Centers for Medicare and Medicaid Services (CMS) a request to extend for five years its Title XXI Section 1115 Demonstration for the FAMIS MOMS and FAMIS Select programs with no changes. The FAMIS MOMS and FAMIS Select demonstration is currently set to expire on June 30, 2019.

DMAS provided an initial opportunity to review and provide input on the FAMIS MOMS and FAMIS Select Section 1115 Demonstration Extension on November 13 through December 13, 2018. During that initial public notice period, two public hearings were held on November 30 and December 6, 2018. DMAS is now providing a second opportunity for the public to review and provide input on the FAMIS MOMS and FAMIS Select Section 1115 Demonstration Extension, which has been modified to provide additional information and clarity on how demonstration objectives have been met, how the demonstration will be evaluated for continued success, and actual and projected program enrollment and costs. This public comment period will be open from March 4 through April 4, 2019.

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

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

For FAMIS MOMS:

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

For FAMIS Select:

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

To read the FAMIS MOMS and FAMIS Select Demonstration's full Public Notice, please follow this [link](#).

To read the draft FAMIS MOMS and FAMIS Select Demonstration renewal application, please follow this [link](#).

To read the most recent Prenatal Care and Birth Outcomes Focused Study reports from DMAS' External Quality Review Organization (EQRO), please follow this [link](#).

Public Comment

The 30-day public comment period for the demonstration is from March 4 through April 4, 2019. All comments must be received by 11:59 p.m. (Eastern Time) on Thursday, April 4, 2019. Public comments may be submitted by e-mail to hope.richardson@dmas.virginia.gov or by regular mail or in person at the address below.

Virginia Department of Medical Assistance Services
FAMIS MOMS and FAMIS Select Demonstration Renewal
Attn: Hope Richardson
600 East Broad Street
Richmond, VA 23219

After considering public comments about the proposed demonstration renewal application, DMAS will make final decisions about the demonstration and submit a revised application to CMS. The summary of comments, as well as copies of written comments received, will be posted for public viewing on the DMAS website along with the demonstration extension application when it is submitted to CMS.

Information regarding the FAMIS MOMS and FAMIS Select Demonstration Renewal Application can be found on this webpage. DMAS will update this website throughout the public comment and application process.


For more information about the FAMIS MOMS and FAMIS Select Demonstration, which the Commonwealth is seeking to extend, please visit the CMS website at <https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list?entry=8648>.

Section 1115 of the Social Security Act gives the U.S. Secretary of Health and Human Services authority to approve experimental, pilot, or demonstration projects that promote the objectives of Medicaid and the Children's Health Insurance Program (CHIP). Under this authority, the Secretary may waive certain provisions of Medicaid or CHIP to give states additional flexibility to design and improve their programs. To learn more about Section 1115 demonstrations, please visit the CMS website at <https://www.medicaid.gov/medicaid/section-1115-demo/index.html>.



Virginia Regulatory Town Hall Notice #1:

Virginia.gov Agencies | Governor



VIRGINIA
REGULATORY TOWN HALL

Agency **Department of Medical Assistance Services**

Board **Board of Medical Assistance Services**

General Notice

FAMIS MOMS and FAMIS Select HIFA 1115 Demonstration Waiver Renewal Application

Date Posted: 11/13/2018

Expiration Date: 12/13/2018

Submitted to Registrar for publication: YES

[30 Day Comment Forum](#) closed. Began on 11/13/2018 and ended 12/13/2018

Pursuant to 42 CFR § 431.408, DMAS is providing notice of intent to submit to the federal Centers for Medicare and Medicaid Services (CMS) a request to extend for five years its Title XXI Health Insurance Flexibility and Accountability (HIFA) Section 1115 Demonstration Waiver for the FAMIS MOMS and FAMIS Select programs.

Virginia is requesting the same waiver and expenditure authorities as those approved in the current Demonstration period. For the FAMIS MOMS and FAMIS Select populations, all CHIP and Medicaid rules not expressly waived or identified as not applicable shall apply.

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

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

For FAMIS MOMS:

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

For FAMIS Select:

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

- Assure the aggregate cost-effectiveness of the FAMIS Select program.

In June 2016, Virginia received approval to continue operating the FAMIS MOMS and FAMIS Select programs under this Demonstration Waiver. The extension, which expires on June 30, 2019, includes the following agreements:

- Virginia will continue to provide coverage with federal reimbursement at the CHIP rate for pregnant women without creditable insurance coverage in families with income through 200% FPL.
- Virginia will continue to use Medicaid methodology for determining income eligibility.
- Virginia will continue to provide coverage for FAMIS MOMS that is identical to coverage provided to pregnant women under the Medicaid State Plan.
- Virginia will continue to deem infants born to FAMIS or FAMIS MOMS enrollees eligible for CHIP or Medicaid coverage for the first year of life.

The DMAS website includes a detailed public notice with more information about the extension request as well as the draft waiver renewal application. See <http://www.dmas.virginia.gov/#/hifawaiver>. Public comments may be submitted until midnight (Eastern Time) on Thursday, December 13, 2018. Public comments may be submitted by e-mail to hope.richardson@dmas.virginia.gov or by regular mail or in person at the address below.

Virginia Department of Medical Assistance Services
HIFA Waiver Renewal Application Public Comment
Attn: Hope Richardson
600 East Broad Street
Richmond, VA 23219

PUBLIC HEARINGS

DMAS will hold two public hearings at the times and locations below, where verbal or written public comments can also be submitted. To give verbal comments at public hearings, individuals will need to sign up in advance on a sign-up sheet available at the public hearing. All verbal public comments should be limited to two minutes each.

Public Hearing #1:

Friday, November 30, 2018, 10:00-11:00 AM
Department of Medical Assistance Services
600 East Broad Street
Seventh Floor, Room 7B
Richmond, VA

If unable to attend in person, you may join by phone by calling 1-866-842-5779, then entering passcode 0961028985, followed by #.

Public Hearing #2:

Thursday, December 6, 2018, 1:00-4:30 PM
Quarterly Children's Health Insurance Program Advisory Committee (CHIPAC) meeting
Virginia Community Healthcare Association
Westerre Conference Center
3831 Westerre Parkway
Henrico, VA

After considering public comments about the proposed waiver renewal application, DMAS will make final decisions about the waiver and submit a revised application to CMS. The summary of comments, as well as copies of written comments received, will be posted for public viewing on the DMAS website along with the waiver extension application when it is submitted to CMS.


For more information about the FAMIS MOMS and FAMIS Select Demonstration, which the Commonwealth is seeking to extend, please visit the CMS website at <https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/?entry=8648>.

ontact Information

Name / Title:	Hope Richardson / <i>Policy Planning and Innovation Division</i>
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Email Address:	hope.richardson@dmas.virginia.gov
Telephone:	(804)786-7933 FAX: (-) TDD: (800)343-0634

Virginia Regulatory Town Hall Notice #2:

Virginia.gov Agencies | Governor



Logged in as
Hope Richardson

Agency Department of Medical Assistance Services

Board Board of Medical Assistance Services

[Edit Notice](#)

General Notice

FAMIS MOMS and FAMIS Select Title XXI Section 1115 Demonstration Renewal Public Notice

Date Posted: 2/12/2019

Expiration Date: 4/4/2019

Submitted to Registrar for publication: YES

[31 Day Comment Forum](#) closed. Began on 3/4/2019 and ended 4/4/2019

FAMIS MOMS and FAMIS Select Title XXI Section 1115 Demonstration Renewal

Pursuant to 42 CFR §431.408, DMAS is providing a follow-up notice of intent to submit to the federal Centers for Medicare and Medicaid Services (CMS) a request to extend for five years its Title XXI Section 1115 Demonstration for the FAMIS MOMS and FAMIS Select programs with no changes. The FAMIS MOMS and FAMIS Select demonstration is currently set to expire on June 30, 2019.

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- Assure the aggregate cost-effectiveness of the FAMIS Select program.

To read the FAMIS MOMS and FAMIS Select Demonstration's full Public Notice, and to view the draft FAMIS MOMS and FAMIS Select Demonstration renewal application, please visit the DMAS website at <http://www.dmas.virginia.gov/#/hifawaiver>.

To read the most recent Prenatal Care and Birth Outcomes Focused Study reports from DMAS' External Quality Review Organization (EQRO), please visit <http://www.dmas.virginia.gov/#/med3studies>.

Public Comment

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Information regarding the FAMIS MOMS and FAMIS Select Demonstration Renewal Application can be found on the DMAS website at <http://www.dmas.virginia.gov/#/hifawaiver>. DMAS will update this website throughout the public comment and application process.

For more information about the FAMIS MOMS and FAMIS Select Demonstration, which the Commonwealth is seeking to extend, please visit the CMS website at <https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/?entry=8648>.

Section 1115 of the Social Security Act gives the U.S. Secretary of Health and Human Services authority to approve experimental, pilot, or demonstration projects that promote the objectives of Medicaid and the Children's Health Insurance Program (CHIP). Under this authority, the Secretary may waive certain provisions of Medicaid or CHIP to give states additional flexibility to design and improve their programs. To learn more about Section 1115 demonstrations, please visit the CMS website at <https://www.medicaid.gov/medicaid/section-1115-demo/index.html>.

Contact Information

Name / Title:	Hope Richardson / <i>Policy Planning and Innovation</i>
Address:	Virginia Department of Medical Assistance Services 600 East Broad Street Richmond, 23219
Email Address:	hope.richardson@dmas.virginia.gov
Telephone:	(804)786-7933 FAX: (-) TDD: (-)

Tribal Notice Letter:



COMMONWEALTH of VIRGINIA
Department of Medical Assistance Services

February 22, 2019

SUBJECT: Notice of Opportunity for Tribal Comment –
Demonstration Renewal Application for FAMIS MOMS and FAMIS Select

Dear Tribal Leader:

In accordance with Section 1902(a)(73)(A) of the Social Security Act regarding the solicitation of advice prior to the submission of any waiver requests likely to have a direct effect on Indians, Indian Health Programs, or Urban Indian Organizations, the Department of Medical Assistance Services (DMAS) hereby seeks your advice on the following matter.

DMAS plans to submit to the Centers for Medicare and Medicaid Services (CMS) the revised application to extend the federal Section 1115 FAMIS MOMS and FAMIS Select demonstration. The extension request will be for an additional five years, from July 1, 2019 to June 30, 2024. CMS is the federal agency that oversees the Medicare and Medicaid programs.

DMAS provided an initial opportunity to review and provide input on the FAMIS MOMS and FAMIS Select Section 1115 Demonstration Extension from November 13 through December 13, 2018. During that initial public notice period, two public hearings were held, on November 30 and December 6, 2018. DMAS is now providing a second opportunity for the public to review and provide input on the Section 1115 Demonstration Extension. Virginia's demonstration extension application has been modified to provide additional information and clarity on how demonstration objectives have been met, how the demonstration will be evaluated for continued success, and actual and projected program enrollment and costs.

The current Demonstration has two components. First, it expands coverage to uninsured pregnant women with family income from 143% to 200% of the federal poverty level who are not eligible for Medicaid, through a program known as FAMIS MOMS. Second, it includes a health insurance premium assistance program known as FAMIS Select. Children must first be found eligible and enroll in FAMIS before electing coverage through FAMIS Select. This demonstration application will not change the programs in any way but will extend the programs for an additional five years.

To prepare for the submission of the revised Section 1115 Demonstration Extension application, DMAS is holding another 30-day public comment period from March 4 through April 4, 2019. The Public Notice document attached to this letter provides additional details about the FAMIS MOMS and FAMIS Select demonstration program. As indicated in the attached Public Notice, the draft demonstration renewal application proposed for CMS submission and the public notice process is available on the DMAS website at <http://www.dmas.virginia.gov/#/hifawaiver>. You may also refer to the CMS website for information regarding this waiver, at <https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/?entry=8648>.

DMAS invites Tribes, Indian Health Programs, and Urban Indian Organizations to submit comments or questions to Hope Richardson via email at Hope.Richardson@dmas.virginia.gov or by mail or in person to the address below. Comments must be received by April 24, 2019.

Virginia Department of Medical Assistance Services
FAMIS MOMS and FAMIS Select Demonstration Renewal, Tribal Comment
Attn: Hope Richardson
600 East Broad Street
Richmond, VA 23219

Please forward this information to any interested party.

Sincerely,



Jennifer S. Lee, M.D., Director
Department of Medical Assistance Services

Attachment: FAMIS MOMS and FAMIS Select Title XXI Section 1115 Demonstration Renewal Public Notice

Long-form Public Notice Document and Tribal Notice Attachment:

**FAMIS MOMS and FAMIS Select
Title XXI Section 1115 Demonstration Renewal
Public Notice**

February 15, 2019

I. Introduction

Pursuant to 42 CFR §431.408, notice is hereby given that the Virginia Department of Medical Assistance Services (DMAS) is seeking to extend for five years its Title XXI FAMIS MOMS and FAMIS Select Section 1115 Demonstration (No. 21-W-00058/3). Virginia's Title XXI Children's Health Insurance Program (CHIP) covers children with family income from 143% to 200% of the federal poverty level (FPL) under a separate child health plan known as the Family Access to Medical Insurance Security (FAMIS) Plan. Virginia's Title XXI Demonstration has two components. First, it expands Title XXI coverage to include uninsured pregnant women with family income up to 200% FPL who are not eligible for Medicaid, through a program known as FAMIS MOMS. Second, it uses Title XXI funds to support a health insurance premium assistance program known as FAMIS Select. Children must first be found eligible and enroll in FAMIS before electing to receive coverage through FAMIS Select.

DMAS provided an initial opportunity to review and provide input on the FAMIS MOMS and FAMIS Select Section 1115 Demonstration Extension from November 13 through December 13, 2018. During that initial public notice period, two public hearings were held, on November 30 and December 6, 2018. DMAS is now providing a second opportunity for the public to review and provide input on the Section 1115 Demonstration Extension. Virginia's demonstration extension application has been modified to provide additional information and clarity on how demonstration objectives have been met, how the demonstration will be evaluated for continued success, and actual and projected program enrollment and costs. This public comment period will be open from March 4 through April 4, 2019. The revised demonstration extension application will be submitted to the Centers for Medicare and Medicaid Services (CMS) following the Commonwealth's public comment period.

II. Background on Section 1115 Demonstrations

Section 1115 of the Social Security Act gives the Secretary of Health and Human Services authority to approve experimental, pilot, or demonstration projects that promote the objectives of the Medicaid and CHIP programs. Under this authority, the Secretary may waive certain provisions of law to give states additional flexibility to design and improve their programs. To learn more about Section 1115 Demonstration waivers, please visit the CMS website at <https://www.medicaid.gov/medicaid/section-1115-demo/index.html>.

III. Summary of Current Demonstration Features to be Continued Under the 1115 Demonstration Extension

FAMIS MOMS

Virginia implemented the FAMIS MOMS program beginning August 1, 2005. The purpose of the FAMIS MOMS program is to provide prenatal care to uninsured women living within the Title XXI income range and likely to give birth to FAMIS-eligible children. Consistent with Title XXI requirements, to be eligible for FAMIS MOMS a pregnant woman must be uninsured, a citizen or lawfully residing immigrant, and not be an inmate or an inpatient in an institution for mental diseases. Under the Demonstration, infants born to FAMIS and FAMIS MOMS participants are deemed eligible for Medicaid or CHIP coverage, as appropriate, on the date of birth and remain eligible until attaining the age of 1 unless, after a reasonable opportunity period, DMAS fails to obtain satisfactory documentation of citizenship and identity.

The FAMIS MOMS program provides eligible pregnant women the same comprehensive coverage that pregnant women receive from the Virginia Medicaid program. There is no difference in covered services, service limitations, or pre-authorization requirements. FAMIS MOMS uses the same health care services delivery systems (fee-for-service and managed care organizations) as Medicaid for pregnant women. All pregnant women are initially enrolled under fee-for-service then transferred to a managed care organization, usually within the first two months.

The cost-sharing requirements for FAMIS MOMS are consistent with those described in the Medicaid State Plan for pregnant women. There are no premiums, enrollment fees, or co-payments for pregnancy-related services.

FAMIS Select

The *Code of Virginia* provides an option for children eligible for FAMIS to be enrolled in private or employer-sponsored health insurance (ESHI) and for DMAS to contribute to the cost of such health plan for eligible dependent children if deemed cost effective to the Commonwealth. Virginia implemented the FAMIS Select program beginning August 1, 2005. FAMIS Select provides an option for families with children enrolled in FAMIS who have access to private or employer-sponsored coverage.

Currently all children are first enrolled in FAMIS. In July 2014, DMAS amended the state child health plan to remove the uninsured waiting period. This allows children who otherwise qualify for FAMIS to be eligible for the program without experiencing a period of uninsurance.

DMAS determines a fixed amount of premium assistance that will apply to children participating in the FAMIS Select program. This set amount is calculated to be less than the current per member per month cost of coverage of a child in FAMIS, plus administrative costs. This fixed premium assistance amount is currently \$100 per month per FAMIS-eligible child with a maximum not to exceed the employee's total monthly premium cost. The child then receives the health care services provided by the private/employer-sponsored health plan, using

that health plan's provider network and delivery system, and the family is responsible for any additional cost-sharing associated with that policy. Cost-sharing requirements are set by their private or employer-sponsored coverage. A wrap-around benefit is provided for immunizations, if not covered by the purchased health plan. For some families, the FAMIS Select payment may make health coverage affordable for the entire family. In other cases, it may allow a child to continue to see a doctor or dentist that may not accept FAMIS.

In June 2016, Virginia received approval to continue operating the FAMIS MOMS and FAMIS Select programs under this Demonstration Waiver. The extension expires on June 30, 2019.

Virginia requests that the Demonstration be extended for a period of five years, with no changes in program features anticipated.

For more information about Virginia's current HIFA 1115 Demonstration, which the Commonwealth is seeking to extend, please visit the CMS website at <https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/?entry=8648>.

IV. Demonstration Goals and Objectives

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

For FAMIS MOMS:

- Facilitate access to prenatal, obstetric, and postpartum care for low-income pregnant women who do not qualify for Medicaid;
- Improve selected birth outcomes of FAMIS MOMS participants and their newborns;
- Facilitate access to recommended and appropriate health care for newborns of FAMIS MOMS participants.

For FAMIS Select:

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

V. Demonstration Historical and Projected Enrollment and Expenditure Summary

The table below summarizes information on historical and projected expenditures and enrollment for the current approval period and the proposed five-year Demonstration renewal period.

Actual Costs

	FFY* 2016	FFY 2017	FFY 2018	FFY 2019**
Total Enrollment†	918 / 117	893 / 90	999 / 81	1,040 / 73
Total Costs	\$14,922,450	\$15,366,516	\$16,097,226	\$17,801,051

† FAMIS MOMS / FAMIS Select avg. eligible per mo

* FFY = Federal Fiscal Year

** Actual and projected based on actual to date.

Projected Costs

	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024
Total Enrollment	1,081 / 66	1,127 / 66	1176 / 66	1243 / 66	1299 / 66
Total Costs	\$17,082,301	\$17,492,794	\$17,891,770	\$18,404,459	\$18,583,313

VI. Demonstration Hypotheses and Evaluation Approach

FAMIS MOMS and FAMIS Select will test the following hypotheses using the following evaluation parameters.

FAMIS MOMS	
Hypotheses	Outcome Measures
FAMIS MOMS participants will receive adequate prenatal care at a higher rate than comparable women in the same income range who do not participate in FAMIS MOMS.	Percentage of FAMIS MOMS births with early and adequate prenatal care ¹
FAMIS MOMS will experience lower rates of early term (37-38 weeks gestation) and preterm (less than 37 weeks gestation) births.	Rate of early term and preterm births for FAMIS MOMS participants
	Percentage of low birthweight births for FAMIS MOMS participants
FAMIS MOMS newborns' access to recommended and appropriate health care services will compare favorably to that of newborns in the comparison group.	Percentage of non-NICU births by number of office visits with a PCP within the first 30 days after birth (for each of three categories: zero visits, one visit, at least two visits)
	Percentage of non-NICU births with at least one Emergency Department visit within 30 days following birth

Outcome measures for the FAMIS MOMS evaluation are assessed through a contracted Calendar Year Birth Outcomes Study. For the analysis, Medicaid recipient, claims, and encounter data files are linked with birth registry data provided through a data-sharing agreement with the

¹ "Early and adequate prenatal care" for a given pregnancy will be defined as having a Kotelchuck Index (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).

FAMIS Select	
Hypotheses	Outcome Measures
Participants in FAMIS Select will be satisfied with their consumer experience.	Percentage of FAMIS Select participants who report satisfactory or better consumer experience with the program
Children in FAMIS Select will have access to health care services when they need them.	Percentage of FAMIS Select participants who report satisfactory or better access to health care services
Children participating in FAMIS Select will have a medical home, i.e., a primary care physician (PCP) or other provider that they see regularly, and will receive recommended preventive care services.	Percentage of FAMIS Select children whose families report a positive response on measures of access to a regular medical home and attainment of regular preventive care services
FAMIS Select will be cost-advantageous to the Commonwealth.	Cost-effectiveness analysis

Outcome measures for FAMIS Select’s evaluation will draw upon survey responses from FAMIS Select participating families. In addition, the aggregate cost of providing FAMIS Select premium assistance will be calculated using DMAS enrollment and expenditure data and compared to the cost of providing FAMIS.

VII. Waiver and Expenditure Authority

The Commonwealth is requesting the same waiver and expenditure authorities as those approved in the current Demonstration, as listed below:

1. General Requirements, Eligibility and Outreach Section 2102

The Commonwealth’s Children’s Health Insurance Program (CHIP) does not have to reflect the Demonstration populations, and eligibility standards do not have to be limited by the general principles in section 2102(b) of the Act. To the extent other requirements in section 2102 of the Act duplicate Medicaid or other CHIP requirements for these or other populations, they do not apply, except that the Commonwealth must perform eligibility screening to ensure that the Demonstration populations do not include individuals otherwise eligible for Medicaid.

2. Cost Sharing Section 2103(e)

Rules governing cost sharing under section § 2103(e) of the Act shall not apply to the FAMIS Select population to the extent necessary to enable the Commonwealth to impose cost sharing in private or employer-sponsored insurance plans.

3. Cost-Sharing Exemption for American Indian/
Alaskan Native (AI/AN) Children

Section 2102(b)(3)(D)
42 CFR Section 457.535

In the FAMIS program, Virginia is not permitted to impose cost sharing on AI/AN children. In order to provide the option of coverage through a private or employer-sponsored plan, which may have a cost-sharing component, cost-sharing is allowable for AI/AN children who elect to participate in the premium assistance program, FAMIS Select.

4. Benefit Package Requirements

Section 2103

The Commonwealth is permitted to offer a benefit package that does not meet the requirements of section 2103 at 42 CFR § 457.4 10(b)(1) for the Demonstration populations.

5. Federal Matching Payment and Family Coverage Limits

Section 2105

Federal matching payment in excess of the 10 percent cap for expenditures related to the Demonstration population and limits on family coverage are not applicable to the Demonstration population.

Waiver Authority: Under the authority of section 1115(a) of the Act, the following exceptions to Medicaid and CHIP requirements have been granted:

Newborn deeming

Section 1902(a)(46)
Section 2102(b)(2)

Certain provisions are waived to enable the Commonwealth to consider children who are born to pregnant women enrolled in the Demonstration on the date of the child's birth—or eligible targeted low-income children under the approved State Plan on the date of the child's birth—to have applied and been determined otherwise eligible for Medicaid or CHIP, as appropriate, on the date of birth, and to remain eligible until attaining the age of 1, unless, after a reasonable opportunity period, the Agency fails to obtain evidence to satisfy documentation of citizenship under 42 CFR 435.407(c)(1) and (2) and identity under 42 CFR 435.407(e) and (f). This does not permit waivers of either Section 1903(x) of the Act or section 2105(c), which requires states to obtain satisfactory documentary evidence of citizenship or nationality during the reasonable opportunity period for individuals in Medicaid or CHIP.

VIII. Public Comment

The 30-day public comment period for the FAMIS MOMS and FAMIS Select Demonstration renewal application is from March 4, 2019 through April 4, 2019. All comments must be received by 11:59 p.m. (Eastern Time) on Thursday, April 4, 2019.

All information regarding the FAMIS MOMS and FAMIS Select Demonstration renewal application can be found on the DMAS website at <http://www.dmas.virginia.gov/#/hifawaiver>. DMAS will update this website throughout the public comment and application process.

You may provide your comments to DMAS by e-mailing comments to hope.richardson@dmas.virginia.gov or mailing written comments to the address below. When mailing or e-mailing, please specify "FAMIS MOMS and FAMIS Select Demonstration Renewal" in the subject header or mailing address.

Hope Richardson
Virginia Department of Medical Assistance Services
Attn: FAMIS MOMS and FAMIS Select Demonstration Renewal
600 East Broad Street
Richmond, VA 23219

Requests for a hard copy of the Virginia FAMIS MOMS and FAMIS Select application should be submitted by mail to the address above.

DMAS welcomes your comments about this demonstration renewal application. After considering the public's ideas and comments about the proposed demonstration renewal, DMAS will make final decisions about what changes to make to the application and then submit a revised application to CMS. The summary of comments will be posted for public viewing on the DMAS website along with the demonstration extension application when it is submitted to CMS.



Commonwealth of Virginia
Department of Medical Assistance Services

2016–17 Birth Outcomes Focused Study

June 2018

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1. Executive Summary

As a continued optional external quality review (EQR) task under the Centers for Medicare & Medicaid Services (CMS) Medicaid guidelines¹⁻¹, the Commonwealth of Virginia Department of Medical Assistance Services (DMAS) contracted with Health Services Advisory Group, Inc. (HSAG) to conduct a focused study in contract year 2016–2017 that will provide quantitative information about prenatal care and associated birth outcomes among women with births paid by Title XIX or Title XXI, which include the Medicaid, Family Access to Medical Insurance Security (FAMIS), and FAMIS MOMS programs. The Contract Year 2016–2017 Task F.1 Birth Outcomes Focused Study addressed the following questions:

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

Methodology and Study Indicators

The study used deterministic and probabilistic data linking to match eligible Virginia Medicaid or FAMIS MOMS recipients with birth registry records to identify births paid by Virginia Medicaid during calendar year (CY) 2015.¹⁻² Medicaid recipient, claims, and encounter data files were used with birth registry data fields for matching members from each of the data linkage processes. All probabilistically or deterministically linked birth registry records were included in the eligible focused study population, and births were further classified into a study population and a comparison group based on the timing and length of the mother's Medicaid enrollment.

- The study population includes women continuously enrolled in the Medicaid for Pregnant Women (MPW), the FAMIS MOMS (FM), or an “Other Medicaid”¹⁻³ (OM) program for a minimum of 43 days prior to, and including, the date of delivery.
- The comparison group includes women covered by one of the three Medicaid program groups on the date of delivery but without prior continuous enrollment.

¹⁻¹ Department of Health and Human Services, Centers for Medicare & Medicaid Services. *EQR Protocol 8: Conducting Focused Studies of Health Care Quality: A Voluntary Protocol for External Quality Review (EQR)*. Version 2.0. September 2012. Available at: <https://www.medicare.gov/medicaid/quality-of-care/downloads/eqr-protocol-8.pdf>. Accessed on: May 24, 2018.

¹⁻² Results for CY 2013 and CY 2014 are taken from previously published reports and included in the current study for trending purposes. Due to differences in the study methodology beginning in CY 2014, direct comparisons between CY 2013 and later years are for information only.

¹⁻³ The “Other Medicaid” category includes births paid by Medicaid that do not fall within the FAMIS MOMS or the Medicaid for Pregnant Women programs (i.e., the pregnancy aid categories). Births among the OM programs may also include women with Medicaid coverage for emergency services only.

Additionally, births among Virginia Medicaid or FAMIS MOMS recipients were assigned to one of three Medicaid program categories:

- The MPW program uses Title XIX (Medicaid State Plan) funding to serve pregnant women with incomes up to 133 percent of the federal poverty level (FPL).
- The FM program uses Title XXI (Children’s Health Insurance Program [CHIP] Demonstration Waiver) funding to serve pregnant women with incomes up to 200 percent of the FPL and provides benefits similar to Medicaid through the duration of pregnancy and for 60 days postpartum.
- The OM programs include births paid by Medicaid that do not fall within the FM or the MPW categories.

Five study indicators were used to assess the study questions among singleton, live births among Virginia Medicaid or FAMIS MOMS recipients during the CY 2015 measurement period:

- Percentage of 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., births scoring in the “Adequate” or “Adequate Plus” categories).
- Percentage of births by gestational estimate—The percentage of births by gestational estimate category, with a focus on births before 37 completed weeks of gestation.
- Percentage of newborns with low birth weight—The percentage of newborns in each of two low birth weight categories (i.e., births at less than 1,500 grams, and births between 1,500 and 2,499 grams).
- Percentage of newborns receiving at least two visits with a primary care provider (PCP) in the 30 days following birth—The percentage of newborns who received at least two office visits with a PCP-type provider in the 30 days following births. Office visits may include comprehensive well-child visits or problem-focused (i.e., “sick”) visits.
- Percentage of newborns who had at least one emergency department (ED) visit in the 30 days following birth—The percentage of newborns who received at least one ED visit in the 30 days following birth, exclusive of the hospital stay associated with the birth.

Results for each study indicator were calculated among the study and comparison populations for all singleton births occurring during CY 2015. For comparative purposes, CY 2015 national data available from the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS)¹⁻⁴ were used as benchmarks for selected study indicators.

¹⁻⁴ Martin JA, Hamilton BE, Osterman MJK, et al. Births: Final data for 2015. National Vital Statistics Reports; vl66 no 1. Hyattsville, MD: National Center for Health Statistics. 2017. Available at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf.

Findings

Overall, 34,338 births among Virginia Medicaid or FAMIS MOMS recipients were paid by Title XIX or Title XXI during CY 2015. A majority of CY 2015 births were categorized into the study population (83.3 percent, n=28,588) (i.e., babies born to women who were continuously enrolled in Medicaid for at least 43 days prior to delivery), and 16.7 percent (n=5,750) of births were categorized into the comparison group (i.e., babies born to women who were enrolled in Medicaid or FAMIS MOMS at the time of delivery but did not meet the 43-day continuous enrollment requirement). Births among women in the study population and comparison group included 2,300 births in which Medicaid benefits were limited to coverage of emergency services only. Of the 34,338 CY 2015 births, 589 multiple gestation births were excluded from study indicator calculations (i.e., 33,749 singleton births were considered in study indicator calculations).

The 34,338 births were further subdivided into three Medicaid programs and two Medicaid delivery systems, with the following total births for each group:

Medicaid Program

- MPW program: 76.6 percent of singleton CY 2015 births, n=26,294
- FM program: 3.4 percent of singleton CY 2015 births, n=1,162
- OM programs: 20 percent of singleton CY 2015 births, n=6,882

Medicaid Delivery System

- Managed Care: 74.2 percent of singleton CY 2015 births, n=25,492
- Fee-for-Service (FFS): 25.8 percent of singleton CY 2015 births, n=8,846

Detailed information on maternal demographic characteristics by study population, Medicaid program, and service delivery system are presented in Appendix A, and detailed study indicator findings by maternal demographic characteristics are presented in Appendix B.

Study indicator results by study population are presented in Table 1-1.

Table 1-1—Overall Study Findings by Indicator and Population Group Among Singleton Births, CY 2015

Study Indicator	CY 2015 National Benchmark ¹	Study Population		Comparison Group		Statistically Significant Difference (Yes/No)
		n	%	n	%	
Births With Early and Adequate Prenatal Care	77.6%	21,289	76.6	3,782	69.2	Yes
Preterm Births (< 37 Weeks Gestation)	7.8%	2,533	9.0	592	10.5	Yes
Newborns With Low Birth Weight (< 2,500g)	6.3%	2,361	8.4	474	8.4	No
Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth	N/A	7,165	25.9	2,049	37.2	Yes
Newborns With ≥ 1 ED Visit in the 30 Days Following Birth	N/A	2,009	7.3	546	9.9	Yes

¹ The national benchmark for *Births with Early and Adequate Prenatal Care* is the Healthy People 2020 goal. The national benchmarks for *Preterm Births* and *Newborns with Low Birth Weight* were identified from NVSS final data for 2015. Due to the study-specific nature of the remaining indicators, national benchmarks are not available for comparison.

Births to women in the study population fared better than those in the comparison group for the indicators, *Births With Early and Adequate Prenatal Care*, *Preterm Births*, and *Newborns With ≥1 ED Visit in the 30 Days Following Birth*. Births in the comparison group outperformed the study population for the indicator *Newborns With ≥2 PCP Visits in the 30 Days Following Birth*; that is, a greater percentage of children born to mothers in the comparison group had two or more visits with a PCP-type provider in the 30 days following birth compared to children born to mothers in the study population. Differences in CY 2015 results between the study population and comparison group were statistically significant for all indicators except *Newborns With Low Birth Weight (<2,500g)*.

Table 1-2 presents the study indicator results for singleton births by study indicator and year. Minimal year to year changes were observed among both the study population and the comparison group across most study indicators. However, the *Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth* indicator showed a statistically significant increase between years for both population groups.

Table 1-2—Overall Study Findings by Indicator and Population Group Among Singleton Births, CY 2014 and CY 2015

Study Indicator	CY 2015 National Benchmark ¹	CY 2014		CY 2015		Statistically Significant Difference (Yes/No)
		n	%	n	%	
Study Population						
Births With Early and Adequate Prenatal Care	77.6 %	20,493	76.7	21,289	76.6	No
Preterm Births (<37 Weeks Gestation)	7.8%	2,403	8.9	2,533	9.0	No
Newborns With Low Birth Weight (<2,500g)	6.3%	2,266	8.4	2,361	8.4	No
Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth	N/A	6,138	23.2	7,165	25.9	Yes
Newborns With ≥ 1 ED Visit in the 30 Days Following Birth	N/A	1,910	7.2	2,009	7.3	No
Comparison Group						
Births With Early and Adequate Prenatal Care	77.6 %	4,141	70.5	3,782	69.2	No
Preterm Births (<37 Weeks Gestation)	7.8%	543	8.9	592	10.5	No
Newborns With Low Birth Weight (<2,500g)	6.3%	476	7.8	474	8.4	No
Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth	N/A	1,912	32.2	2,049	37.2	Yes
Newborns With ≥ 1 ED Visit in the 30 Days Following Birth	N/A	676	11.4	546	9.9	No

¹ The national benchmark for *Births with Early and Adequate Prenatal Care* is the Healthy People 2020 goal. The national benchmarks for *Preterm Births* and *Newborns with Low Birth* were identified from NVSS final data for 2015. Due to the study-specific nature of the remaining indicators, national benchmarks are not available for comparison.

Table 1-3 illustrates the study indicator results for singleton births by delivery system. Except for the *Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth* indicator, births to women enrolled in managed care fared better than those in FFS. The results showed that neither delivery system performed better than the available national benchmarks.

Table 1-3—Overall Study Findings by Indicator and Medicaid Delivery System Among Singleton Births, CY 2015

Study Indicator	CY 2015 National Benchmark ¹	Managed Care		Fee-For-Service		Statistically Significant Difference (Yes/No)
		n	%	n	%	
Births With Early and Adequate Prenatal Care	77.6 %	18,918	76.3	6,153	72.9	Yes
Preterm Births (<37 Weeks Gestation)	7.8%	2,229	8.9	896	10.3	Yes
Newborns With Low Birth Weight (<2,500g)	6.3%	2,082	8.3	753	8.7	No
Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth	N/A	5,792	23.4	3,422	40.5	Yes
Newborns With ≥ 1 ED Visit in the 30 Days Following Birth	N/A	1,652	6.7	903	10.7	Yes

¹ The national benchmark for *Births with Early and Adequate Prenatal Care* is the Healthy People 2020 goal. The national benchmarks for *Preterm Births* and *Newborns with Low Birth Weight* were identified from NVSS final data for 2015. Due to the study-specific nature of the remaining indicators, national benchmarks are not available for comparison.

Table 1-4 illustrates the study indicator results by delivery system and year. Results for managed care and FFS members were better in CY 2015 compared to CY 2014 for the *Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth* indicator. Members enrolled in FFS also saw improvement between CY 2014 and CY 2015 for the *Newborns With ≥ 1 ED Visit in the 30 Days Following Birth* indicator. However, members enrolled in managed care fared better in CY 2014 compared to CY 2015 for the *Newborns With ≥ 1 ED Visit in the 30 Days Following Birth* indicator.

Table 1-4—Overall Study Findings by Indicator and Service Delivery System Among Singleton Births, CY 2014 and CY 2015

Study Indicator	CY 2015 National Benchmark ¹	CY 2014		CY 2015		Statistically Significant Difference (Yes/No)
		n	%	n	%	
Managed Care						
Births With Early and Adequate Prenatal Care	77.6 %	17,566	77.3	18,918	76.3	No
Preterm Births (<37 Weeks Gestation)	7.8%	1,952	8.5	2,229	8.9	No
Newborns With Low Birth Weight (<2,500g)	6.3%	1,900	8.3	2,082	8.3	No
Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth	N/A	4,479	19.9	5,792	23.4	Yes
Newborns With ≥ 1 ED Visit in the 30 Days Following Birth	N/A	1,439	6.4	1,652	6.7	Yes

Study Indicator	CY 2015 National Benchmark ¹	CY 2014		CY 2015		Statistically Significant Difference (Yes/No)
		n	%	n	%	
Fee-For-Service						
Births With Early and Adequate Prenatal Care	77.6 %	7,068	71.8	6,153	72.9	No
Preterm Births (<37 Weeks Gestation)	7.8%	994	9.8	896	10.3	No
Newborns With Low Birth Weight (<2,500g)	6.3%	842	8.3	753	8.7	No
Newborns With ≥2 PCP Visits in the 30 Days Following Birth	N/A	3,571	36.3	3,422	40.5	Yes
Newborns With ≥1 ED Visit in the 30 Days Following Birth	N/A	1,147	11.7	903	10.7	Yes

¹ The national benchmark for *Births with Early and Adequate Prenatal Care* is the Healthy People 2020 goal. The national benchmarks for *Preterm Births* and *Newborns with Low Birth Weight* were identified from NVSS final data for 2015. Due to the study-specific nature of the remaining indicators, national benchmarks are not available for comparison.

Conclusions and Recommendations

This study considers five indicators that provide quantitative information about prenatal care and associated birth outcomes among women with births paid by Virginia Medicaid, and the study indicators related to prenatal care, preterm birth, and low birth weight showed encouraging results for Virginia Medicaid members. Specifically, results for the *Births with Early and Adequate Prenatal Care* indicator shows that women in the study had rates of early and adequate prenatal care only slightly lower than the Healthy People 2020 benchmark. Results for the *Preterm Births* and *Newborns With Low Birth Weight (<2,500g)* indicators demonstrated rates higher than the national benchmarks (i.e., worse performance than the national benchmarks). However, all three indicators failed to show improvement between CY 2014 and CY 2015. The results for the *Newborns With ≥2 PCP Visits in the 30 Days Following Birth* indicator showed that nearly 61 percent of births failed to meet the American Academy of Pediatrics’ (AAP’s) recommendations for PCP office visits within the first 30 days after birth. However, these results may be influenced by healthcare billing practices that reduce the ability to administratively identify newborn primary care visits occurring in the hospital setting in the days following the birth.¹⁻⁵

Overall, a higher percentage of women in the study population received early and adequate prenatal care compared to the comparison group. While continuous enrollment was a requirement for inclusion in the study population, this requirement was unlikely to have played a role in the rate of early and adequate prenatal care, as the continuous enrollment requirements were only assessed during the six-week period prior to delivery. This date range is beyond the first trimester prenatal care initiation considered critical for adequate prenatal care.

¹⁻⁵ Medical services for newborns may be associated with the mother’s Medicaid ID for the baby’s month of birth and up to two subsequent months. As such, the Methodology section of this report includes a detailed description of the approach used to link newborns with primary care office visits occurring during the first 30 days of life.

Births to women in the study population also outperformed the comparison group for the *Preterm Births* indicator. Results for the *Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth* indicator show that the comparison group had a higher percentage of births with at least two office visits. Finally, results for the *Newborns With ≥ 1 ED Visit in the 30 Days Following Birth* indicator showed that the percentage of non-neonatal intensive care unit (NICU) infants with at least one ED visit was lower among the study population compared to the comparison group. The differences in demographic characteristics of the study population and comparison group should be considered when interpreting these results, as the population groups differed in distribution by maternal age group, race/ethnicity, and region of residence. As such, the geographic distribution of the two populations may extend to differences in healthcare provider networks, ultimately impacting the study results for the *Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth* indicator.

Quality improvement efforts targeting the root causes of preterm births; low birth weight infants; and access to prenatal, postpartum, and neonatal care will result in positive outcomes for mothers and their infants and subsequent improvements in quality improvement metrics (e.g., the birth outcomes study indicators). For example, targeted data mining efforts could assess the clinical course of, and medical necessity for, infants receiving ED visits in the first 30 days of life. Similarly, an assessment of network adequacy for prenatal care providers could determine the extent to which the lack of improvement in the rate of women receiving early and adequate prenatal care may result from barriers to care (e.g., difficulty in obtaining appointments due to provider requirements or a lack of providers in certain geographies). Root cause analyses among stratified populations can aid in discerning sociodemographic and clinical factors contributing to these indicator results, especially with respect to relatively stable study indicator rates between CY 2014 and CY 2015. Such analyses can support targeted quality improvement efforts to increase the number of women initiating prenatal care in the first trimester.

Recommendations

Since the CY 2015 study indicator results are generally stable when compared to the CY 2014 results, it is important to note that similar recommendations from the Contract Year 2015–2016 Birth Outcomes Focused Study may still be relevant. Additionally, DMAS' current transition to the Medallion 4.0 program for Medicaid managed care organizations (MCOs) provides the opportunity for DMAS and the MCOs to reassess existing quality improvement strategies related to peripartum care and resulting clinical outcomes among neonates. Moving forward, the MCOs' quality initiatives can be designed to ensure alignment with Medallion 4.0's targeted topics regarding maternity services and services for infants (i.e., 0 to 3 years). As such, HSAG offers the following recommendations based on the findings detailed in this report:

- DMAS should continue with collaborative efforts such as those described in the Maternal and Infant Improvement Project (MIIP) Activities Report 2015–2016.¹⁻⁶ For example, the partnership between

¹⁻⁶ Virginia Department of Medical Assistance Services. Maternal and Infant Improvement Project (MIIP) Activities Report 2015-2016. Available at: http://www.dmas.virginia.gov/Content_atchs/mch/MIIP%20Activities%20Report_12012016_Approved.pdf. Accessed on: May 15, 2018.

DMAS and the Virginia Department of Social Services (VDSS) resulted in the production of instructional material that could be utilized by Medicaid, FAMIS, and FAMIS MOMS recipients. DMAS should expand these collaborations to include other agencies pursuing similar objectives (e.g., Virginia Department of Health's [VDH's] Family Home Visiting Program). Such collaboration allows influential groups to design interventions without duplicating efforts and may allow the respective stakeholders to reach a larger audience.

- The generally stable study indicator results between CY 2014 and CY 2015 may be indicative of underlying issues related to healthcare accessibility among women and newborns receiving services under Virginia Medicaid, FAMIS, and FAMIS MOMS. As such, DMAS should consider conducting a focused evaluation of access to care to determine the availability of, and members' ability to access, PCPs, including pediatricians; providers of prenatal and postpartum care; and facilities related to perinatal care (e.g., hospitals and freestanding birth centers, pharmacies, and laboratory and x-ray providers). In addition to considering providers' capacity and availability, evaluation should include an assessment of potential sociodemographic and clinical factors influencing members' access to perinatal care. Results from an access evaluation will aid DMAS in determining barriers experienced by women seeking perinatal care and looking to establish consistent primary care for their newborns.
 - DMAS may use existing or planned provider network evaluation results to determine the extent to which MCOs' utilization management policies may impact members' ability to receive timely, clinically-appropriate care before, during, and after a pregnancy. Such efforts may be aligned with the Medallion 4.0 focus on long-acting reversible contraceptives (LARCs) to determine the extent to which postpartum care is available, accessible, and used as an opportunity to educate members about their reproductive health options.
- DMAS should continue to monitor, trend, and evaluate prenatal care and birth outcomes among Medicaid, FAMIS, and FAMIS MOMS recipients. Because results for the CY 2015 study indicators continue to lag below national benchmarks, DMAS should use the detailed study results and accompanying analytic dataset, in conjunction with qualitative and quantitative data from stakeholders, to evaluate the impact of demographic elements on prenatal care and birth outcomes. Results from these data mining efforts may provide targets for further analysis or targeted quality improvement activities under Medallion 4.0. Further monitoring will also provide information regarding the efficacy of ongoing interventions by DMAS and stakeholders.
 - As many clinical conditions among neonates may warrant emergent care, evaluation measures may consider the impact of clinical decision-making on the prevalence of ED visits. For example, further analysis may consider using the New York University (NYU) ED algorithm¹⁻⁷ to identify the proportion of non-emergent ED visits, or to assess infants' claims and encounter data to determine whether or not an ED visit was preceded by an office visit with a PCP-type provider.

¹⁻⁷ New York University, Robert F. Wagner Graduate School of Public Service. Wagner Faculty & Research. Available at: <https://wagner.nyu.edu/faculty/billings/nyued-background#>. Accessed on: May 21, 2018.

2. Overview and Methodology

Introduction

As an EQR task under the CMS Medicaid guidelines,²⁻¹ the Commonwealth of Virginia DMAS contracted with HSAG to conduct a focused study in contract year 2016–2017 to provide quantitative information about prenatal care and associated birth outcomes among women with births paid by Title XIX or Title XXI, which include the Medicaid, FAMIS, and FAMIS MOMS programs. The 2016–2017 Task F.1 Birth Outcomes Focused Study addressed the following questions:

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

Methodology

The study includes all singleton births among Virginia Medicaid or FAMIS MOMS recipients paid by Title XIX or Title XXI during CY 2015. Results for CY 2014 were taken from a previously published report and included in the current study for trending purposes. As the study methodology differed for CY 2013 births, these results are presented in the appendices for comparison only.

From Medicaid member, claims, and encounter data provided by DMAS, HSAG assembled a list of members eligible for the focused study. This list was submitted to DMAS for linkage to the VDH birth registry. Members eligible for the data linkage include Virginia Medicaid recipients with a live birth paid by Title XIX or Title XXI during the measurement period, regardless of whether the birth occurred in Virginia.²⁻² Deterministic and probabilistic data linkage methods were used by DMAS to match HSAG's list of potential study members to birth registry records.²⁻³ DMAS returned a data file to HSAG containing the information from HSAG's original member list and selected birth registry data fields for matched members from both of the data linkage processes. All probabilistically or deterministically linked birth registry records were included in the overall eligible population for this focused study. This eligible population was further classified by study population, Medicaid program, and service delivery system.

²⁻¹ Department of Health and Human Services, Centers for Medicare & Medicaid Services. EQR Protocol 8: Conducting Focused Studies of Health Care Quality: A Voluntary Protocol for External Quality Review (EQR). Version 2.0. September 2012.

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

²⁻³ The deterministic data linkage sought to match potential study members with birth registry records using the maternal Social Security number (SSN); this method is consistent with Birth Outcomes Focused Study methods conducted in years prior to HSAG undertaking the study. 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.

To explore outcomes among all births paid by Virginia Medicaid, births were categorized into a study population and a comparison group depending on the timing and length of Medicaid enrollment, as these factors affect services offered through Medicaid. The study population included women continuously enrolled in the Medicaid for Pregnant Women, the FAMIS MOMS, or other Medicaid program for a minimum of 43 days prior to, and including, the date of delivery. The comparison group consisted of women covered by one of the three Medicaid programs on the date of delivery, but without prior continuous enrollment.

The Medicaid for Pregnant Women program uses Title XIX (Medicaid State Plan) funding to serve pregnant women with incomes up to 133 percent of the FPL. The FAMIS MOMS program uses Title XXI (CHIP Demonstration Waiver) funding to serve pregnant women with incomes up to 200 percent of the FPL. FAMIS MOMS provides benefits similar to Medicaid through the duration of pregnancy and for 60 days postpartum. The Other Medicaid category includes births paid by Medicaid that do not fall within the FAMIS MOMS or the Medicaid for Pregnant Women categories. While the term “Medicaid” is used throughout the report, this term refers to all programs included in the Birth Outcomes Focused Study regardless of funding source (i.e., Title XIX or Title XXI).

For comparative purposes, national data for CY 2015 available from the CDC, NCHS, and NVSS were used to identify national averages for selected study indicators for comparison to Virginia Medicaid results.²⁻⁴ The NVSS obtains data from State birth registries and includes all births, but because individual states’ birth registries may not collect payment information, NVSS data do not report birth statistics by payor.

Study Indicators

The following five indicators were used to assess the study questions among singleton, live births paid by Virginia Medicaid during the measurement period:

- Percentage of births with early and adequate prenatal care—The percentage of births with an APNCU Index (i.e., the Kotelchuck Index) score greater than or equal to 80 percent (i.e., births scoring in the “Adequate” or “Adequate Plus” categories).
- Percentage of births by gestational estimate²⁻⁵—The percentage of births by gestational estimate category, with a focus on births before 37 completed weeks of gestation (i.e., preterm births).

²⁻⁴ Martin JA, Hamilton BE, Osterman MJK, et al. Births: Final data for 2015. National Vital Statistics Reports; vl66 no 1. Hyattsville, MD: National Center for Health Statistics. 2017. Available at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf. Accessed on: May 15, 2018.

²⁻⁵ Newborns’ estimated gestational age for this indicator is based on the *Clinical Estimate of Gestation* (CEG) provided on the birth certificate. Birth certificate records with missing CEG values were classified as “unknown gestational age” or excluded from analysis based on number of identified cases.

- Percentage of newborns with low birth weight—The percentage of newborns in each of two low birth weight categories (i.e., births at less than 1,500 grams, and births between 1,500 and 2,499 grams).
- Percentage of newborns receiving at least two visits with a PCP in the 30 days following birth—The percentage of newborns who received at least two office visits²⁻⁶ with a PCP-type provider²⁻⁷ in the 30 days following birth. Office visits may include comprehensive well-child visits or problem-focused (i.e., “sick”) visits with a PCP-type provider.
- Percentage of newborns who had at least one ED visit in the 30 days following birth—The percentage of newborns who received at least one ED visit²⁻⁸ in the 30 days following birth, exclusive of the hospital stay associated with the birth.

Study indicator results are limited to singleton births, defined using the *Plurality* field in the birth registry. Since multiple gestation births are subject to different clinical guidelines, results for multiple births are limited to demographic summaries (e.g., maternal age, Medicaid program) and presented for informational purposes only.

Results for each study indicator were calculated among the study population and comparison group for the measurement period under consideration (i.e., January 1, 2015, through December 31, 2015, for CY 2015). Chi-square tests were used to assess statistically significant differences in CY 2015 findings between the study population and the comparison group for each indicator. In addition, CY 2014 study population and comparison group results from the 2015–16 Prenatal Care and Birth Outcomes Focused Study were compared to CY 2015 results using chi-square tests to determine if statistically significant differences were observed between findings from each measurement period.

Medicaid claims and encounters for newborns were required to assess office visits with a PCP-type provider within the first 30 days of life and ED visits during the first 30 days of life. Since a newborn may not receive a unique Medicaid ID until several weeks after birth, two methods were considered to link births in the focused study with claims and encounters necessary to assess PCP visits and ED visits.

²⁻⁶ Office visits were identified from claims/encounter data with any of the following procedure and/or diagnosis codes for office or other outpatient services, home services, preventive medicine, or general medical examination: CPT: 99201-99205, 99211-99215, 99241-99245, 99341-99345, 99347-99350, 99381-99385, 99391-99395, 99401-99404, 99411-99412, 99420, 99429; HCPCS: G0438, G0439; ICD-9-CM: V20.2, V70.0, V70.3, V70.5, V70.6, V70.8, V70.9; and ICD-10-CM: Z00.0x, Z00.1x, Z00.8.

²⁻⁷ A data file linking Medicaid members to their assigned PCP(s) during the measurement period was not available, and PCP-type providers were instead identified using provider specialty, classification, and/or taxonomy codes from a list approved by DMAS for this study. In addition to federally qualified health centers (FQHCs) and rural health centers (RHCs) that provide primary care services, PCP-type providers included, but were not limited to, physicians, nurse practitioners, and physician assistant specializing in obstetrics and gynecology, internal medicine, family or general practice; pediatricians; and certified professional midwives or nurse midwives. An office visit with any PCP-type provider was considered numerator-compliant for this indicator.

²⁻⁸ ED visits were identified from claims/encounter data using any of the following procedure or revenue codes: CPT 99281-99285; CPT 10040-69979 and Place of Service “23” (Emergency Room – Hospital); or Revenue Codes 045x or 0981. ED visits associated with the newborn’s birth and resulting hospital stay were excluded, as were ED visits associated with transfers between acute inpatient hospital facilities.

The first method identified claims/encounters billed under a temporary Medicaid ID consisting of the first nine digits of the mother's Medicaid ID, and "001" as the last three digits. The second method identified claims/encounters billed using the newborn's permanent Medicaid ID, if already assigned. The newborn's permanent Medicaid ID was identified by linking the mother's Medicaid ID to the R_MON_ID data field in the baby's demographic record.

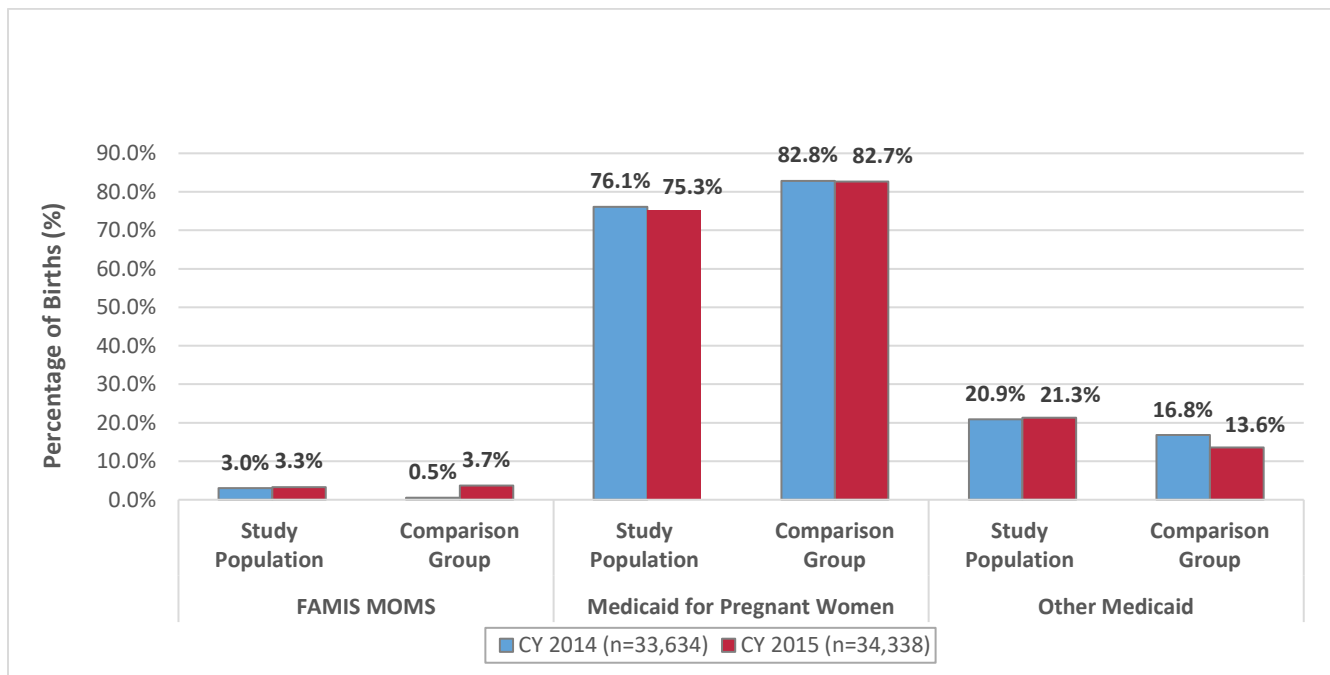
Newborns requiring treatment in the NICU immediately following birth may have other medical conditions that would result in a different clinical utilization pattern in the first 30 days of life, when compared to newborns who did not require a NICU stay. Therefore, newborns with a NICU stay were excluded from calculation of study indicators related to PCP and ED visits in the first 30 days of life. Newborns with NICU stays were identified as having inpatient claims/encounters with a revenue code of "0173" or "0174."

3. Findings

Using the deterministic and probabilistic data linkage methods, 34,338 births were identified for inclusion in the study in CY 2015. Overall, 83.3 percent (n=28,588) were categorized into the study population (i.e., babies born to women who were continuously enrolled in Medicaid for at least 43 days prior to delivery) and 16.7 percent (n=5,750) were categorized into the comparison group (i.e., babies born to women who were enrolled in Medicaid at the time of delivery but who did not meet the 43-day continuous enrollment requirement). Births among women in the study group and comparison group include 2,300 births in which Medicaid coverage was limited to emergency services only. A total of 589 multiple gestation births were identified and excluded from study indicator calculations (i.e., 33,749 singleton live births were eligible for inclusion in study indicator calculations).

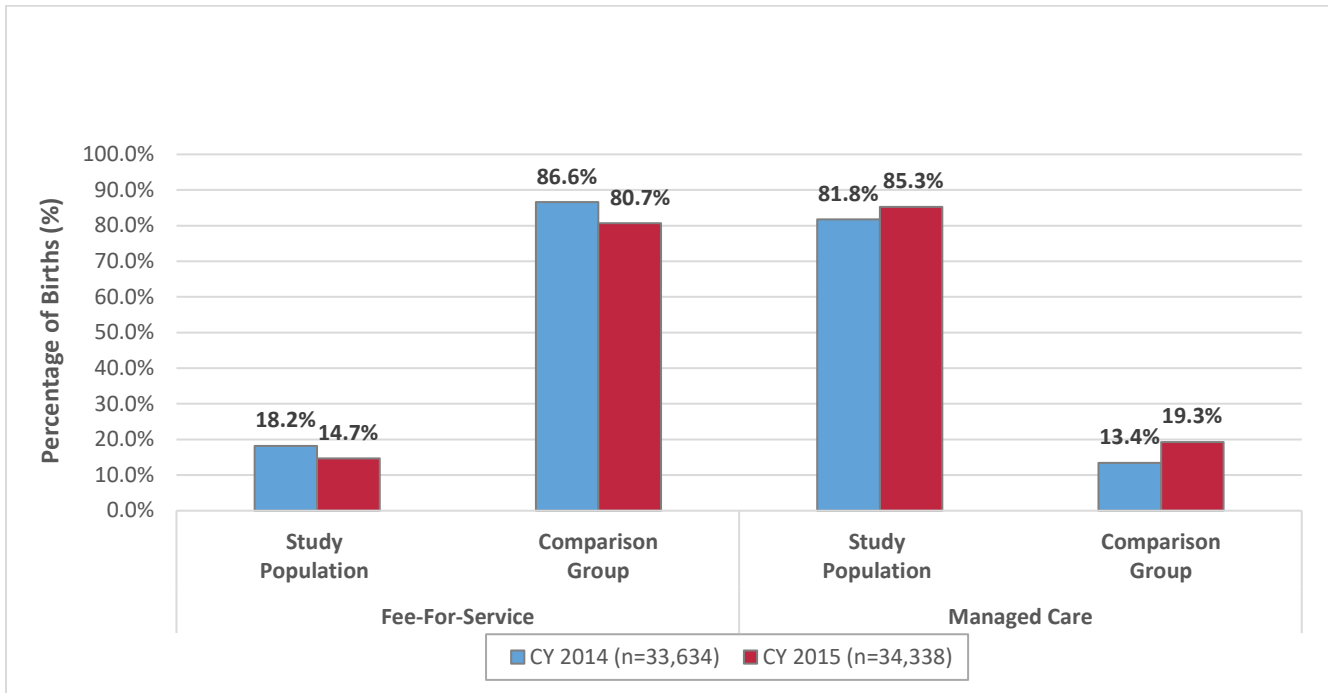
Approximately three-quarters of CY 2015 births paid by Virginia Medicaid were to women in the MPW program (76.6 percent, n=26,294). Fewer than 4 percent of births were to women enrolled in the FM program (3.4 percent, n=1,162). And 20 percent (n=6,882) of births were to women enrolled in OM programs. Figure 3-1 presents the percentage of births by Medicaid program and population group for CY 2014 and CY 2015.

Figure 3-1—Births to Women by Medicaid Program and Population Group, CY 2014 and CY 2015



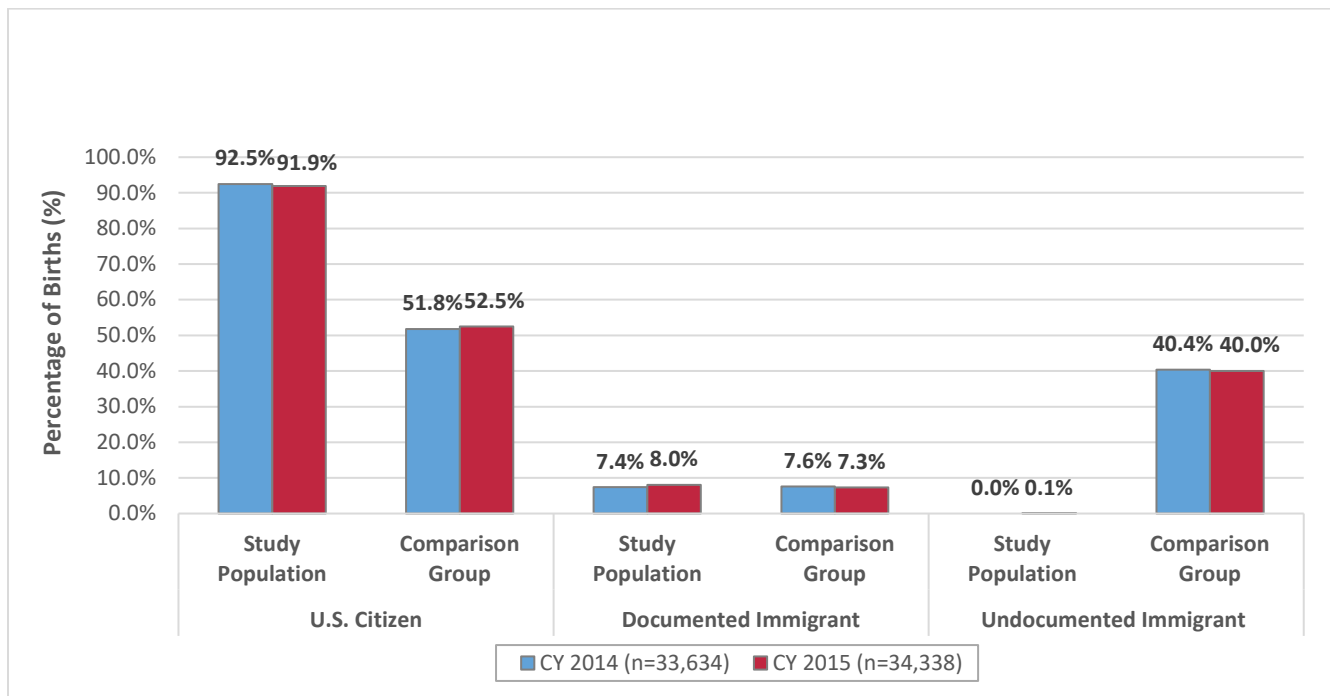
Approximately two-thirds of CY 2015 births paid by Virginia Medicaid were to women enrolled in managed care (74.2 percent, n=25,492) with the remaining 25.8 percent (n=8,846) enrolled in the FFS delivery system. Figure 3-2 presents the percentage of births by service delivery system and study population for CY 2014 and CY 2015.

Figure 3-2—Births to Women by Medicaid Delivery System and Population Group, CY 2014 and CY 2015



The data linkage process allowed for the determination of maternal citizenship status from the Medicaid demographic records available at the time of data collection. Among the total population of 34,338, 85.3 percent (n=29,296) of births were to women identified as U.S. citizens. An additional 7.9 percent (n=2,700) were identified as documented immigrants. A total of 2,322 (6.8 percent) women were classified as undocumented immigrants. Nearly all births to undocumented immigrants were categorized into the comparison group. This is expected as undocumented immigrants are not eligible for full Medicaid benefits and would not be expected to meet the continuous enrollment criteria for the study group. Finally, there were 20 births to women with an unknown or other citizenship status. Figure 3-3 presents the percentage of births by citizenship status and population group for CY 2014 and CY 2015.

Figure 3-3—Births to Women by Citizenship Status and Population Group, CY 2014 and CY 2015



White, Non-Hispanic women made up the largest group of births during CY 2015 (41.5 percent, n=14,262), followed by births among Black/African American women (37.5 percent, n=12,865). The distribution of births varied by race/ethnicity and population group. In the study population, White, Non-Hispanic women and Black/African American women accounted for the first and second two largest proportions, respectively. However, Hispanic women and White, Non-Hispanic women accounted for the largest race/ethnicity subgroups in the comparison group. Table 3-1 presents the number and percentage of births in CY 2014 and CY 2015 by maternal race/ethnicity and study group.

Table 3-1—Births to Women by Maternal Race/Ethnicity and Population Group, CY 2014 and 2015

Maternal Age	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
White, Non-Hispanic	12,293	44.8	12,787	44.7	1,564	25.2	1,475	25.7
Black/African American	11,054	40.3	11,504	40.2	1,490	24.0	1,361	23.7
Asian	986	3.6	821	2.9	229	3.7	182	3.2
Hispanic	2,447	8.9	2,581	9.0	2,791	45.0	2,563	44.6
Other/Unknown	658	2.4	895	3.1	122	2.0	169	2.9
Total	27,438	100.0	28,588	100.0	6,196	100.0	5,750	100.0

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

While this study also considered births by maternal age group, detailed results for singleton births in CY 2014 and CY 2015 by maternal age and population group are presented in Table A-1 (Appendix A). The largest age group is age 25 to 29 years (31.1 percent, n=10,683). While the second and third largest groups were 21 to 24 years (27.2 percent, n=9,356) and 30 to 34 years (18.7 percent, n=6,422), respectively.

Early and Adequate Prenatal Care

75.4 percent of CY 2015 singleton births had early and adequate prenatal care; this was lower than the 77.6 percent national goal set by the Healthy People 2020 initiative.

The adequacy of prenatal care received during pregnancy has been associated with lower incidence of poor birth outcomes, such as preterm delivery and low-birth-weight births.³⁻¹ Moreover, women who do not receive adequate prenatal care during pregnancy risk complications that may not be appropriately managed or go completely undetected, resulting in the possibility of adverse outcomes for the mother and baby.³⁻² 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 that 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.³⁻³ Table 3-2 shows the five categories of composite scores and criteria used for each category.

Table 3-2—APNCU Index Criteria for Adequacy of Prenatal Care Visits

APNCU Index Category	Number of Prenatal Care Visits
Missing Information	Information on the number of prenatal care visits is unavailable
Inadequate Prenatal Care	Less than 50 percent of expected visits
Intermediate Prenatal Care	50 percent to 79 percent of expected visits
Adequate Prenatal Care	80 percent to 109 percent of expected visits
Adequate Plus Prenatal Care	110 percent or more of expected visits

³⁻¹ Krueger PM, Scholl TO (2000). Adequacy of prenatal care and pregnancy outcome. *The Journal of the American Osteopathic Association*, 100(8), 485-492.

³⁻² U.S. Department of Health and Human Services, Health Resources and Services Administration, Prenatal – First Trimester Care Access. Rockville, Maryland: U.S. Department of Health and Human Services. Available at <https://www.hrsa.gov/sites/default/files/quality/toolbox/pdfs/prenatalfirsttrimestercareaccess.pdf>.

³⁻³ Kotelchuck M (1994). An evaluation of the Kessner Adequacy of Prenatal Care Index and a proposed Adequacy of Prenatal Care Utilization Index. *American Journal of Public Health*, 84(9), 1414-1420.

In 2003, a revised version of the nationally standard birth certificate was released, which captured prenatal care information including the month prenatal care was initiated and the number of visits up to delivery. Virginia implemented the 2003 Revised Standard Certificate of Live Birth in 2012.³⁻⁴ National benchmarks for assessing adequacy of prenatal care were established for those states that initiated consistent reporting of this information. Healthy People 2020 reported a national baseline in which 70.5 percent of women received early and adequate prenatal care during 2007,³⁻⁵ with a goal of reaching 77.6 percent by 2020.³⁻⁶

The U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA) has released more recent national prenatal care data in the Child Health USA 2014 annual health status report. Among the 38 states and District of Columbia that had implemented the 2003 revised standard birth certificate, 74.1 percent of women initiated prenatal care in their first trimester and 84.9 percent of women reported an adequate number of prenatal visits.³⁻⁷

A total of 33,749 singleton births were paid by Virginia Medicaid in CY 2015, and 33,239 had information allowing for calculation of APNCU study indicator. Of these, 75.4 percent (n=25,071) had early and adequate prenatal care (i.e., results in the “Adequate” or “Adequate Plus” APNCU Index categories), a result lower than the Healthy People 2020 target of 77.6 percent.

As seen in Figure 3-4 and Figure 3-5 respectively, 75.8 percent (n=21,289) of singleton births to women in the study population had early and adequate prenatal care, compared to 67.0 percent (n=3,782) of singleton births to women in the comparison group. Further, this difference was statistically significant ($p \leq 0.0001$). The percentage of women classified into each of the five APNCU index categories was similar between CY 2014 and CY 2015 for both the study population and the comparison group.

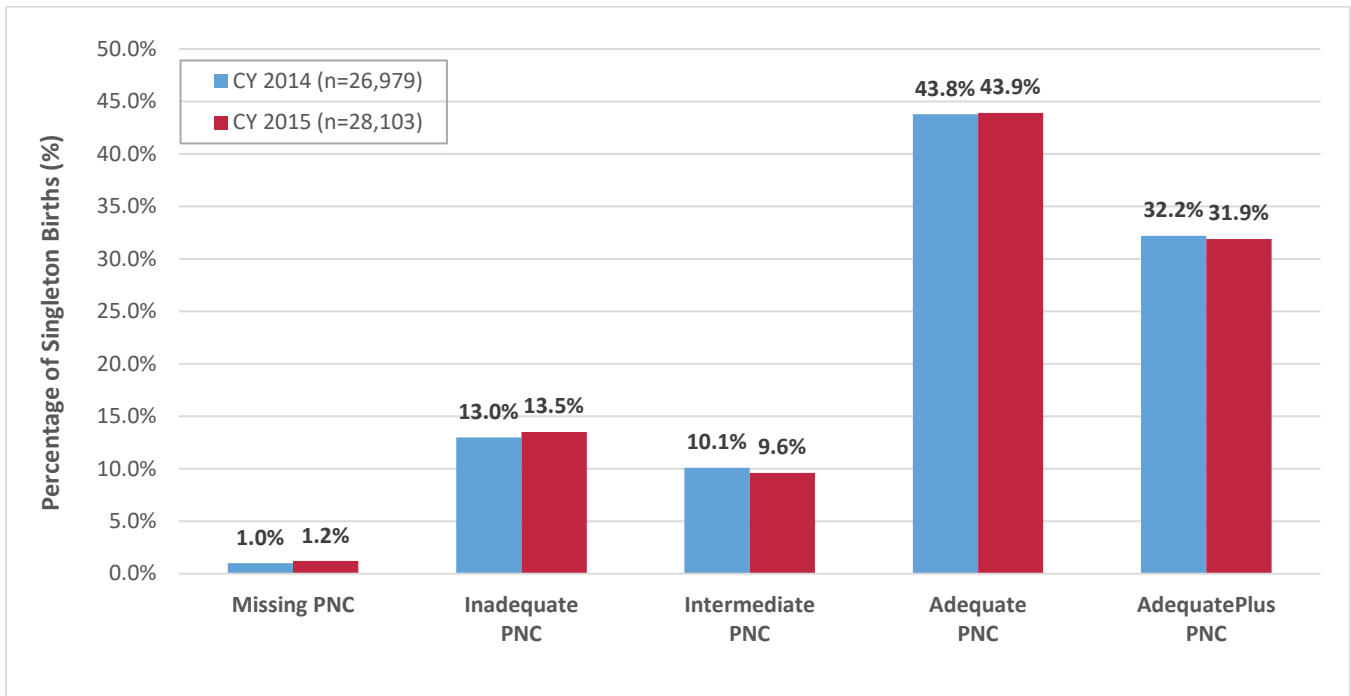
³⁻⁴ PeriStats [Internet]. White Plains, New York: March of Dimes Perinatal Data Center. Available at: <https://www.marchofdimes.org/peristats/popup.aspx?width=50%&height=40%&s=calc®=&top=&id=23>. Accessed on April 10, 2018.

³⁻⁵ The baseline rate was based on CY 2007 data from the 22 states that consistently reported prenatal care adequacy on the 2003 standard birth certificate.

³⁻⁶ Healthy People 2020 [Internet]. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Available at: <http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>. Accessed on: April 10, 2018.

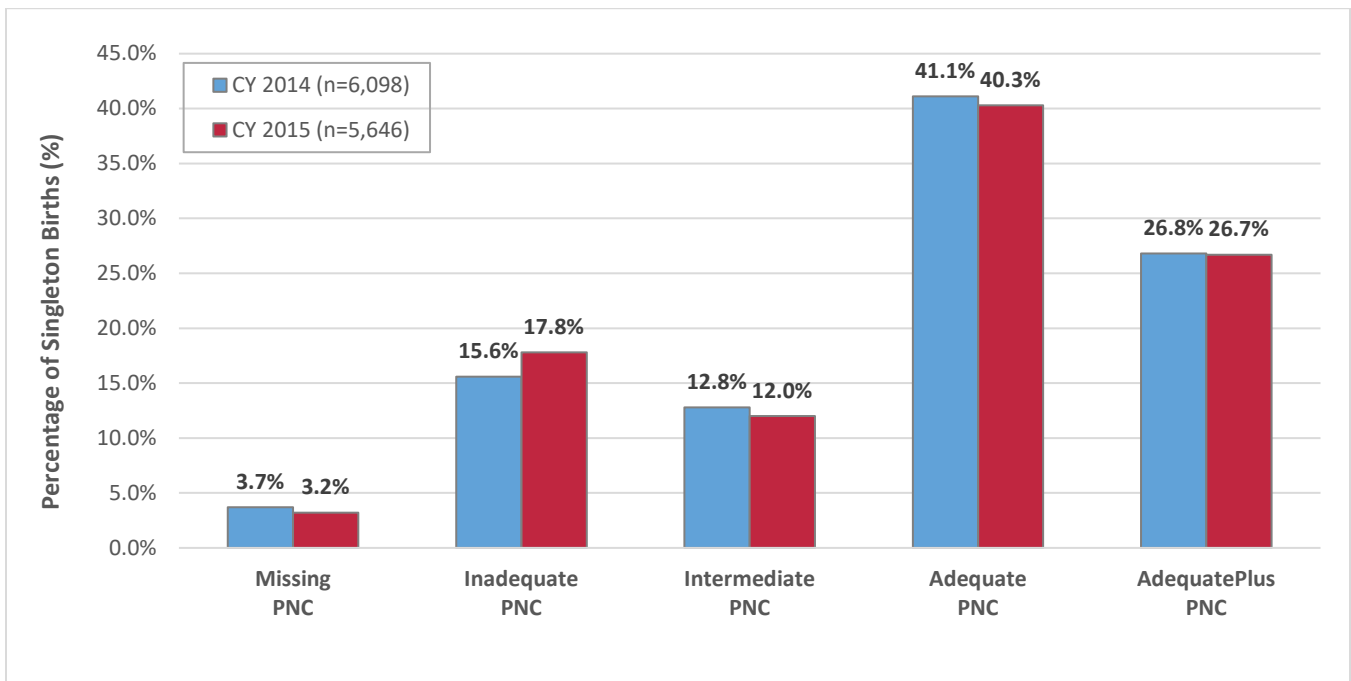
³⁻⁷ U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. *Child Health USA 2014*. Rockville, Maryland: U.S. Department of Health and Human Services, 2014. Available at: <https://www.mchb.hrsa.gov>. Accessed on: April 10, 2018. Note that this report is published every two years, and the most current data available are for 2014.

Figure 3-4—Adequacy of Prenatal Care Categories Among the Study Population, CY 2014 and CY 2015



PNC = prenatal care

Figure 3-5—Adequacy of Prenatal Care Categories Among the Comparison Group, CY 2014 and CY 2015



PNC = prenatal care

Births to women who received early and adequate prenatal care differed by Medicaid program in CY 2015. As shown in Table 3-3, overall and by population group, women in the FM program recorded the highest percentage of early and adequate prenatal care compared to women in the MPW and OM programs. All three Medicaid groups showed a small decrease in mothers receiving early and adequate prenatal care between CY 2014 and CY 2015.

Table 3-3—Adequacy of Prenatal Care Categories by Medicaid Program and Population Group, CY 2014 and CY 2015

Adequacy of Prenatal Care Category	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
FAMIS MOMS												
Missing PNC	1	0.1	3	0.3	0	0.0	4	1.9	1	0.1	7	0.6
Inadequate PNC	87	10.7	129	13.9	5	17.9	31	14.7	92	10.9	160	14.0
Intermediate PNC	86	10.5	77	8.3	2	7.1	19	9.0	88	10.4	96	8.4
Adequate PNC	395	48.4	431	46.3	14	50.0	91	43.1	409	48.5	522	45.7
Adequate Plus PNC	247	30.3	290	31.2	7	25.0	66	31.3	254	30.1	356	31.2
Total	816	100.0	930	100.0	28	100.0	211	100.0	844	100.0	1,141	100.0
Medicaid for Pregnant Women												
Missing PNC	142	0.7	175	0.8	175	3.5	139	3.0	317	1.2	314	1.2
Inadequate PNC	2,684	13.1	2,815	13.3	789	15.6	848	18.2	3,473	13.6	3,663	14.2
Intermediate PNC	2,013	9.8	1,961	9.3	609	12.1	578	12.4	2,622	10.2	2,539	9.8
Adequate PNC	9,069	44.2	9,438	44.6	2,095	41.5	1,868	40.0	11,164	43.6	11,306	43.8
Adequate Plus PNC	6,624	32.3	6,770	32.0	1,384	27.4	1,232	26.4	8,008	31.3	8,002	31.0
Total	20,532	100.0	21,159	100.0	5,052	100.0	4,665	100.0	25,584	100.0	25,824	100.0
Other Medicaid												
Missing PNC	125	2.2	150	2.5	50	4.9	39	5.1	175	2.6	189	2.8
Inadequate PNC	735	13.1	853	14.2	157	15.4	128	16.6	892	13.4	981	14.5
Intermediate PNC	613	10.9	651	10.8	170	16.7	78	10.1	783	11.8	729	10.7
Adequate PNC	2,355	41.8	2,459	40.9	395	38.8	318	41.3	2,750	41.4	2,777	40.9
Adequate Plus PNC	1,803	32.0	1,901	31.6	246	24.2	207	26.9	2,049	30.8	2,108	31.1
Total	5,631	100.0	6,014	100.0	1,018	100.0	770	100.0	6,649	100.0	6,784	100.0

PNC = prenatal care

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

Births to women who received early and adequate prenatal care differed by Medicaid delivery system in CY 2015. As shown in Table 3-4, a larger proportion of births to women enrolled in managed care had early and adequate prenatal care compared to women in an FFS delivery system. Additionally, a greater percentage of births to women in the study population received early and adequate prenatal care compared to women in the comparison group. Between CY 2014 and CY 2015, women in the FFS delivery system saw a small increase in the rate of early and adequate prenatal care. However, the rate of births to women in managed care who received early and adequate prenatal care decreased slightly between CY 2014 and CY 2015.

Table 3-4—Adequacy of Prenatal Care Categories by Medicaid Delivery System and Population Group, CY 2014 and CY 2015

Adequacy of Prenatal Care Category	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
Fee-for-Service												
Missing PNC	105	2.1	97	2.3	219	4.1	159	3.5	324	3.2	256	2.9
Inadequate PNC	731	15.0	538	13.0	815	15.4	812	17.8	1,546	15.2	1,350	15.5
Intermediate PNC	528	10.8	363	8.8	705	13.3	579	12.7	1,233	12.1	942	10.8
Adequate PNC	2,027	41.5	1,887	45.6	2,152	40.7	1,829	40.1	4,179	41.1	3,716	42.7
Adequate Plus PNC	1,498	30.6	1,253	30.3	1,391	26.3	1,184	25.9	2,889	28.4	2,437	28.0
Total	4,889	100.0	4,138	100.0	5,282	100.0	4,563	100.0	10,171	100.0	8,701	100.0
Managed Care												
Missing PNC	163	0.7	231	1.0	6	0.7	23	2.1	169	0.7	254	1.0
Inadequate PNC	2,775	12.6	3,259	13.6	136	16.7	195	18.0	2,911	12.7	3,454	13.8
Intermediate PNC	2,184	9.9	2,326	9.7	76	9.3	96	8.9	2,260	9.9	2,422	9.7
Adequate PNC	9,792	44.3	10,441	43.6	352	43.1	448	41.4	10,144	44.3	10,889	43.5
Adequate Plus PNC	7,176	32.5	7,708	32.2	246	30.1	321	29.6	7,422	32.4	8,029	32.1
Total	22,090	100.0	23,965	100.0	816	100.0	1,083	100.0	22,906	100.0	25,048	100.0

PNC = prenatal care

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

The Healthy People 2020 initiative set a goal to increase the proportion of pregnant women who receive early and adequate prenatal care to 77.6 percent. At 74.3 percent, the rate of CY 2015 singleton births paid by Virginia Medicaid remained close to the Healthy People 2020 target. Births paid by Virginia Medicaid were closest to meeting the Healthy People 2020 target for women covered by the FM program within the study population. Regardless of grouping by Medicaid program or delivery system, the study population consistently outperformed the comparison group for this indicator. However, none of the subgroups met or exceeded the Healthy People 2020 target. A comparison between study

indicator results in CY 2014 and CY 2015 showed a slight decrease in the percentage of early and adequate prenatal care among all singleton births paid by Virginia Medicaid.

Preterm Births

9.3 percent of CY 2015 singleton births occurred prior to 37 completed weeks of gestation (i.e., preterm births); this was higher than the 7.8 percent national rate of preterm singleton births.

Preterm delivery is one of the most affecting factors associated with adverse birth outcomes. In 2016, preterm delivery affected approximately one of every 10 infants born in the United States. Preterm delivery (births prior to 37 weeks of gestation) is a leading cause of infant mortality, and 17 percent of U.S. infant deaths in 2015 were attributable to causes related to preterm birth and low birth weight. Infants born prematurely are also at higher risk for persistent and life-long health issues, such as intellectual and developmental disabilities, cerebral palsy, respiratory problems, hearing and vision loss, and feeding and digestive issues. Furthermore, preterm births can result in severe emotional and financial burdens for families.³⁻⁸

Although this topic has been well researched, 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.^{3-9,3-10} Some studies have found that among multiparous women, regardless of demographic factors and excluding multiple gestation births, previous preterm birth has been found as the most influential risk factor for a subsequent preterm birth.³⁻¹¹

Although demographic and genetic factors associated with preterm delivery cannot be completely mitigated through clinical intervention, preconception care (i.e., care prior to the start of a pregnancy) and prenatal care may provide clinicians opportunities to monitor and address potential causes of preterm delivery.³⁻¹²

³⁻⁸ Division of Reproductive Health, Centers for Disease Control and Prevention, Preterm Birth, Atlanta, GA: Centers for Disease Control and Prevention. Available at

<https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm>. Accessed on: April 10, 2018.

³⁻⁹ Child Trends Databank. (2015). Preterm births. Available at: <https://www.childtrends.org/indicators/preterm-births/>. Accessed on April 10, 2018.

³⁻¹⁰ 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.

³⁻¹¹ 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.

³⁻¹² Goldenberg RL, Culhane JF, Iams JD, et al Epidemiology and causes of preterm birth. *The Lancet*. 2009; 371(9606), 75-84.

A total of 33,720 CY 2015 singleton births paid by Virginia Medicaid had information allowing for calculation of the preterm birth study indicator, and 9.3 percent (n=3,125) occurred prior to 37 weeks of gestation. Virginia’s Medicaid recipients experienced a higher rate of preterm births (i.e., worse performance) compared to the national rate of 7.8 percent among singleton births.³⁻¹³ The percentage of preterm births was statistically significantly lower ($p = 0.0005$) among the study population (9.0 percent, n=2,533) versus the comparison group (10.5 percent, n=592). Table 3-5 presents the percentage of singleton births by gestation category and population group for CY 2014 and CY 2015.

Table 3-5—Distribution of Singleton Births by Gestation Category and Population Group, CY 2014 and CY 2015

Gestation Category	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
Extremely Preterm (<28 Weeks)	203	0.8	201	0.7	61	1.0	60	1.1	264	0.8	261	0.8
Very Preterm (28–31 Weeks)	248	0.9	240	0.9	66	1.1	65	1.2	314	0.9	305	0.9
Moderately Preterm (32–33 Weeks)	241	0.9	273	1.0	54	0.9	60	1.1	295	0.9	333	1.0
Late Preterm (34–36 Weeks)	1,711	6.3	1,819	6.5	362	5.9	407	7.2	2,073	6.3	2,226	6.6
Early Term (37–38 Weeks)	6,714	24.9	7,112	25.3	1,481	24.3	1,373	24.3	8,195	24.8	8,485	25.1
Full Term (39–40 Weeks)	15,951	59.1	16,523	58.8	3,581	58.7	3,268	57.9	19,532	59.1	19,791	58.6
Late Term (41 Weeks)	1,709	6.3	1,786	6.4	446	7.3	380	6.7	2,155	6.5	2,166	6.4
Post Term (≥42 Weeks)	179	0.7	128	0.5	34	0.6	25	0.4	213	0.6	153	0.5
Unknown*	23	0.1	21	0.1	13	0.2	8	0.1	36	0.1	29	0.1
Total	26,979	100.0	28,103	100.0	6,098	100.0	5,646	100.0	33,077	100.0	33,749	100.0

*While births with unknown gestation category are included for completeness, study indicator calculations exclude these births, consistent with the study methodology.

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

Preterm births differed among women in the three Medicaid program groups in CY 2015. Women in the OM programs exhibited the highest percentage of preterm birth (11.8 percent, n=802) compared to women in the FM or MPW programs. The percentage of preterm births was higher among the comparison group for women in the FM and MPW programs. However, the percentage of preterm births was higher among the

³⁻¹³ Martin JA, Hamilton BE, Osterman MJK, et al. Births: Final data for 2015. National Vital Statistics Reports; vl66 no 1. Hyattsville, MD: National Center for Health Statistics. 2017. Available at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf. Accessed on May 15, 2018. Note: The national rate of preterm births among all births was 9.6 percent.

study population for women in the OM program. The percentage of preterm, singleton births increased for women in each of the three Medicaid programs between CY 2014 and CY 2015. Table 3-6 presents the percentage of singleton births by gestation category and Medicaid program.

Table 3-6—Distribution of Singleton Births by Gestation Category, Medicaid Program, and Population Group, CY 2014 and CY 2015

Gestation Category*	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
FAMIS MOMS												
Preterm Births**	51	6.3	84	9.0	0	0.0	26	12.3	51	6.0	110	9.6
Early Term Births	167	20.5	224	24.1	8	28.6	44	20.9	175	20.7	268	23.5
Term/Late Term Births	590	72.3	619	66.6	20	71.4	141	66.8	610	72.3	760	66.6
Post Term Births	8	1.0	3	0.3	0	0.0	0	0.0	8	1.0	3	0.3
Unknown Gestation†	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	816	100.0	930	100.0	28	100.0	211	100.0	844	100.0	1,141	100.0
Medicaid for Pregnant Women												
Preterm Births**	1,684	8.2	1,745	8.2	439	8.7	468	10.0	2,123	8.3	2,213	8.6
Early Term Births	5,006	24.4	5,219	24.7	1,229	24.3	1,152	24.7	6,235	24.4	6,371	24.7
Term/Late Term Births	13,683	66.6	14,080	66.5	3,351	66.3	3,014	64.6	17,034	66.6	17,094	66.2
Post Term Births	148	0.7	104	0.5	24	0.5	24	0.5	172	0.7	128	0.5
Unknown Gestation†	11	0.1	11	0.1	9	0.2	7	0.2	20	0.1	18	0.1
Total	20,532	100.0	21,159	100.0	5,052	100.0	4,665	100.0	25,584	100.0	25,824	100.0
Other Medicaid												
Preterm Births**	668	11.9	704	11.7	104	10.2	117	10.8	772	11.6	802	11.8
Early Term Births	1,541	27.4	1,669	27.8	244	24.0	274	25.3	1,785	26.8	1,846	27.2
Term/Late Term Births	3,387	60.1	3,610	60.0	656	64.4	685	63.3	4,043	60.8	4,103	60.5
Post Term Births	23	0.4	21	0.3	10	1.0	6	0.6	33	0.5	22	0.3
Unknown Gestation†	12	0.2	10	0.2	4	0.4	1	0.1	16	0.2	11	0.2
Total	5,631	100.0	6,014	100.0	1,018	100.0	1,083	100.0	6,649	100.0	6,784	100.0

*Preterm Births (<37 Weeks), Early Term Births (37–38 Weeks), Term/Late Term Births (39–41 Weeks), and Post Term Births (≥42 Weeks)

**The CY 2015 national benchmark for preterm births (<37 weeks) is 7.8 percent among singleton births and 9.6 percent among all births.

† While births with unknown gestation category are included for completeness, study indicator calculations exclude these births, consistent with the study methodology.

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

In CY 2015, the percentage of preterm births to women in the FFS delivery system (10.3 percent, n=896) was greater than the percentage in the managed care delivery system (8.9 percent, n=2,229). Additionally, the comparison group had a higher percentage of preterm births compared to the study population for both delivery systems. Across CY 2014 and CY 2015, the percentage of women with preterm, singleton births increased for both delivery systems. Table 3-7 presents the percentage of singleton births by gestation category and Medicaid delivery system.

Table 3-7—Distribution of Singleton Births by Gestation Category, Medicaid Delivery System, and Population Group, CY 2014 and CY 2015

Gestation Category*	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
Fee-For-Service												
Preterm Births**	524	10.7	421	10.2	470	8.9	475	10.4	994	9.8	896	10.3
Early Term Births	1,205	24.6	1,019	24.6	1,274	24.1	1,099	24.1	2,479	24.4	2,118	24.3
Term/Late Term Births	3,115	63.7	2,667	64.5	3,497	66.2	2,963	64.9	6,612	65.0	5,630	64.7
Post Term Births	40	0.8	28	0.7	29	0.5	19	0.4	69	0.7	47	0.5
Unknown Gestation†	5	0.1	3	0.1	12	0.2	7	0.2	17	0.2	10	0.1
Total	4,889	100.0	4,138	100.0	5,282	100.0	4,563	100.0	10,171	100.0	8,701	100.0
Managed Care												
Preterm Births**	1,879	8.5	2,112	8.8	73	8.9	117	10.8	1,952	8.5	2,229	8.9
Early Term Births	5,509	24.9	6,093	25.4	207	25.4	274	25.3	5,716	25.0	6,367	25.4
Term/Late Term Births	14,545	65.8	15,642	65.3	530	65.0	685	63.3	15,075	65.8	16,327	65.2
Post Term Births	139	0.6	100	0.4	5	0.6	6	0.6	144	0.6	106	0.4
Unknown Gestation†	18	0.1	18	0.1	1	0.1	1	0.1	19	0.1	19	0.1
Total	22,090	100.0	23,965	100.0	816	100.0	1,083	100.0	22,906	100.0	25,048	100.0

*Preterm Births (<37 Weeks), Early Term Births (37–38 Weeks), Term/Late Term Births (39–41 Weeks), and Post Term Births (≥42 Weeks)

**The CY 2015 national benchmark for preterm births (<37weeks) is 7.8 percent among singleton births and 9.6 percent among all births.

† While births with unknown gestation category are included for completeness, study indicator calculations exclude these births, consistent with the study methodology.

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

The national rate of preterm births among singleton births in CY 2015 was 7.8 percent. However, 9.3 percent of singleton births paid by Virginia Medicaid were born prior to 37 weeks of gestation. Regardless of the population grouping by Medicaid program or by delivery system, none of the subgroups reported a rate less than 8.2 percent. Additionally, the preterm birth rate increased slightly from CY 2014 to CY 2015 among births paid by Virginia Medicaid.

Birth Weight

8.4 percent of CY 2015 singleton births were born weighing less than 2,500 grams (i.e., low birth weight); this was higher than the 6.3 percent national rate of low birth weight singleton births.

Infants born weighing less than 2,500 grams (5 pounds, 8 ounces) are considered low birth weight (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, learning disabilities, and they may have a higher risk of health conditions such as diabetes and high blood pressure later in life.^{3-14,3-15} Low birth weight affects approximately one in 14 babies born in the United States each year.³⁻¹⁶

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

Among singleton births paid by Virginia Medicaid during CY 2015, 8.4 percent (n=2,835) were born weighing less than 2,500 grams (i.e., LBW). This is similar to the CY 2014 findings (8.3 percent) for the same population. Comparable distributions were observed for the study population and comparison group among CY 2014 and CY 2015 births. Virginia's LBW rate among births paid by Medicaid during CY 2015 was higher than the 2015 national rate of 6.3 percent among singleton births. Table 3-8 presents the percentage of singleton births by birth weight category and population group.

³⁻¹⁴ National Center for Environmental Health, Environmental Health Tracking Branch. Centers for Disease Control and Prevention, Reproductive and Birth Outcomes, Atlanta, GA: Centers for Disease Control and Prevention. Available at: <https://ephracking.cdc.gov/showRbLBWGrowthRetardationEnv>. Accessed on: April 10, 2018.

³⁻¹⁵ March of Dimes. *Low Birthweight*. White Plains, NY. Available at: <http://www.marchofdimes.org/baby/low-birthweight.aspx>. Accessed on: April 10, 2018.

³⁻¹⁶ Stevens LM, Lynn, C, Glass R. Low birth weight JAMA patient page. *JAMA*, 2002;287:2.

³⁻¹⁷ McCallie KR, Lee HC, Mayer, O, et al. Improved outcomes with a standardized feeding protocol for very low birth weight infants. *Journal of Perinatology*, 2011;31, S61-S67.

³⁻¹⁸ Johnson TJ, Patel AL, Jegier B, et al. The cost of morbidities in very low birth weight infants. *The Journal of Pediatrics*. 2013;162(2):243-49.

Table 3-8—Distribution of Singleton Births by Birth Weight Category and Population Group, CY 2014 and CY 2015

Birth Weight Category*	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
Low Birth Weight**	2,266	8.4	2,361	8.4	476	7.8	474	8.4	2,742	8.3	2,835	8.4
<i>Very Low Birth Weight†</i>	424	1.6	410	1.5	114	1.9	101	1.8	538	1.6	511	1.5
<i>Moderately Low Birth Weight</i>	1,842	6.8	1,951	6.9	362	5.9	373	6.6	2,204	6.7	2,324	6.9
Normal Birth Weight	24,712	91.6	25,741	91.6	5,621	92.2	5,172	91.6	30,333	91.7	30,913	91.6
Unknown	1	0.0	1	0.0	1	0.0	0	0.0	2	0.0	1	0.0
Total	26,979	100.0	28,103	100.0	6,098	100.0	5,646	100.0	33,077	100.0	33,749	100.0

* Low Birth Weight (<2,500g), Very Low Birth Weight (<1,500g), Moderately Low Birth Weight (1,500g–2,499g), and Normal Birth Weight (≥2,500g)

**The CY 2015 national benchmark for LBW births (<2,500 grams) is 6.3 percent among singleton births and 8.1 percent among all births.

†The CY 2015 national benchmark for VLBW births (<1,500 grams) is 1.1 percent among singleton births and 1.4 percent among all births.

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

VLBW births accounted for 1.5 percent of singleton births paid by Virginia Medicaid during CY 2015. Additionally, the VLBW rate among singleton births in CY 2015 was higher than the national rate of 1.1 percent among singleton births.³⁻¹⁹

The percentage of low birth weight births to recipients of OM programs was higher than the percentages seen for the FM and MPW programs for CY 2015. Across CY 2014 and CY 2015, the percentage of LBW births increased among women in the FM and MPW programs and decreased among women in OM programs.

³⁻¹⁹ Martin JA, Hamilton BE, Osterman MJK, et al. Births: Final data for 2015. National Vital Statistics Reports; vl66 no 1. Hyattsville, MD: National Center for Health Statistics. 2017. Available at https://www.cdc.gov/nchs/data/nvsr/nvsr66/nvsr66_01.pdf. Accessed on May 15, 2018.

Table 3-9 presents the percentage of singleton births by birth weight category, Medicaid program, and population group.

Table 3-9—Distribution of Singleton Births by Birth Weight Category, Medicaid Program, and Population Group, CY 2014 and CY 2015

Birth Weight Category*	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
FAMIS MOMS												
Low Birth Weight**	40	4.9	72	7.7	0	0.0	23	10.9	40	4.7	95	8.3
<i>Very Low Birth Weight</i> †	7	0.9	14	1.5	0	0.0	7	3.3	7	0.8	21	1.8
<i>Moderately Low Birth Weight</i>	33	4.0	58	6.2	0	0.0	16	7.6	33	3.9	74	6.5
Normal Birth Weight	776	95.1	858	92.3	28	100.0	188	89.1	804	95.3	1,046	91.7
Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	816	100.0	930	100.0	28	100.0	211	100.0	844	100.0	1,141	100.0
Medicaid for Pregnant Women												
Low Birth Weight**	1,598	7.8	1,670	7.9	379	7.5	381	8.2	1,977	7.7	2,051	7.9
<i>Very Low Birth Weight</i> †	281	1.4	277	1.3	98	1.9	79	1.7	379	1.5	356	1.4
<i>Moderately Low Birth Weight</i>	1,317	6.4	1,393	6.6	281	5.6	302	6.5	1,598	6.2	1,695	6.6
Normal Birth Weight	18,933	92.2	19,488	92.1	4,672	92.5	4,284	91.8	23,605	92.3	23,772	92.1
Unknown	1	0.0	1	0.0	1	0.0	0	0.0	2	0.0	1	0.0
Total	20,532	100.0	21,159	100.0	5,052	100.0	4,665	100.0	25,584	100.0	25,824	100.0
Other Medicaid												
Low Birth Weight**	628	11.2	619	10.3	97	9.5	70	9.1	725	10.9	689	10.2
<i>Very Low Birth Weight</i> †	136	2.4	119	2.0	16	1.6	15	1.9	152	2.3	134	2.0
<i>Moderately Low Birth Weight</i>	492	8.7	500	8.3	81	8.0	55	7.1	573	8.6	555	8.2
Normal Birth Weight	5,003	88.8	5,395	89.7	921	90.5	700	90.9	5,924	89.1	6,095	89.8
Unknown	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	5,631	100.0	6,014	100.0	1,018	100.0	770	100.0	6,649	100.0	6,784	100.0

* Low Birth Weight (<2,500g), Very Low Birth Weight (<1,500g), Moderately Low Birth Weight (1,500g–2,499g), and Normal Birth Weight (≥2,500g)

**The CY 2015 national benchmark for LBW births (<2,500 grams) is 6.3 percent among singleton births and 8.1 percent among all births.

†The CY 2015 national benchmark for VLBW births (<1,500 grams) is 1.1 percent among singleton births and 1.4 percent among all births.

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

Table 3-10 presents the percentage of singleton births by birth weight category, Medicaid delivery system, and population group.

Table 3-10—Distribution of Singleton Births by Birth Weight Category, Medicaid Delivery System, and Population Group, CY 2014 and CY 2015

Birth Weight Category*	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
Fee-for-Service												
Low Birth Weight**	439	9.0	383	9.3	403	7.6	370	8.1	842	8.3	753	8.7
Very Low Birth Weight†	123	2.5	97	2.3	104	2.0	77	1.7	227	2.2	174	2.0
Moderately Low Birth Weight	316	6.5	286	6.9	299	5.7	293	6.4	615	6.0	579	6.7
Normal Birth Weight	4,449	91.0	3,755	90.7	4,879	92.4	4,193	91.9	9,328	91.7	7,948	91.3
Unknown	1	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0
Total	4,889	100.0	4,138	100.0	5,282	100.0	4,563	100.0	10,171	100.0	8,701	100.0
Managed Care												
Low Birth Weight**	1,827	8.3	1,978	8.3	73	8.9	104	9.6	1,900	8.3	2,082	8.3
Very Low Birth Weight†	301	1.4	313	1.3	10	1.2	24	2.2	311	1.4	337	1.3
Moderately Low Birth Weight	1,526	6.9	1,665	6.9	63	7.7	80	7.4	1,589	6.9	1,745	7.0
Normal Birth Weight	20,263	91.7	21,986	91.7	742	90.9	979	90.4	21,005	91.7	22,965	91.7
Unknown	0	0.0	1	0.0	1	0.1	0	0.0	1	0.0	1	0.0
Total	22,090	100.0	23,965	100.0	816	100.0	1,083	100.0	22,906	100.0	25,048	100.0

* Low Birth Weight (<2,500g), Very Low Birth Weight (<1,500g), Moderately Low Birth Weight (1,500g–2,499g), and Normal Birth Weight (≥2,500g)

**The CY 2015 national benchmark for LBW births (<2,500 grams) is 6.3 percent among singleton births and 8.1 percent among all births.

†The CY 2015 national benchmark for VLBW births (<1,500 grams) is 1.1 percent among singleton births and 1.4 percent among all births.

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

In 2015, 6.3 percent of singleton births in the United States were classified as LBW, and the percentage of LBW singleton births in CY 2015 that were paid by Virginia Medicaid (8.4 percent) was higher than the national percentage. Regardless of grouping by Medicaid program or delivery system, neither population group consistently outperformed the other group for this indicator. The highest percentage of LBW classifications was seen among the FM comparison group (10.9 percent). Among the entire population group, there was little difference in LBW percentage between CY 2014 and CY 2015.

Follow-up Care With a PCP

27.8 percent of CY 2015 singleton births without NICU admissions had at least two office visits with a PCP-type provider in the first 30 days following births.

Developing a relationship with a primary care physician is fundamental to maintaining health and wellness. For newborns, the AAP recommends choosing a pediatrician as a PCP, as pediatricians are trained to manage and facilitate all aspects of a newborn's healthcare from birth through age 21. Ideally, a family and their PCP will cultivate a partnership of shared responsibility and trust. According to the AAP, primary care includes, but is not limited to, "breastfeeding promotion and management, immunizations, growth and developmental assessments, appropriate screenings, health care supervision and referral management, as well as general parental counseling on health areas like nutrition, safety, parenting and psychosocial issues."³⁻²⁰

Within a newborn's first 30 days of life, the AAP recommends that infants receive a newborn visit within the first 24 to 48 hours following birth, a visit within 3–5 days, and a visit at one month of age. These visits should include newborn screening, physical and developmental assessments, including newborn hearing screening and charting of growth measurements, preventive measures, such as immunizations and parental education, management of continuity of care, and resources and/or referrals needed in the event of a positive newborn screening result or diagnosis of a manageable illness.³⁻²¹ However, since the AAP periodicity recommendations are guidelines for well-child visits, more comprehensive study indicator criteria were applied to assess newborns' follow-up care with PCP-type providers. These office visits may include sick or other problem-focused visits as well as well-child visits with a PCP-type provider. Additionally, infants born preterm or with a low birth weight may require additional ambulatory care visits in the first thirty days of life than full-term infants with a normal birth weight.

Adherence to neonatal well-care visits is crucial in avoiding unnecessary pediatric ED visits. Numerous studies have found that many parents utilize EDs for ambulatory care issues that could be resolved through preventive care consultation with a PCP and management of clinical conditions such as jaundice, respiratory issues, and feeding problems.³⁻²² Consistent use of primary care may decrease the risk of hospitalization in infants and young children.³⁻²³

³⁻²⁰ Medical Home Initiatives for Children With Special Needs Project Advisory Committee. (2002). The medical home. *Pediatrics*, 110(1), 184-186.

³⁻²¹ Hagan JF, Shaw JS, Duncan PM, eds. 2008. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*, Third Edition. Elk Grove Village, IL: American Academy of Pediatrics.

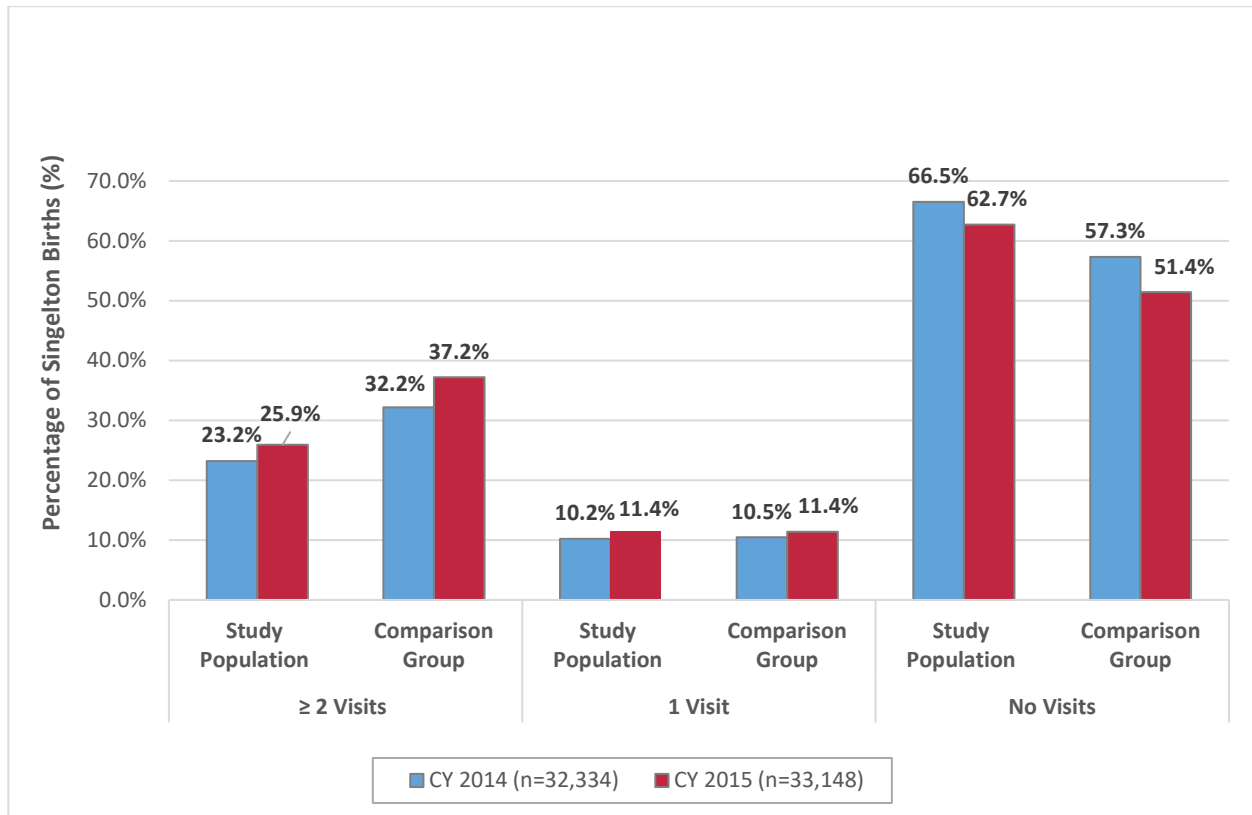
³⁻²² Millar KR, Gloor JE, Wellington N, et al (2000). Early neonatal presentations to the pediatric emergency department. *Pediatric Emergency Care*, 16(3), 145-150.

³⁻²³ Tom J, Tseng C-W, Davis J, et al. Missed well-child care visits, low continuity of care, and risk for ambulatory care sensitive hospitalizations in young children. *Archives of Pediatrics and Adolescent Medicine*. 2010;164(11): 1052-1058.

Among singleton births without NICU admissions during CY 2015, 27.8 percent (n=9,214) had two or more office visits with a PCP-type provider in the first 30 days following birth.³⁻²⁴ Additionally, among non-NICU singleton births during this same period, 60.8 percent (n=20,165) had zero office visits with a PCP-type provider. Both values showed improvement over the CY 2014 results for this indicator, as the number of infants with zero visits declined, while the number of infants with two or more visits increased.

The rate of CY 2015 births with at least two office visits was higher among births in the comparison group (37.2 percent, n=2,049), versus the study population (25.9 percent, n=7,165) ($p < 0.0001$). Figure 3-6 presents the percentage of non-NICU births with subsequent PCP visits by population group in CY 2014 and CY 2015. Between CY 2014 and CY 2015, indicator results for each population group exhibited increases in the rate of singleton non-NICU births with two or more visits with a PCP-type provider in the first 30 days of life.

Figure 3-6—Percentage of Non-NICU Births With Subsequent PCP Visits by Population Group, CY 2014 and CY 2015



³⁻²⁴ Infants requiring a NICU stay may require primary care follow-up that differs from the AAP recommendations. As such, 601 singleton births were excluded from this study indicator.

As seen in Table 3-11, the percentage of infants born in CY 2015 with at least two office visits with a PCP-type provider among the comparison group was higher than those among the study population within each of the Medicaid programs, and this trend was also seen in the CY 2014 indicator results. Overall, births to women in the OM programs exhibited the greatest year to year increase in infants with at least two office visits compared to the other Medicaid program groups.

Table 3-11—Percentage of Non-NICU Births by Number of Office Visits With a PCP Within the First 30 Days After Birth, Medicaid Program, and Population Group, CY 2014 and CY 2015

Number of Office Visits	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
FAMIS MOMS												
Zero Visits	541	67.2	523	57.0	15	55.6	100	50.0	556	66.8	623	55.8
One Visit	73	9.1	114	12.4	3	11.1	25	12.5	76	9.1	139	12.4
At Least Two Visits	191	23.7	280	30.5	9	33.3	75	37.5	200	24.0	355	31.8
Total	805	100.0	917	100.0	27	100.0	200	100.0	832	100.0	1,117	100.0
Medicaid for Pregnant Women												
Zero Visits	13,047	65.0	12,681	61.0	2,794	56.7	2,341	51.4	15,841	63.3	15,022	59.2
One Visit	2,058	10.2	2,401	11.5	502	10.2	503	11.0	2,560	10.2	2,904	11.5
At Least Two Visits	4,975	24.8	5,720	27.5	1,630	33.1	1,714	37.6	6,605	26.4	7,434	29.3
Total	20,080	100.0	20,802	100.0	4,926	100.0	4,558	100.0	25,006	100.0	25,360	100.0
Other Medicaid												
Zero Visits	3,982	72.2	4,126	69.7	588	60.1	394	52.3	4,570	70.4	4,520	67.8
One Visit	563	10.2	627	10.6	118	12.1	99	13.1	681	10.5	726	10.9
At Least Two Visits	972	17.6	1,165	19.7	273	27.9	260	34.5	1,245	19.2	1,425	21.4
Total	5,517	100.0	5,918	100.0	979	100.0	753	100.0	6,496	100.0	6,671	100.0

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

In CY 2015, a higher percentage of non-NICU singleton infants in the FFS delivery system had two or more visits with a PCP-type provider compared to the women covered by managed care. Overall, the percentage of infants with two or more visits increased from CY 2014 to CY 2015 for both delivery systems while the number of infants with zero visits decreased for both populations over the same time frame. Table 3-12 presents the percentage of non-NICU births by number of office visits within the first 30 days after birth by Medicaid delivery system and population group for CY 2014 and CY 2015.

Table 3-12—Percentage of Non-NICU Births by Number of Office Visits With a PCP Within the First 30 Days After Birth, Medicaid Delivery System, and Population Group, CY 2014 and CY 2015

Number of Office Visits	Study Population				Comparison Group				Total			
	CY 2014		CY 2015		CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%	n	%	n	%
Fee-for-Service												
Zero Visits	2,360	50.1	1,930	48.2	2,822	55.1	2,106	47.5	5,182	52.7	4,036	47.8
One Visit	544	11.5	491	12.3	539	10.5	493	11.1	1,083	11.0	984	11.7
At Least Two Visits	1,808	38.4	1,584	39.6	1,763	34.4	1,838	41.4	3,571	36.3	3,422	40.5
Total	4,712	100.0	4,005	100.0	5,124	100.0	4,437	100.0	9,836	100.0	8,442	100.0
Managed Care												
Zero Visits	15,210	70.1	15,400	65.2	575	71.2	729	67.9	15,785	70.2	16,129	65.3
One Visit	2,150	9.9	2,651	11.2	84	10.4	134	12.5	2,234	9.9	2,785	11.3
At Least Two Visits	4,330	20.0	5,581	23.6	149	18.4	211	19.6	4,479	19.9	5,792	23.4
Total	21,690	100.00	23,632	100.0	808	100.0	1,074	100.0	22,498	100.0	24,706	100.0

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

Statistically significant differences were observed between the proportion of non-NICU singleton infants by the pregnancy and birth outcomes indicators (i.e., study measures for prenatal care, preterm birth, and low birth weight) and compliance with PCP visit recommendations among both the study population and the comparison group during CY 2015. In general, births to women with favorable prenatal and birth outcomes are associated with a higher proportion receiving the recommended number of visits with a PCP-type provider in the 30 days following birth. Table 3-13 presents the distribution of CY 2015 singleton births with two or more visits with a PCP-type provider within 30 days of birth by selected pregnancy and birth outcome indicators.

Table 3-13—Distribution of Singleton Births With Pregnancy and Birth Outcome Indicators With Two or More Visits With a PCP-Type Provider Within 30 Days of Birth, CY 2015

Study Indicator	n	%	Statistically Significant Difference (Yes/No)
Study Population			
Prenatal Care			
Early and Adequate Prenatal Care (n=20,948)	5,572	26.6	Yes
Inadequate Prenatal Care (n=6,689)	1,593	23.8	
Gestation			
Term Delivery (n=25,272)	6,772	26.8	Yes
Preterm Delivery (n=2,365)	393	16.6	
Birth Weight			
Normal Birth Weight (n=25,420)	6,802	26.8	Yes
Low Birth Weight (n=2,216)	363	16.4	

Study Indicator	n	%	Statistically Significant Difference (Yes/No)
Comparison Group			
Prenatal Care			
Early and Adequate Prenatal Care (n=3,701)	1,413	38.2	Yes
Inadequate Prenatal Care (n=1,810)	636	35.1	
Gestation			
Term Delivery (n=4,971)	1,933	38.9	Yes
Preterm Delivery (n=540)	116	21.5	
Birth Weight			
Normal Birth Weight (n=5,082)	1,954	38.4	Yes
Low Birth Weight (n=429)	95	22.1	

This indicator was developed for this study to assess the prevalence of births among Medicaid recipients that received clinically-indicated primary care in the neonatal period. As such, the available national benchmarks are not comparable. However, the AAP recommends that neonates receive the following visits with a PCP within the first 30 days of life: a newborn visit within the first 24 to 48 hours following birth, a visit within 3–5 days, and a visit at one month of age.

Overall, 60.8 percent of the CY 2015 singleton non-NICU births paid by Virginia Medicaid failed to receive even one office visit with a PCP-type provider in the first 30 days after birth. The comparison group outperformed the study group in this metric as a greater proportion of births had one or more visits in the first 30 days of life. Study results showed an improvement in this indicator between CY 2014 and CY 2015, as the rate of births with zero PCP visits in the first 30 days of life fell from 66.5 percent to 62.7 percent, indicating that a greater proportion of children born in CY 2015 received the AAP-recommended provider visits. Additionally, statistical comparisons were significant between the rate of neonates with at least two visits to a PCP in the first 30 days of life and the prenatal care, preterm birth, and low birth weight indicator results. These findings suggest that infants covered by Virginia Medicaid with inadequate prenatal care, short gestation, or low birth weight were less likely to receive the AAP-recommended primary care in their first 30 days of life.

Emergency Department Visits

7.7 percent of CY 2015 singleton births without NICU admissions had at least one ED visit in the 30 days following birth.

The past two decades have seen substantial growth in the number of pediatric ED visits in the United States.³⁻²⁵ As a consequence of increasingly briefer postpartum hospital stays, many pediatric ED visits are for non-urgent health concerns that may be managed more efficiently in newborn nurseries before discharge or with appropriate follow-up in a pediatric primary care setting following discharge.^{3-26,3-27} Moreover, unlike primary care, ED visits concentrate on the presenting illness/issue and do not provide comprehensive health assessments or preventive care.³⁻²⁸ Non-urgent ED utilization may waste essential healthcare resources and the expense of ED care may result in increased financial burdens for families.³⁻²⁹

As previously highlighted, the neonatal/infant well-care visit compliance rates among non-NICU singleton birth paid by Virginia Medicaid are low, with less than 30 percent of infants receiving the recommended number of PCP visits. Studies have shown that the failure to establish a pediatric medical home influences the use of EDs for ambulatory care.³⁻³⁰ Furthermore, appropriate continuity of care for infants following birth is associated with decreased ED utilization.³⁻³¹

During CY 2015, 7.7 percent (n=2,555) of singleton births without NICU stays experienced at least one ED visit in the 30 days following birth.³⁻³² The percentage of infants with at least one ED visit during CY 2015 was statistically significantly higher among women in the comparison group (9.9 percent, n=546) compared with women in the study population (7.3 percent, n=2,009) ($p < 0.0001$). Additionally, differences between the CY 2014 and CY 2015 study indicator results are not statistically significant. Figure 3-7 presents the percentage of non-NICU births with subsequent ED visits by population group for CY 2014 and CY 2015.

³⁻²⁵ Wier LM, Hao Y, Owens P, et al. Overview of children in the emergency department, 2010. HCUP Statistical Brief #157. June 2013. Agency for Healthcare Research and Quality, Rockville, MD. Available at: <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb157.pdf>. Accessed on April 10, 2018.

³⁻²⁶ Millar KR, Gloor, JE, Wellington N, et al (2000). Early neonatal presentations to the pediatric emergency department. *Pediatric Emergency Care*, 16(3): 145-50.

³⁻²⁷ Jain S, Cheng J (2006). Emergency department visits and rehospitalizations in late preterm infants. *Clinics in Perinatology*, 33(4): 935-945.

³⁻²⁸ Kotagal UR, Schoettker PJ, Atherton HD, et al (2002). Relationship between early primary care and emergency department use in early infancy by the Medicaid population. *Archives of Pediatrics and Adolescent Medicine*, 156(7): 710-716.

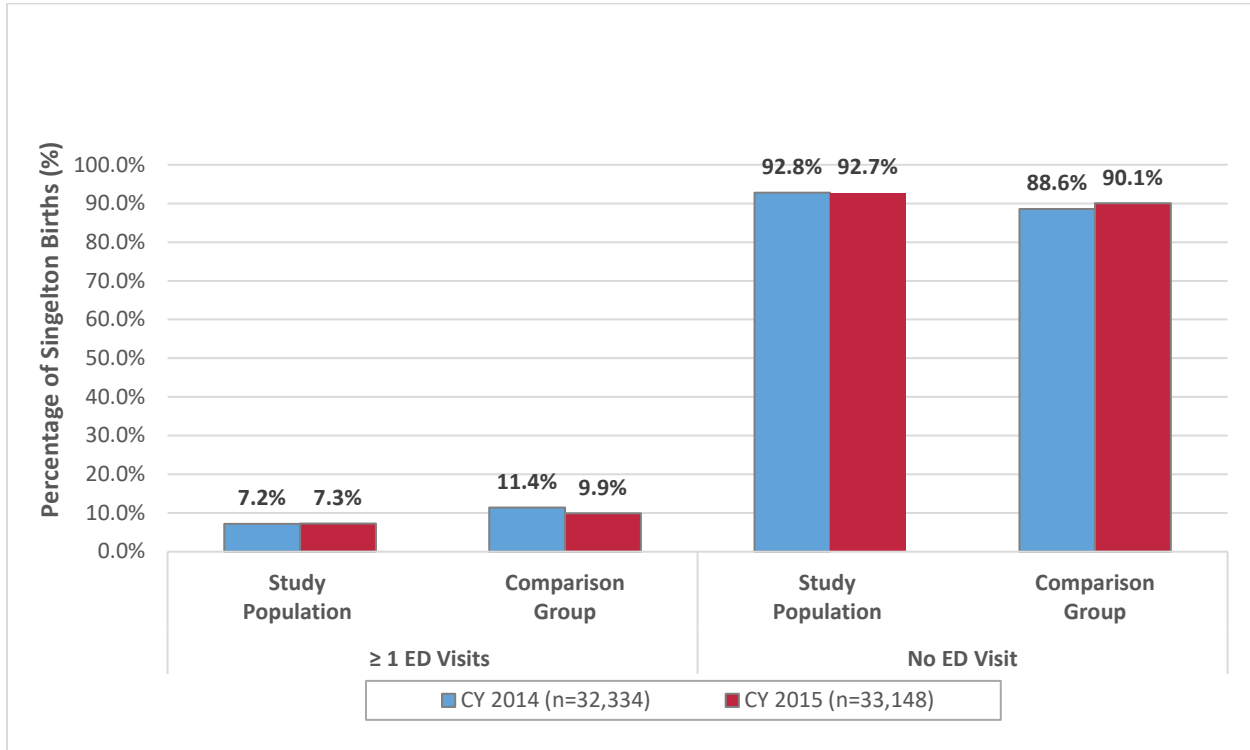
³⁻²⁹ Lee HC, Bardach NS, Maselli JH, et al (2014). Emergency department visits in the neonatal period in the United States. *Pediatric Emergency Care*, 30(5): 3-5-318.

³⁻³⁰ Sharma V, Simon SD, Bakewell JM, et al (2000). Factors influencing infant visits to emergency departments. *Pediatrics*, 106(5): 1031-1039.

³⁻³¹ Brousseau DC, Meurer JR, Mayme LI, et al (2004). Association between infant continuity of care and pediatric emergency department utilization. *Pediatrics*, 113(4): 738-741.

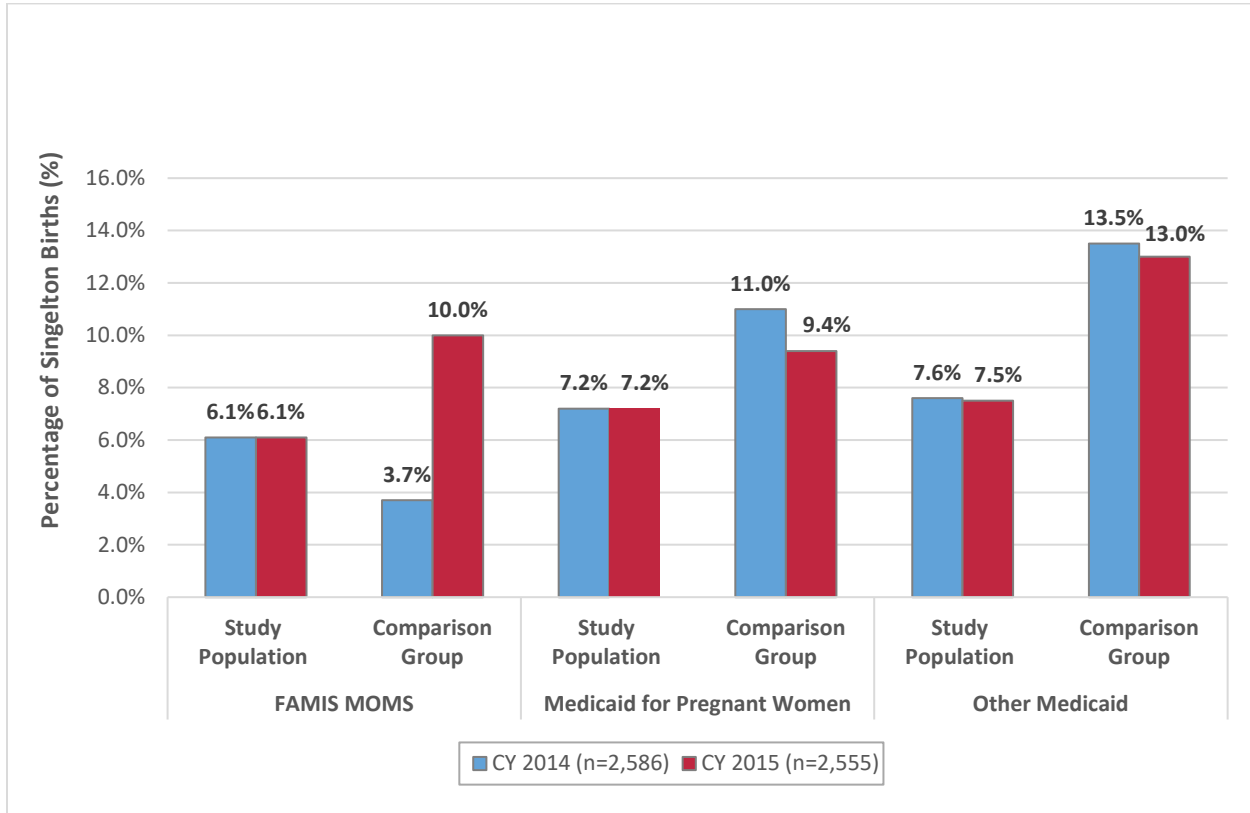
³⁻³² Results for this study indicator exclude 743 singleton infants (2.2 percent) in CY 2014 and 601 singleton births (1.8 percent) in CY 2015 who stayed in the NICU following birth, as these infants may require different clinical follow-up in the 30 days following birth.

Figure 3-7—Percentage of Non-NICU Births With Subsequent ED Visits by Population Group, CY 2014 and CY 2015



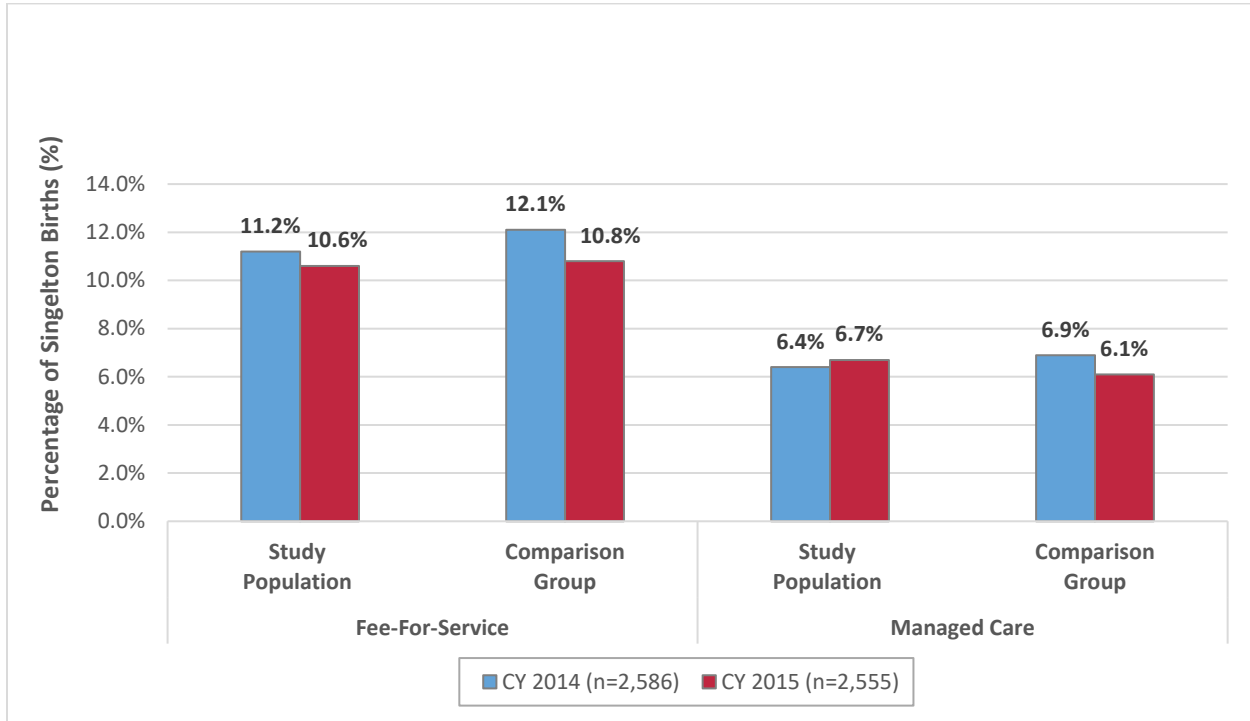
Overall, women in the OM program had the highest percentage of CY 2015 births with at least one ED visit, while women in the FM program had the lowest rate of ED visits. For each of the Medicaid programs, births to women in the study population had a lower percentage of newborns with at least one ED visit in the 30 days following birth compared to births among the comparison group. Figure 3-8 presents the percentage of non-NICU births with at least one ED visit within 30 days following birth by Medicaid program and population group in CY 2014 and CY 2015.

Figure 3-8—Percentage of Non-NICU Births With at Least One ED Visit Within 30 Days Following Birth by Medicaid Program and Population Group, CY 2014 and CY 2015



During CY 2015, the percentage of non-NICU singleton infants with one or more ED visits was higher among the study population for women enrolled in managed care. Conversely, the percentage of non-NICU singleton infants with one or more ED visits was higher in the comparison group for women receiving care on an FFS basis. Figure 3-9 presents the percentage of non-NICU births with at least one ED visit within 30 days following birth by Medicaid delivery system and population group in CY 2014 and CY 2015.

Figure 3-9—Percentage of Non-NICU Births With at Least One ED Visit Within 30 Days Following Birth by Medicaid Delivery System and Population Group, CY 2014 and CY 2015



No statistically significant differences were observed in the CY 2015 rate of singleton non-NICU infants with ED visits and the study indicators for prenatal care, preterm birth, and low birth weight in either the study population or the comparison group. Table 3-14 presents the distribution of CY 2015 singleton births with at least one ED visit within 30 days of birth by selected pregnancy and birth outcome indicators.

Table 3-14—Distribution of Singleton Births With at Least One ED Visit Within 30 Days of Birth, CY 2015

Study Indicator	n	%	Statistically Significant Difference (Yes/No)
Study Population			
Prenatal Care			
Early and Adequate Prenatal Care (n=20,948)	1,536	7.3	No
Inadequate Prenatal Care (n=6,689)	473	7.1	
Gestation			
Term Delivery (n=25,272)	1,837	7.3	No
Preterm Delivery (n=2,365)	172	7.3	
Birth Weight			
Normal Birth Weight (n=25,420)	1,852	7.3	No
Low Birth Weight (n=2,216)	157	7.1	

Study Indicator	n	%	Statistically Significant Difference (Yes/No)
Comparison Group			
Prenatal Care			
Early and Adequate Prenatal Care (n=3,701)	357	9.6	No
Inadequate Prenatal Care (n=1,810)	189	10.4	
Gestation	484	9.7	No
Term Delivery (n=4,971)	62	11.5	
Preterm Delivery (n=540)			
Birth Weight	497	9.8	No
Normal Birth Weight (n=5,082)	49	11.4	
Low Birth Weight (n=429)			

This indicator was developed for this study to assess the prevalence of ED utilization among neonates whose birth was covered by Virginia Medicaid. As such, any available national benchmarks are not comparable. In CY 2015, 7.7 percent of non-NICU singleton infants with births paid by Virginia Medicaid had one or more ED visits in the 30 days following birth, and this is a slight decrease from the CY 2014 indicator results (8.0 percent). The study population had a lower percentage of ED visits than the comparison group across all Medicaid programs, though the rate of ED visits was slightly higher among the study population in managed care versus the comparison group. However, these findings are likely to be related to differing patterns of Medicaid coverage among women in the two populations. Additionally, statistical comparisons were not significant between the rate of neonates with ED visits in the first 30 days of life and the prenatal care, preterm birth, and low birth weight indicator results. These findings suggest that infants covered by Virginia Medicaid with inadequate prenatal care, short gestation, or low birth weight were not more likely to have at least one ED visit in their first 30 days of life.

4. Conclusions and Recommendations

Conclusions

This study considers five indicators that provide quantitative information about prenatal care and associated birth outcomes among women with births paid by Virginia Medicaid, and the study indicators related to prenatal care, preterm birth, and low birth weight showed encouraging results for Virginia Medicaid members. Specifically, results for the *Births with Early and Adequate Prenatal Care* indicator shows that women in the study had rates of early and adequate prenatal care only slightly lower than the Healthy People 2020 benchmark. Results for the *Preterm Births* and *Newborns With Low Birth Weight (<2,500g)* indicators demonstrated rates higher than the national benchmarks (i.e., worse performance than the national benchmark). However, all three indicators failed to show improvement between CY 2014 and CY 2015. The results for the *Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth* indicator showed that nearly 61 percent of births failed to meet the AAP recommendations for PCP office visits within the first 30 days after birth. However, these results may be influenced by healthcare billing practices that reduce the ability to administratively identify newborn primary care visits occurring in the hospital setting in the days following the birth.

Overall, a higher percentage of women in the study population received early and adequate prenatal care compared to the comparison group. While continuous enrollment was a requirement for inclusion in the study population, this requirement was unlikely to have played a role in the rate of early and adequate prenatal care, as the continuous enrollment requirements were only assessed during the six-week period prior to delivery. This date range is beyond the first trimester prenatal care initiation considered critical for adequate prenatal care.

Births to women in the study population also outperformed the comparison group for the *Preterm Births* indicator. Results for the *Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth* indicator show that the comparison group had a higher percentage of births with at least two office visits. Finally, results for the *Newborns With ≥ 1 ED Visit in the 30 Days Following Birth* indicator showed that the percentage of non-NICU infants with at least one ED visit was lower among the study population compared to the comparison group. The differences in demographic characteristics of the study population and comparison group should be considered when interpreting these results, as the population groups differed in distribution by maternal age group, race/ethnicity, and region of residence. As such, the geographic distribution of the two populations may extend to differences in healthcare provider networks, ultimately impacting the study results for the *Newborns With ≥ 2 PCP Visits in the 30 Days Following Birth* indicator.

Quality improvement efforts targeting the root causes of preterm births; low birth weight infants; and access to prenatal, postpartum, and neonatal care will result in positive outcomes for mothers and their infants and subsequent improvements in quality improvement metrics (e.g., the birth outcomes study indicators). For example, targeted data mining efforts could assess the clinical course of, and medical necessity for, infants receiving ED visits in the first 30 days of life. Similarly, an assessment of network adequacy for prenatal care providers could determine the extent to which the lack of improvement in the

rate of women receiving early and adequate prenatal care may result from barriers to care (e.g., difficulty in obtaining appointments due to provider requirements or a lack of providers in certain geographies). Root cause analyses among stratified populations can aid in discerning sociodemographic and clinical factors contributing to these indicator results, especially with respect to relatively stable study indicator rates between CY 2014 and CY 2015. Such analyses can support targeted quality improvement efforts to increase the number of women initiating prenatal care in the first trimester of pregnancy.

Recommendations

Since the CY 2015 study indicator results are generally stable when compared to the CY 2014 results, it is important to note that similar recommendations from the Contract Year 2015–2016 Birth Outcomes Focused Study may still be relevant. Additionally, DMAS' current transition to the Medallion 4.0 program for Medicaid MCOs provides the opportunity for DMAS and the MCOs to reassess existing quality improvement strategies related to peripartum care and resulting clinical outcomes among neonates. Moving forward, the MCOs' quality initiatives can be designed to ensure alignment with Medallion 4.0's targeted topics regarding maternity services and services for infants (i.e., 0 to 3 years). As such, HSAG offers the following recommendations based on the findings detailed in this report:

- DMAS should continue with collaborative efforts such as those described in the Maternal and Infant Improvement Project (MIIP) Activities Report 2015–2016.⁴⁻¹ For example, the partnership between DMAS and the VDSS resulted in the production of instructional material that could be utilized by Medicaid, FAMIS, and FAMIS MOMS recipients. DMAS should expand these collaborations to include other agencies pursuing similar objectives (e.g., VDH's Family Home Visiting Program). Such collaboration allows influential groups to design interventions without duplicating efforts and may allow the respective stakeholders to reach a larger audience.
- The generally stable study indicator results between CY 2014 and CY 2015 may be indicative of underlying issues related to healthcare access among women and newborns receiving services under Virginia Medicaid, FAMIS, and FAMIS MOMS. As such, DMAS should consider conducting a focused evaluation of access to care to determine the availability of, and members' ability to access, PCPs, including pediatricians; providers of prenatal and postpartum care; and facilities related to perinatal care (e.g., hospitals and freestanding birth centers, pharmacies, and laboratory and x-ray providers). In addition to considering providers' capacity and availability, evaluation should include an assessment of potential sociodemographic and clinical factors influencing members' access to perinatal care. Results from an access evaluation will aid DMAS in determining barriers experienced by women seeking perinatal care and looking to establish consistent primary care for their newborns.

⁴⁻¹ Virginia Department of Medical Assistance Services. Maternal and Infant Improvement Project (MIIP) Activities Report 2015-2016. Available at: http://www.dmas.virginia.gov/Content_atchs/mch/MIIP%20Activities%20Report_12012016_Approved.pdf. Accessed on May 15, 2018.

- DMAS may use existing or planned provider network evaluation results to determine the extent to which MCOs' utilization management policies may impact members' ability to receive timely, clinically-appropriate care before, during, and after a pregnancy. Such efforts may be aligned with the Medallion 4.0 focus on LARCs to determine the extent to which postpartum care is available, accessible, and used as an opportunity to educate members about their reproductive health options.
- DMAS should continue to monitor, trend, and evaluate prenatal care and birth outcomes among Medicaid. Because results for the CY 2015 study indicators continue to lag below national benchmarks, DMAS should use the detailed study results and accompanying analytic dataset, in conjunction with qualitative and quantitative data from stakeholders, to evaluate the impact of demographic elements on prenatal care and birth outcomes. Results from these data mining efforts may provide targets for further analysis or targeted quality improvement activities under Medallion 4.0. Further monitoring will also provide information regarding the efficacy of ongoing interventions by DMAS and stakeholders.
 - As many clinical conditions among neonates may warrant emergent care, evaluation measures may consider the impact of clinical decision-making on the prevalence of ED visits. For example, further analysis may consider using the NYU ED algorithm⁴⁻² to identify the proportion of non-emergent ED visits, or to assess infants' claims and encounter data to determine whether or not an ED visit was preceded by an office visit with a PCP-type provider.

⁴⁻² New York University, Robert F. Wagner Graduate School of Public Service. Wagner Faculty & Research. Available at: <https://wagner.nyu.edu/faculty/billings/nyued-background#>. Accessed on: May 21, 2018.

Appendix A. Demographic Characteristics of Births

Appendix A presents the demographic characteristics of study members, including singleton and multiple CY 2015 births. Results for CY 2014 were identified from the 2015–16 Prenatal Care and Birth Outcomes Focused Study.^{A-1} Results for CY 2013 were identified from the Calendar Year 2013 Improving Birth Outcomes Through Adequate Prenatal Care Study.^{A-2} Because the data linkage methodology changed between CY 2013 and CY 2014, use caution when comparing results over time. Additionally, demographic results omit CY 2013 data, as results for all demographic categories were not previously published.

**Table A-1—Distribution of Births by Population Group and Medicaid Characteristics
CY 2013, CY 2014, and CY 2015**

Medicaid Characteristics	CY 2013				CY 2014				CY 2015			
	Study Population		Comparison Group		Study Population		Comparison Group		Study Population		Comparison Group	
	n	%	n	%	n	%	n	%	n	%	n	%
Total	21,772	100.0	4,701	100.0	27,438	100.0	6,196	100.0	28,588	100.0	5,750	100.0
Medicaid Program												
FAMIS MOMS	1,665	7.7	237	5.0	830	3.0	29	0.5	950	3.3	212	3.7
Medicaid for Pregnant Women	17,544	80.6	4,050	86.2	20,872	76.1	5,128	82.8	21,539	75.3	4,755	82.7
Other Medicaid	2,563	11.8	414	8.8	5,736	20.9	1,039	16.8	6,099	21.3	783	13.6
Medicaid Delivery System												
Fee-For-Service	4,990	22.9	2,131	45.3	4,982	18.2	5,368	86.6	4,204	14.7	4,642	80.7
Managed Care	16,782	77.0	2,570	54.7	22,456	81.8	828	13.4	24,384	85.3	1,108	19.3

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

^{A-1} Health Services Advisory Group, Inc. *2015–16 Prenatal Care and Birth Outcomes Focused Study*. Commonwealth of VA, Department of Medical Assistance Services; March 2016.

^{A-2} Delmarva Foundation. *Calendar Year 2013—Improving Birth Outcomes Through Adequate Prenatal Care Study*. Commonwealth of VA, Department of Medical Assistance Services; January 2014.

Table A-2—Distribution of Births by Population Group and Demographic Category, CY 2014 and CY 2015

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
Total	27,438	100.0	28,588	100.0	6,196	100.0	5,750	100.0
Maternal Age Category								
15 Years and Younger	116	0.4	76	0.3	23	0.4	11	0.2
16 Through 17 Years	573	2.1	379	1.3	118	1.9	57	1.0
18 Through 20 Years	3,860	14.1	2,980	10.4	832	13.4	630	11.0
21 Through 24 Years	8,138	29.7	8,159	28.5	1,378	22.2	1,197	20.8
25 Through 29 Years	8,123	29.6	9,085	31.8	1,732	28.0	1,598	27.8
30 Through 34 Years	4,354	15.9	5,126	17.9	1,303	21.0	1,296	22.5
35 Through 39 Years	1,854	6.8	2,229	7.8	654	10.6	765	13.3
40 Through 44 Years	401	1.5	498	1.7	147	2.4	175	3.0
45 Years and Older	19	0.1	37	0.1	9	0.1	10	0.2
Unknown	0	0.0	19	0.1	0	0.0	11	0.2
Maternal Race/Ethnicity Category								
White, Non-Hispanic	12,293	44.8	12,787	44.7	1,564	25.2	1,475	25.7
Black, Non-Hispanic	11,054	40.3	11,504	40.2	1,490	24.0	1,361	23.7
Asian, Non-Hispanic	986	3.6	821	2.9	229	3.7	182	3.2
Hispanic, Any Race	2,447	8.9	2,581	9.0	2,791	45.0	2,563	44.6
Other/Unknown	658	2.4	895	3.1	122	2.0	169	2.9

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
Maternal Region								
Central	7,368	26.9	7,706	27.0	1,372	22.1	1,091	19.0
Charlottesville	2,015	7.3	1,940	6.8	377	6.1	362	6.3
Far Southwest	1,369	5.0	1,321	4.6	137	2.2	148	2.6
Halifax/Lynchburg	1,684	6.1	1,917	6.7	248	4.0	195	3.4
Northern/Winchester	5,535	20.2	5,655	19.8	2,561	41.3	2,553	44.4
Roanoke/Alleghany	2,455	8.9	2,704	9.5	433	7.0	437	7.6
Tidewater	6,950	25.3	7,345	25.7	1,056	17.0	964	16.8
Out-of-State	62	0.2	0	0.0	12	0.2	0	0.0
Maternal Citizenship Status								
U.S. Citizen	25,377	92.5	26,279	91.9	3,210	51.8	3,017	52.5
Documented Immigrant	2,030	7.4	2,278	8.0	471	7.6	422	7.3
Undocumented Immigrant	11	0.0	21	0.1	2,501	40.4	2,301	40.0
Other/Unknown	20	0.1	10	0.0	14	0.2	10	0.2

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

Table A-3—Distribution of Births by Medicaid Program, Population Group, and Medicaid Delivery System, CY 2013, CY 2014, and CY 2015

Medicaid Delivery System	CY 2013				CY 2014				CY 2015			
	Study Population		Comparison Group		Study Population		Comparison Group		Study Population		Comparison Group	
	n	%	n	%	n	%	n	%	n	%	n	%
FAMIS MOMS												
Fee-For-Service	147	8.8	126	53.2	47	5.7	27	93.1	152	16.0	177	83.5
Managed Care	1,518	91.2	111	46.8	783	94.3	2	6.9	798	84.0	35	16.5
Total	1,665	100.0	237	100.0	830	100.0	29	100.0	950	100.0	212	100.0
Medicaid for Pregnant Women												
Fee-For-Service	4,423	25.2	1,756	43.4	4,042	19.4	4,445	86.7	3,161	14.7	3,822	80.4
Managed Care	13,121	74.8	2,294	56.6	16,830	80.6	683	13.3	18,378	85.3	933	19.6
Total	17,544	100.0	4,050	100.0	20,872	100.0	5,128	100.0	21,539	100.0	4,755	100.0
Other Medicaid Program												
Fee-For-Service	*	16.4	*	60.1	893	15.6	896	86.2	891	14.6	643	82.1
Managed Care	*	83.6	*	39.9	4,843	84.4	143	13.8	5,208	85.4	140	17.9
Total	2,563	100.0	414	100.0	5,736	100.0	1,039	100.0	6,099	100.0	783	100.0

Note: Asterisk (*) results are not available from a prior report.

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

Table A-4—Distribution of Births by Population Group, Medicaid Program, and Demographic Category, CY 2014 and CY 2015

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
FAMIS MOMS								
Total	830	100.0	950	100.0	29	100.0	212	100.0
Maternal Age Category								
15 Years and Younger	0	0.0	3	0.3	0	0.0	0	0.0
16 Through 17 Years	4	0.5	6	0.6	1	3.4	2	0.9
18 Through 20 Years	59	7.1	39	4.1	2	6.9	7	3.3
21 Through 24 Years	174	21.0	201	21.2	6	20.7	36	17.0
25 Through 29 Years	303	36.5	348	36.6	7	24.1	69	32.5
30 Through 34 Years	193	23.3	214	22.5	9	31.0	55	25.9
35 Through 39 Years	73	8.8	112	11.8	2	6.9	33	15.6
40 Through 44 Years	24	2.9	25	2.6	2	6.9	10	4.7
45 Years and Older	0	0.0	2	0.2	0	0.0	0	0.0
Unknown	0	0.0	0	0.0	0	0.0	0	0.0
Maternal Race/Ethnicity Category								
White, Non-Hispanic	411	49.5	434	45.7	11	37.9	78	36.8
Black, Non-Hispanic	219	26.4	290	30.5	8	27.6	61	28.8
Asian, Non-Hispanic	64	7.7	50	5.3	4	13.8	21	9.9
Hispanic, Any Race	117	14.1	122	12.8	6	20.7	45	21.2
Other/Unknown	19	2.3	54	5.7	0	0.0	7	3.3
Maternal Region								
Central	186	22.4	240	25.3	1	3.4	31	14.6
Charlottesville	72	8.7	72	7.6	5	17.2	19	9.0
Far Southwest	29	3.5	29	3.1	0	0.0	4	1.9
Halifax/Lynchburg	31	3.7	40	4.2	2	6.9	8	3.8

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
Northern/Winchester	274	33.0	289	30.4	17	58.6	99	46.7
Roanoke/Alleghany	60	7.2	90	9.5	2	6.9	15	7.1
Tidewater	176	21.2	190	20.0	2	6.9	36	17.0
Out-of-State	2	0.2	0	0.0	0	0.0	0	0.0
Maternal Citizenship Status								
U.S. Citizen	713	85.9	789	83.1	18	62.1	151	71.2
Documented Immigrant	114	13.7	160	16.8	11	37.9	52	24.5
Undocumented Immigrant	1	0.1	1	0.1	0	0.0	9	4.2
Other/Unknown	2	0.2	0	0.0	0	0.0	0	0.0
Medicaid for Pregnant Women								
Total	20,872	100.0	21,539	100.0	5,128	100.0	4,755	100.0
Maternal Age Category								
15 Years and Younger	2	0.0	1	0.0	2	0.0	0	0.0
16 Through 17 Years	28	0.1	10	0.0	25	0.5	5	0.1
18 Through 20 Years	2,869	13.7	1,802	8.4	593	11.6	424	8.9
21 Through 24 Years	6,595	31.6	6,708	31.1	1,139	22.2	1,003	21.1
25 Through 29 Years	6,250	29.9	7,055	32.8	1,497	29.2	1,344	28.3
30 Through 34 Years	3,311	15.9	3,853	17.9	1,161	22.6	1,141	24.0
35 Through 39 Years	1,470	7.0	1,684	7.8	574	11.2	672	14.1
40 Through 44 Years	329	1.6	379	1.8	130	2.5	148	3.1
45 Years and Older	18	0.1	30	0.1	7	0.1	9	0.2
Unknown	0	0.0	17	0.1	0	0.0	9	0.2
Maternal Race/Ethnicity Category								
White, Non-Hispanic	9,755	46.7	10,058	46.7	1,176	22.9	1,105	23.2
Black, Non-Hispanic	7,794	37.3	8,058	37.4	1,098	21.4	979	20.6
Asian, Non-Hispanic	856	4.1	700	3.2	208	4.1	151	3.2

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
Hispanic, Any Race	1,948	9.3	2,044	9.5	2,555	49.8	2,372	49.9
Other/Unknown	519	2.5	679	3.2	91	1.8	148	3.1
Maternal Region								
Central	5,361	25.7	5,481	25.4	1,034	20.2	874	18.4
Charlottesville	1,613	7.7	1,560	7.2	333	6.5	289	6.1
Far Southwest	1,073	5.1	1,014	4.7	96	1.9	109	2.3
Halifax/Lynchburg	1,267	6.1	1,431	6.6	190	3.7	152	3.2
Northern/Winchester	4,462	21.4	4,571	21.2	2,338	45.6	2,279	47.9
Roanoke/Alleghany	1,938	9.3	2,108	9.8	358	7.0	346	7.3
Tidewater	5,110	24.5	5,374	25.0	774	15.1	706	14.8
Out-of-State	48	0.2	0	0.0	5	0.1	0	0.0
Maternal Citizenship Status								
U.S. Citizen	19,019	91.1	19,527	90.7	2,366	46.1	2,185	46.0
Documented Immigrant	1,825	8.7	1,985	9.2	428	8.3	362	7.6
Undocumented Immigrant	10	0.0	20	0.1	2,320	45.2	2,199	46.2
Other/Unknown	18	0.1	7	0.0	14	0.3	9	0.2
Other Medicaid Program								
Total	5,736	100.0	6,099	100.0	1,039	100.0	783	100.0
Maternal Age Category								
15 Years and Younger	114	2.0	72	1.2	21	2.0	11	1.4
16 Through 17 Years	541	9.4	363	6.0	92	8.9	50	6.4
18 Through 20 Years	932	16.2	1,139	18.7	237	22.8	199	25.4
21 Through 24 Years	1,369	23.9	1,250	20.5	233	22.4	158	20.2
25 Through 29 Years	1,570	27.4	1,682	27.6	228	21.9	185	23.6
30 Through 34 Years	850	14.8	1,059	17.4	133	12.8	100	12.8
35 Through 39 Years	311	5.4	433	7.1	78	7.5	60	7.7

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
40 Through 44 Years	48	0.8	94	1.5	15	1.4	17	2.2
45 Years and Older	1	0.0	5	0.1	2	0.2	1	0.1
Unknown	0	0.0	2	0.0	0	0.0	2	0.3
Maternal Race/Ethnicity Category								
White, Non-Hispanic	2,127	37.1	2,295	37.6	377	36.3	292	37.3
Black, Non-Hispanic	3,041	53.0	3,156	51.7	384	37.0	321	41.0
Asian, Non-Hispanic	66	1.2	71	1.2	17	1.6	10	1.3
Hispanic, Any Race	382	6.7	415	6.8	230	22.1	146	18.6
Other/Unknown	120	2.1	162	2.7	31	3.0	14	1.8
Maternal Region								
Central	1,821	31.7	1,985	32.5	337	32.4	186	23.8
Charlottesville	330	5.8	308	5.1	39	3.8	54	6.9
Far Southwest	267	4.7	278	4.6	41	3.9	35	4.5
Halifax/Lynchburg	386	6.7	446	7.3	56	5.4	35	4.5
Northern/Winchester	799	13.9	795	13.0	206	19.8	175	22.3
Roanoke/Alleghany	457	8.0	506	8.3	73	7.0	76	9.7
Tidewater	1,664	29.0	1,781	29.2	280	26.9	222	28.4
Out-of-State	12	0.2	0	0.0	7	0.7	0	0.0
Maternal Citizenship Status								
U.S. Citizen	5,645	98.4	5,963	97.8	826	79.5	681	87.0
Documented Immigrant	91	1.6	133	2.2	32	3.1	8	1.0
Undocumented Immigrant	0	0.0	0	0.0	181	17.4	93	11.9
Other/Unknown	0	0.0	3	0.0	0	0.0	1	0.1

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

Table A-5—Distribution of Births by Population Group, Medicaid Delivery System, and Demographic Category, CY 2014 and CY 2015

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
Fee-for-Service								
Total	4,982	100.0	4,204	100.0	5,368	100.0	4,642	100.0
Maternal Age Category								
15 Years and Younger	11	0.2	6	0.1	18	0.3	6	0.1
16 Through 17 Years	86	1.7	35	0.8	97	1.8	44	0.9
18 Through 20 Years	809	16.2	463	11.0	697	13.0	454	9.8
21 Through 24 Years	1,631	32.7	1,324	31.5	1,160	21.6	923	19.9
25 Through 29 Years	1,297	26.0	1,259	29.9	1,477	27.5	1,274	27.4
30 Through 34 Years	709	14.2	679	16.2	1,170	21.8	1,093	23.5
35 Through 39 Years	356	7.1	354	8.4	606	11.3	676	14.6
40 Through 44 Years	79	1.6	79	1.9	135	2.5	153	3.3
45 Years and Older	4	0.1	3	0.1	8	0.1	9	0.2
Unknown	0	0.0	2	0.0	0	0.0	10	0.2
Maternal Race/Ethnicity Category								
White, Non-Hispanic	2,296	46.1	2,070	49.2	1,213	22.6	992	21.4
Black, Non-Hispanic	1,887	37.9	1,534	36.5	1,113	20.7	903	19.5
Asian, Non-Hispanic	178	3.6	98	2.3	202	3.8	157	3.4
Hispanic, Any Race	484	9.7	364	8.7	2,737	51.0	2,452	52.8
Other/Unknown	137	2.7	138	3.3	103	1.9	138	3.0

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
Maternal Region								
Central	1,299	26.1	1,114	26.5	1,165	21.7	835	18.0
Charlottesville	390	7.8	361	8.6	323	6.0	278	6.0
Far Southwest	192	3.9	163	3.9	97	1.8	79	1.7
Halifax/Lynchburg	338	6.8	358	8.5	180	3.4	129	2.8
Northern/Winchester	1,111	22.3	773	18.4	2,417	45.0	2,332	50.2
Roanoke/Alleghany	460	9.2	486	11.6	346	6.4	330	7.1
Tidewater	1,181	23.7	949	22.6	830	15.5	659	14.2
Out-of-State	11	0.2	0	0.0	10	0.2	0	0.0
Maternal Citizenship Status								
U.S. Citizen	4,521	90.7	3,914	93.1	2,429	45.2	1,995	43.0
Documented Immigrant	448	9.0	277	6.6	425	7.9	337	7.3
Undocumented Immigrant	8	0.2	9	0.2	2,501	46.6	2,301	49.6
Other/Unknown	5	0.1	4	0.1	13	0.2	9	0.2
Managed Care								
Total	22,456	100.0	24,384	100.0	828	100.0	1,108	100.0
Maternal Age Category								
15 Years and Younger	105	0.5	70	0.3	5	0.6	5	0.5
16 Through 17 Years	487	2.2	344	1.4	21	2.5	13	1.2
18 Through 20 Years	3,051	13.6	2,517	10.3	135	16.3	176	15.9
21 Through 24 Years	6,507	29.0	6,835	28.0	218	26.3	274	24.7
25 Through 29 Years	6,826	30.4	7,826	32.1	255	30.8	324	29.2
30 Through 34 Years	3,645	16.2	4,447	18.2	133	16.1	203	18.3
35 Through 39 Years	1,498	6.7	1,875	7.7	48	5.8	89	8.0
40 Through 44 Years	322	1.4	419	1.7	12	1.4	22	2.0
45 Years and Older	15	0.1	34	0.1	1	0.1	1	0.1
Unknown	0	0.0	17	0.1	0	0.0	1	0.1

Demographic Category	Study Population				Comparison Group			
	CY 2014		CY 2015		CY 2014		CY 2015	
	n	%	n	%	n	%	n	%
Maternal Race/Ethnicity Category								
White, Non-Hispanic	9,997	44.5	10,717	44.0	351	42.4	483	43.6
Black, Non-Hispanic	9,167	40.8	9,970	40.9	377	45.5	458	41.3
Asian, Non-Hispanic	808	3.6	723	3.0	27	3.3	25	2.3
Hispanic, Any Race	1,963	8.7	2,217	9.1	54	6.5	111	10.0
Other/Unknown	521	2.3	757	3.1	19	2.3	31	2.8
Maternal Region								
Central	6,069	27.0	6,592	27.0	207	25.0	256	23.1
Charlottesville	1,625	7.2	1,579	6.5	54	6.5	84	7.6
Far Southwest	1,177	5.2	1,158	4.7	40	4.8	69	6.2
Halifax/Lynchburg	1,346	6.0	1,559	6.4	68	8.2	66	6.0
Northern/Winchester	4,424	19.7	4,882	20.0	144	17.4	221	19.9
Roanoke/Alleghany	1,995	8.9	2,218	9.1	87	10.5	107	9.7
Tidewater	5,769	25.7	6,396	26.2	226	27.3	305	27.5
Out-of-State	51	0.2	0	0.0	2	0.2	0	0.0
Maternal Citizenship Status								
U.S. Citizen	20,856	92.9	22,365	91.7	781	94.3	1,022	92.2
Documented Immigrant	1,582	7.0	2,001	8.2	46	5.6	85	7.7
Undocumented Immigrant	3	0.0	12	0.0	0	0.0	0	0.0
Other/Unknown	15	0.1	6	0.0	1	0.1	1	0.1

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

Appendix B. Detailed Findings by Study Indicator

Detailed Findings—Adequacy of Prenatal Care

Figure B-1—Percentage of Births With Early and Adequate Prenatal Care by Managed Care Region, CY 2015

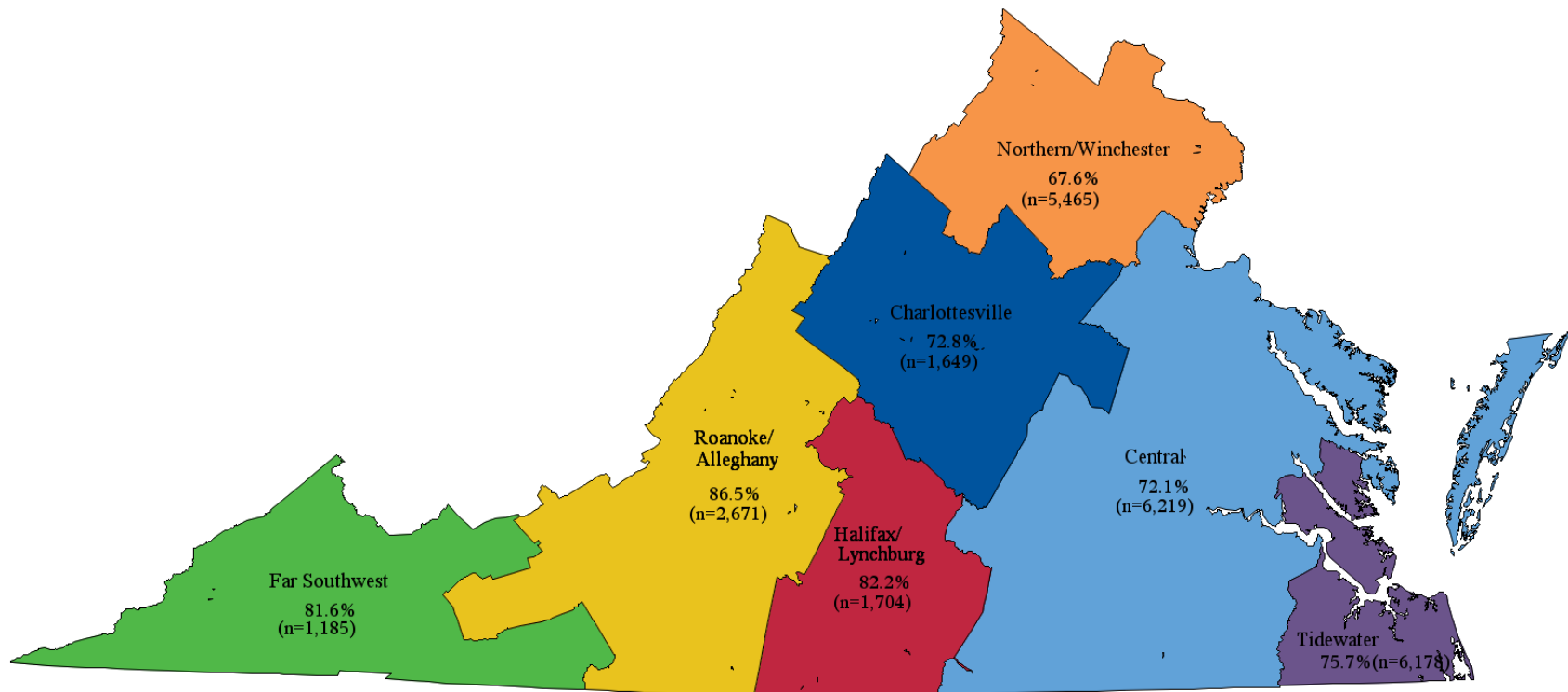


Table B-1—Distribution of Singleton Births by Prenatal Care Indicator, Population Group, and Maternal Age, CY 2014 and CY 2015

Maternal Age	Missing Information		Inadequate PNC		Intermediate PNC		Adequate PNC		Adequate Plus PNC		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015*	
											n	%	n	%
Study Population														
Singleton Births (n)	268	328	3,506	3,797	2,712	2,689	11,819	12,328	8,674	8,961	26,979	100.0	28,103	100.0
15 Years and Younger	1.1%	0.6%	0.7%	0.7%	0.6%	0.3%	0.4%	0.2%	0.3%	0.1%	115	0.4	76	0.3
16 Through 17 Years	3.4%	1.5%	3.0%	2.3%	2.2%	1.3%	1.9%	1.2%	1.9%	1.1%	568	2.1	379	1.3
18 Through 20 Years	14.9%	11.9%	15.0%	11.2%	15.0%	11.5%	14.5%	10.5%	13.0%	9.8%	3,815	14.1	2,941	10.5
21 Through 24 Years	26.9%	26.2%	29.2%	27.7%	29.9%	30.6%	30.6%	29.6%	28.7%	27.0%	8,016	29.7	8,036	28.6
25 Through 29 Years	26.1%	30.5%	27.8%	30.3%	28.2%	30.1%	29.9%	32.1%	30.3%	32.4%	7,972	29.5	8,922	31.7
30 Through 34 Years	18.3%	17.4%	15.5%	17.7%	15.7%	17.0%	15.4%	17.4%	16.4%	18.9%	4,257	15.8	5,018	17.9
35 Through 39 Years	8.2%	10.1%	7.2%	8.0%	6.6%	7.6%	6.0%	7.2%	7.6%	8.5%	1,821	6.7	2,188	7.8
40 Through 44 Years	0.7%	1.2%	1.7%	1.8%	1.7%	1.6%	1.3%	1.6%	1.6%	2.0%	396	1.5	491	1.7
45 Years and Older	0.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	19	0.1	35	0.1
Comparison Population														
Singleton Births (n)	255	182	951	1,007	781	675	2,504	2,277	1,637	1,505	6,098	100.0	5,646	100.0
15 Years and Younger	0.0%	0.5%	0.5%	0.2%	0.6%	0.1%	0.2%	0.1%	0.4%	0.3%	22	0.4	11	0.2
16 Through 17 Years	2.7%	1.1%	3.2%	1.2%	2.7%	0.4%	1.5%	1.1%	1.4%	1.1%	118	1.9	57	1.0
18 Through 20 Years	14.7%	9.9%	14.8%	11.5%	14.1%	9.8%	14.1%	10.8%	11.7%	11.6%	828	13.6	620	11.0
21 Through 24 Years	26.7%	32.4%	21.3%	24.0%	20.6%	22.2%	23.0%	20.4%	22.1%	17.9%	1,361	22.3	1,184	21.0
25 Through 29 Years	25.3%	25.3%	28.3%	27.1%	25.9%	27.4%	28.6%	28.2%	28.0%	26.8%	1,701	27.9	1,550	27.5
30 Through 34 Years	17.8%	19.2%	18.8%	20.0%	23.2%	24.4%	20.4%	23.2%	22.3%	22.9%	1,277	20.9	1,274	22.6
35 Through 39 Years	9.8%	8.8%	10.1%	11.8%	10.5%	12.4%	10.3%	13.0%	11.1%	16.0%	639	10.5	757	13.4
40 Through 44 Years	2.7%	2.7%	2.6%	3.8%	2.2%	2.8%	1.9%	2.9%	2.9%	3.1%	143	2.3	173	3.1
45 Years and Older	0.4%	0.0%	0.3%	0.1%	0.3%	0.0%	0.0%	0.2%	0.1%	0.2%	9	0.1	9	0.2

* There are 17 mothers with unknown age in the study population, and 11 mothers with unknown age in the comparison group; births to these women are included in the totals.

PNC = prenatal care

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

Table B-2—Distribution of Singleton Births by Prenatal Care Indicator, Population Group, and Maternal Race/Ethnicity, CY 2014 and CY 2015

Maternal Race/Ethnicity	Missing Information		Inadequate PNC		Intermediate PNC		Adequate PNC		Adequate Plus PNC		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
											n	%	n	%
Study Population														
Singleton Births (n)	268	328	3,506	3,797	2,712	2,689	11,819	12,328	8,674	8,961	26,979	100.0	28,103	100.0
White, Non-Hispanic	33.6%	36.9%	39.8%	38.2%	41.3%	40.1%	47.4%	47.4%	45.2%	45.7%	12,129	45.0	12,592	44.8
Black, Non-Hispanic	50.7%	47.6%	40.5%	42.8%	43.9%	44.2%	38.9%	38.6%	39.9%	39.6%	10,810	40.1	11,275	40.1
Asian, Non-Hispanic	2.6%	3.4%	5.2%	4.0%	3.5%	2.8%	3.2%	2.7%	3.6%	2.8%	978	3.6	811	2.9
Hispanic, Any Race	9.0%	7.9%	11.3%	11.0%	9.0%	10.3%	8.2%	8.4%	9.0%	8.7%	2,412	8.9	2,541	9.0
Other/Unknown	4.1%	4.3%	3.1%	4.0%	2.4%	2.7%	2.3%	2.9%	2.3%	3.3%	650	2.4	884	3.1
Comparison Population														
Singleton Births (n)	255	182	951	1,007	781	675	2,504	2,277	1,637	1,505	6,098	100.0	5,646	100.0
White, Non-Hispanic	31.1%	25.8%	22.5%	21.4%	19.7%	17.9%	25.9%	28.0%	27.1%	27.8%	1,530	25.1	1,441	25.5
Black, Non-Hispanic	26.7%	38.5%	24.1%	24.3%	21.0%	21.3%	23.3%	23.0%	25.8%	22.9%	1,459	23.9	1,326	23.5
Asian, Non-Hispanic	1.8%	2.7%	4.3%	4.9%	3.6%	3.1%	3.8%	2.7%	3.7%	3.0%	228	3.7	181	3.2
Hispanic, Any Race	37.3%	29.7%	47.1%	45.6%	53.4%	54.5%	45.3%	43.7%	41.4%	43.6%	2,760	45.3	2,532	44.8
Other/Unknown	3.1%	3.3%	2.0%	3.8%	2.3%	3.1%	1.7%	2.6%	2.1%	2.7%	121	2.0	166	2.9

PNC = prenatal care

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

Table B-3—Distribution of Singleton Births by Prenatal Care Indicator, Population Group, and Maternal Region of Residence, CY 2014 and CY 2015

Maternal Region of Residence	Missing Information		Inadequate PNC		Intermediate PNC		Adequate PNC		Adequate Plus PNC		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
											n	%	n	%
Study Population														
Singleton Births (n)	268	328	3,506	3,797	2,712	2,689	11,819	12,328	8,674	8,961	26,979	100.0	28,103	100.0
Central	25.4%	31.7%	24.1%	23.4%	43.8%	36.5%	26.4%	28.1%	23.1%	23.7%	7,233	26.8	7,562	26.9
Charlottesville	2.6%	4.0%	8.9%	7.7%	5.4%	6.5%	5.8%	5.0%	9.6%	9.0%	1,981	7.3	1,907	6.8
Far Southwest	1.1%	1.2%	4.3%	3.4%	3.8%	3.9%	5.3%	5.0%	5.5%	5.1%	1,359	5.0	1,306	4.6
Halifax/Lynchburg	4.1%	4.3%	4.8%	5.7%	3.9%	3.0%	8.1%	8.9%	4.8%	5.2%	1,655	6.1	1,883	6.7
Northern/Winchester	23.9%	19.5%	29.9%	28.5%	21.5%	22.7%	18.6%	17.4%	17.9%	18.5%	5,444	20.2	5,564	19.8
Roanoke/Alleghany	7.8%	7.6%	5.1%	4.5%	7.4%	6.7%	11.6%	12.6%	7.6%	8.1%	2,425	9.0	2,660	9.5
Tidewater	35.1%	31.7%	22.6%	26.8%	13.8%	20.5%	24.1%	22.9%	31.2%	30.3%	6,820	25.3	7,221	25.7
Out-of-State	0.0%	0.0%	0.3%	0.0%	0.3%	0.0%	0.2%	0.0%	0.2%	0.0%	62	0.2	0	0.0
Comparison Population														
Singleton Births (n)	255	182	951	1,007	781	675	2,504	2,277	1,637	1,505	6,098	100.0	5,646	100.0
Central	16.0%	18.1%	17.9%	15.2%	45.5%	36.1%	20.5%	17.7%	16.6%	15.3%	1,347	22.1	1,063	18.8
Charlottesville	4.0%	7.1%	8.4%	7.1%	4.1%	7.1%	5.2%	4.9%	7.1%	7.4%	369	6.1	357	6.3
Far Southwest	1.3%	1.1%	2.6%	2.0%	1.5%	1.0%	2.1%	2.9%	2.7%	3.5%	137	2.2	146	2.6
Halifax/Lynchburg	8.0%	7.7%	3.0%	3.1%	2.2%	1.8%	5.1%	4.3%	3.3%	2.3%	245	4.0	191	3.4
Northern/Winchester	45.3%	36.3%	48.9%	52.1%	33.8%	39.4%	39.5%	42.2%	43.2%	46.2%	2,528	41.5	2,515	44.5
Roanoke/Alleghany	5.3%	3.3%	3.0%	2.1%	3.2%	2.4%	10.4%	12.4%	6.0%	6.9%	425	7.0	429	7.6
Tidewater	19.6%	26.4%	15.8%	18.4%	9.7%	12.1%	16.9%	15.6%	20.9%	18.3%	1,036	17.0	945	16.7
Out-of-State	0.4%	0.0%	0.3%	0.0%	0.0%	0.0%	0.2%	0.0%	0.1%	0.0%	11	0.2	0	0.0

PNC = prenatal care

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

Table B-4—Distribution of Singleton Births by PNC Indicator, Population Group, and Maternal Citizenship, CY 2014 and CY 2015

Maternal Citizenship	Missing Information		Inadequate PNC		Intermediate PNC		Adequate PNC		Adequate Plus PNC		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
											n	%	n	%
Study Population														
Singleton Births (n)	268	328	3,506	3,797	2,712	2,689	11,819	12,328	8,674	8,961	26,979	100.0	28,103	100.0
U.S. Citizen	93.7%	93.9%	88.5%	86.3%	91.2%	90.9%	93.3%	92.7%	93.3%	93.4%	24,948	92.5	25,824	91.9
Documented Immigrant	6.3%	5.8%	11.3%	13.6%	8.7%	9.0%	6.6%	7.3%	6.6%	6.5%	2,001	7.4	2,250	8.0
Undocumented Immigrant	0.0%	0.3%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%	11	0.0	19	0.1
Other/Unknown	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%	0.0%	19	0.1	10	0.0
Comparison Population														
Singleton Births (n)	255	182	951	1,007	781	675	2,504	2,277	1,637	1,505	6,098	100.0	5,646	100.0
U.S. Citizen	60.4%	74.2%	48.6%	47.1%	41.6%	41.3%	52.3%	54.2%	55.3%	54.6%	3,138	51.5	2,945	52.2
Documented Immigrant	7.1%	4.4%	9.3%	10.2%	7.8%	8.9%	6.7%	5.8%	8.1%	7.5%	465	7.6	415	7.4
Undocumented Immigrant	32.4%	21.4%	41.9%	42.6%	50.4%	49.6%	40.7%	39.7%	36.5%	37.9%	2,481	40.7	2,277	40.3
Other/Unknown	0.0%	0.0%	0.3%	0.1%	0.1%	0.1%	0.3%	0.3%	0.1%	0.0%	14	0.2	9	0.2

PNC = prenatal care

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

Detailed Findings—Preterm Births

Note: While births with unknown gestation category are included in the appendix tables for completeness, study indicator calculations exclude these births, consistent with the study methodology.

Figure B-2—Percentage of Preterm Births (<37 Weeks) by Managed Care Region, CY 2015

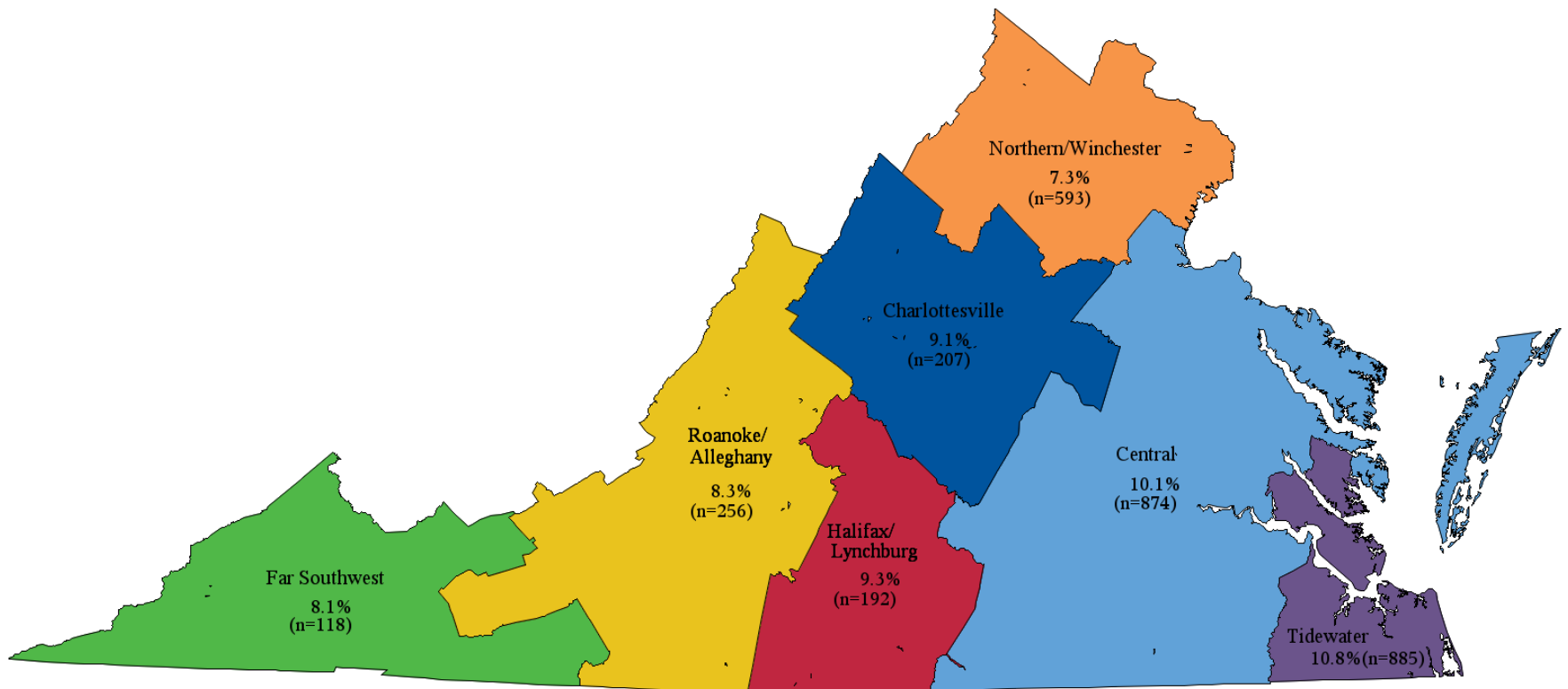


Table B-5—Distribution of Singleton Births by Preterm Birth Indicator, Population Group, and Maternal Age, CY 2014 and CY 2015

Maternal Age in Years	Extremely Preterm (< 28 Weeks)		Very Preterm (28-31 Weeks)		Moderate Preterm (32-33 Weeks)		Late Preterm (34-36 Weeks)		Early Term (37-38 Weeks)		Full Term (39-40 Weeks)		Late Term (41 Weeks)		Post Term (42+ Weeks)		Unknown		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015*	
																			n	%	n	%
Study Population																						
Singleton Births (n)	203	201	248	240	241	273	1,711	1,819	6,714	7,112	15,951	16,523	1,709	1,786	179	128	23	21	26,979	100.0	28,103	100.0
≤15	0.0%	1.0%	0.8%	0.0%	0.4%	0.4%	0.5%	0.3%	0.5%	0.2%	0.4%	0.3%	0.4%	0.2%	0.0%	0.8%	0.0%	0.0%	115	0.4	76	0.3
16–17	1.5%	0.5%	2.4%	0.0%	2.1%	2.2%	2.0%	1.5%	2.1%	1.4%	2.1%	1.2%	3.1%	2.5%	1.1%	0.0%	0.0%	4.8%	568	2.1	379	1.3
18–20	14.3%	10.9%	13.3%	8.3%	13.7%	9.9%	13.5%	10.1%	13.2%	10.0%	14.2%	10.4%	17.8%	13.3%	17.3%	15.6%	17.4%	4.8%	3,815	14.1	2,941	10.5
21–24	25.1%	25.4%	25.0%	27.9%	22.4%	23.8%	27.6%	26.6%	28.8%	27.6%	30.4%	29.2%	30.7%	30.4%	34.6%	30.5%	21.7%	28.6%	8,016	29.7	8,036	28.6
25–29	32.0%	31.3%	27.4%	30.8%	26.6%	28.2%	30.0%	31.3%	29.7%	31.6%	29.8%	32.1%	27.4%	30.3%	24.0%	32.8%	13.0%	23.8%	7,972	29.5	8,922	31.7
30–34	19.2%	17.4%	17.7%	16.3%	17.8%	19.0%	16.4%	18.6%	16.3%	18.3%	15.6%	17.8%	13.3%	16.5%	18.4%	10.9%	30.4%	19.0%	4,257	15.8	5,018	17.9
35–39	6.4%	11.9%	11.3%	13.3%	12.4%	14.7%	7.5%	9.2%	7.6%	8.7%	6.2%	7.2%	6.1%	5.6%	2.8%	6.3%	17.4%	19.0%	1,821	6.7	2,188	7.8
40–44	1.5%	1.5%	2.0%	2.1%	3.7%	1.8%	2.5%	2.3%	1.8%	2.1%	1.2%	1.6%	1.1%	1.1%	1.7%	2.3%	0.0%	0.0%	396	1.5	491	1.7
≥45	0.0%	0.0%	0.0%	0.8%	0.8%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.2%	0.1%	0.1%	0.0%	0.8%	0.0%	0.0%	19	0.1	35	0.1
Comparison Group																						
Singleton Births (n)	61	60	66	65	54	60	362	407	1,481	1,373	3,581	3,268	446	380	34	25	13	8	6,098	100.0	5,646	100.0
≤15	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.3%	0.0%	0.4%	0.4%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	22	0.4	11	0.2
16–17	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	1.9%	2.5%	1.4%	0.9%	2.2%	0.9%	2.0%	1.3%	5.9%	0.0%	0.0%	0.0%	118	1.9	57	1.0
18–20	13.1%	6.7%	12.1%	9.2%	16.7%	13.3%	15.7%	11.3%	13.4%	11.0%	13.1%	10.7%	16.4%	13.4%	14.7%	12.0%	7.7%	0.0%	828	13.6	620	11.0
21–24	23.0%	20.0%	15.2%	20.0%	18.5%	11.7%	19.6%	18.7%	22.1%	19.7%	22.2%	21.3%	26.2%	24.2%	29.4%	56.0%	38.5%	37.5%	1,361	22.3	1,184	21.0
25–29	36.1%	30.0%	33.3%	26.2%	22.2%	25.0%	24.0%	25.8%	27.5%	26.5%	28.2%	27.8%	28.3%	30.8%	35.3%	16.0%	30.8%	37.5%	1,701	27.9	1,550	27.5
30–34	13.1%	18.3%	24.2%	21.5%	24.1%	26.7%	20.4%	24.1%	21.3%	22.5%	21.3%	22.7%	18.6%	21.1%	8.8%	12.0%	15.4%	0.0%	1,277	20.9	1,274	22.6
35–39	13.1%	18.3%	10.6%	16.9%	13.0%	18.3%	14.6%	13.5%	11.1%	15.1%	10.3%	13.2%	6.3%	7.9%	2.9%	0.0%	7.7%	25.0%	639	10.5	757	13.4
40–44	1.6%	5.0%	4.5%	6.2%	3.7%	3.3%	3.3%	3.2%	2.6%	3.8%	2.2%	2.8%	1.3%	1.3%	2.9%	4.0%	0.0%	0.0%	143	2.3	173	3.1
≥45	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.1%	0.0%	0.1%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	9	0.1	9	0.2

*There are 17 mothers with unknown age in the study population, and 11 mothers with unknown age in the comparison group; births to these women are included in the totals.

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

Table B-6—Distribution of Singleton Births by Preterm Birth Indicator, Population Group, and Maternal Race/Ethnicity, CY 2014 and CY 2015

Maternal Race/Ethnicity	Extremely Preterm (< 28 Weeks)		Very Preterm (28-31 Weeks)		Moderate Preterm (32-33 Weeks)		Late Preterm (34-36 Weeks)		Early Term (37-38 Weeks)		Full Term (39-40 Weeks)		Late Term (41 Weeks)		Post Term (42+ Weeks)		Unknown		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
																			n	%	n	%
Study Population																						
Singleton Births (n)	203	201	248	240	241	273	1,711	1,819	6,714	7,112	15,951	16,523	1,709	1,786	179	128	23	21	26,979	100.0	28,103	100.0
White, Non-Hispanic	26.6%	30.8%	28.6%	34.2%	34.9%	39.9%	42.6%	42.3%	42.2%	41.2%	46.0%	45.8%	52.3%	54.8%	62.0%	65.6%	34.8%	28.6%	12,129	45.0	12,592	44.8
Black, Non-Hispanic	63.1%	59.7%	57.7%	54.6%	53.1%	50.2%	44.5%	45.1%	42.2%	43.5%	38.7%	38.4%	33.5%	31.7%	30.7%	32.8%	56.5%	61.9%	10,810	40.1	11,275	40.1
Asian, Non-Hispanic	2.0%	0.0%	2.8%	2.5%	2.9%	2.2%	3.1%	2.4%	4.0%	3.2%	3.7%	2.9%	2.9%	2.4%	1.1%	0.0%	0.0%	0.0%	978	3.6	811	2.9
Hispanic, Any Race	6.4%	7.0%	9.3%	8.3%	6.6%	6.2%	7.9%	7.5%	9.2%	9.1%	9.1%	9.4%	8.5%	8.3%	3.4%	0.8%	0.0%	9.5%	2,412	8.9	2,541	9.0
Other/Unknown	2.0%	2.5%	1.6%	0.4%	2.5%	1.5%	1.9%	2.7%	2.3%	3.0%	2.5%	3.4%	2.8%	2.9%	2.8%	0.8%	8.7%	0.0%	650	2.4	884	3.1
Comparison Group																						
Singleton Births (n)	61	60	66	65	54	60	362	407	1,481	1,373	3,581	3,268	446	380	34	25	13	8	6,098	100.0	5,646	100.0
White, Non-Hispanic	14.8%	21.7%	25.8%	21.5%	24.1%	25.0%	30.7%	29.7%	23.4%	24.0%	25.0%	25.2%	26.0%	28.9%	47.1%	48.0%	46.2%	25.0%	1,530	25.1	1,441	25.5
Black, Non-Hispanic	60.7%	50.0%	31.8%	30.8%	35.2%	36.7%	28.5%	26.8%	24.6%	25.0%	23.0%	22.6%	17.3%	13.4%	26.5%	28.0%	30.8%	50.0%	1,459	23.9	1,326	23.5
Asian, Non-Hispanic	1.6%	1.7%	6.1%	7.7%	3.7%	3.3%	1.9%	3.4%	4.4%	3.1%	3.8%	3.3%	2.7%	2.1%	0.0%	0.0%	0.0%	0.0%	228	3.7	181	3.2

Maternal Race/ Ethnicity	Extremely Preterm (< 28 Weeks)		Very Preterm (28-31 Weeks)		Moderate Preterm (32-33 Weeks)		Late Preterm (34-36 Weeks)		Early Term (37-38 Weeks)		Full Term (39-40 Weeks)		Late Term (41 Weeks)		Post Term (42 + Weeks)		Unknown		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
																				n	%	n
Hispanic, Any Race	19.7%	25.0%	36.4%	36.9%	35.2%	33.3%	36.2%	36.9%	45.5%	45.2%	46.3%	45.8%	51.6%	51.6%	23.5%	24.0%	23.1%	25.0%	2,760	45.3	2,532	44.8
Other/ Unknown	3.3%	1.7%	0.0%	3.1%	1.9%	1.7%	2.8%	3.2%	2.0%	2.6%	1.8%	3.0%	2.5%	3.9%	2.9%	0.0%	0.0%	0.0%	121	2.0	166	2.9

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

Table B-7—Distribution of Singleton Births by Preterm Birth Indicator, Population Group, and Maternal Region of Residence, CY 2014 and CY 2015

Maternal Region of Residence	Extremely Preterm (< 28 Weeks)		Very Preterm (28-31 Weeks)		Moderate Preterm (32-33 Weeks)		Late Preterm (34-36 Weeks)		Early Term (37-38 Weeks)		Full Term (39-40 Weeks)		Late Term (41 Weeks)		Post Term (42+ Weeks)		Unknown		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
																				n	%	n
Study Population																						
Singleton Births (n)	203	201	248	240	241	273	1,711	1,819	6,714	7,112	15,951	16,523	1,709	1,786	179	128	23	21	26,979	100.0	28,103	100.0
Central	33.0%	31.3%	29.8%	32.9%	31.1%	28.2%	27.9%	29.2%	30.0%	30.6%	26.4%	25.7%	17.1%	21.1%	11.7%	9.4%	30.4%	14.3%	7,233	26.8	7,562	26.9
Charlottesville	5.9%	6.0%	2.8%	5.8%	7.9%	4.4%	7.1%	6.8%	5.7%	5.8%	7.3%	6.7%	14.9%	12.0%	8.9%	10.9%	4.3%	4.8%	1,981	7.3	1,907	6.8
Far Southwest	0.5%	0.5%	2.0%	1.3%	2.1%	1.8%	4.5%	4.9%	4.8%	3.8%	5.6%	5.3%	2.6%	3.0%	2.8%	7.0%	8.7%	4.8%	1,359	5.0	1,306	4.6
Halifax/Lynchburg	6.9%	10.4%	7.3%	9.6%	6.6%	5.5%	5.5%	5.8%	5.7%	5.9%	5.5%	6.2%	10.1%	11.9%	40.8%	44.5%	0.0%	4.8%	1,655	6.1	1,883	6.7
Northern/Winchester	17.2%	12.9%	20.2%	12.9%	14.9%	17.6%	17.4%	15.2%	18.6%	18.1%	21.2%	21.1%	21.7%	21.6%	10.6%	12.5%	34.8%	33.3%	5,444	20.2	5,564	19.8
Roanoke/Alleghany	7.9%	8.0%	7.7%	5.8%	6.6%	8.4%	8.8%	8.6%	9.0%	9.2%	8.9%	9.6%	10.2%	11.1%	11.7%	10.2%	0.0%	4.8%	2,425	9.0	2,660	9.5
Tidewater	28.1%	30.8%	30.2%	31.7%	30.7%	34.1%	28.6%	29.5%	26.1%	26.6%	24.8%	25.4%	23.0%	19.3%	13.4%	5.5%	21.7%	33.3%	6,820	25.3	7,221	25.7
Out-of-State	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.2%	0.0%	0.2%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	62	0.2	0	0.0
Comparison Group																						
Singleton Births (n)	61	60	66	65	54	60	362	407	1,481	1,373	3,581	3,268	446	380	34	25	13	8	6,098	100.0	5,646	100.0
Central	42.6%	21.7%	18.2%	26.2%	29.6%	20.0%	26.0%	20.1%	21.3%	20.8%	21.8%	17.9%	21.1%	16.1%	14.7%	16.0%	23.1%	25.0%	1,347	22.1	1,063	18.8
Charlottesville	4.9%	3.3%	10.6%	6.2%	7.4%	8.3%	6.1%	8.6%	5.5%	5.2%	5.8%	6.2%	9.0%	8.7%	11.8%	4.0%	7.7%	12.5%	369	6.1	357	6.3
Far Southwest	0.0%	1.7%	0.0%	3.1%	1.9%	1.7%	1.7%	3.9%	1.6%	2.0%	2.7%	2.8%	1.3%	2.1%	2.9%	4.0%	7.7%	0.0%	137	2.2	146	2.6
Halifax/Lynchburg	4.9%	8.3%	1.5%	1.5%	0.0%	8.3%	4.4%	3.9%	3.4%	3.2%	3.9%	2.8%	5.2%	5.3%	29.4%	28.0%	7.7%	0.0%	245	4.0	191	3.4
Northern/Winchester	19.7%	31.7%	37.9%	35.4%	31.5%	41.7%	34.0%	35.6%	42.9%	44.1%	41.9%	46.2%	45.3%	47.1%	23.5%	24.0%	30.8%	50.0%	2,528	41.5	2,515	44.5
Roanoke/Alleghany	6.6%	6.7%	9.1%	6.2%	9.3%	5.0%	7.2%	8.6%	6.7%	7.1%	7.1%	7.5%	5.8%	9.7%	8.8%	8.0%	7.7%	0.0%	425	7.0	429	7.6

Maternal Region of Residence	Extremely Preterm (< 28 Weeks)		Very Preterm (28-31 Weeks)		Moderate Preterm (32-33 Weeks)		Late Preterm (34-36 Weeks)		Early Term (37-38 Weeks)		Full Term (39-40 Weeks)		Late Term (41 Weeks)		Post Term (42 + Weeks)		Unknown		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
																			n	%	n	%
Tidewater	21.3%	26.7%	22.7%	21.5%	20.4%	15.0%	19.9%	19.2%	18.4%	17.6%	16.6%	16.5%	12.1%	11.1%	8.8%	16.0%	15.4%	12.5%	1,036	17.0	945	16.7
Out-of-State	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.2%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	11	0.2	0	0.0

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

Table B-8—Distribution of Singleton Births by Preterm Birth Indicator, Population Group, and Maternal Citizenship Status, CY 2014 and CY 2015

Maternal Citizenship Status	Extremely Preterm (< 28 Weeks)		Very Preterm (28-31 Weeks)		Moderate Preterm (32-33 Weeks)		Late Preterm (34-36 Weeks)		Early Term (37-38 Weeks)		Full Term (39-40 Weeks)		Late Term (41 Weeks)		Post Term (42 + Weeks)		Unknown		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
																			n	%	n	%
Study Population																						
Singleton Births (n)	203	201	248	240	241	273	1,711	1,819	6,714	7,112	15,951	16,523	1,709	1,786	179	128	23	21	26,979	100.0	28,103	100.0
U.S. Citizen	95.1%	98.5%	95.6%	94.2%	96.7%	94.5%	94.6%	94.9%	92.6%	92.5%	92.2%	91.3%	90.2%	90.2%	97.2%	96.1%	91.3%	90.5%	24,948	92.5	25,824	91.9
Documented Immigrant	4.4%	1.5%	4.0%	5.4%	2.9%	4.4%	5.4%	5.1%	7.3%	7.4%	7.7%	8.6%	9.6%	9.7%	2.8%	3.9%	8.7%	9.5%	2,001	7.4	2,250	8.0
Undocumented Immigrant	0.5%	0.0%	0.4%	0.4%	0.4%	0.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	11	0.0	19	0.1
Other/Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	19	0.1	10	0.0
Comparison Group																						
Singleton Births (n)	61	60	66	65	54	60	362	407	1,481	1,373	3,581	3,268	446	380	34	25	13	8	6,098	100.0	5,646	100.0
U.S. Citizen	72.1%	73.3%	65.2%	66.2%	55.6%	60.0%	64.9%	61.4%	51.4%	51.9%	50.3%	51.0%	42.8%	44.7%	73.5%	68.0%	61.5%	62.5%	3,138	51.5	2,945	52.2
Documented Immigrant	8.2%	3.3%	7.6%	9.2%	13.0%	6.7%	5.5%	7.6%	8.2%	8.3%	7.5%	6.8%	7.6%	8.2%	2.9%	8.0%	15.4%	25.0%	465	7.6	415	7.4
Undocumented Immigrant	19.7%	23.3%	27.3%	24.6%	31.5%	31.7%	29.6%	31.0%	40.2%	39.6%	41.9%	42.0%	49.1%	47.1%	23.5%	24.0%	23.1%	12.5%	2,481	40.7	2,277	40.3
Other/Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.2%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	14	0.2	9	0.2

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

Detailed Findings—Birth Weight

Figure B-3—Percentage of Low Birth Weight Births (<2,500 Grams) by Managed Care Region, CY 2015

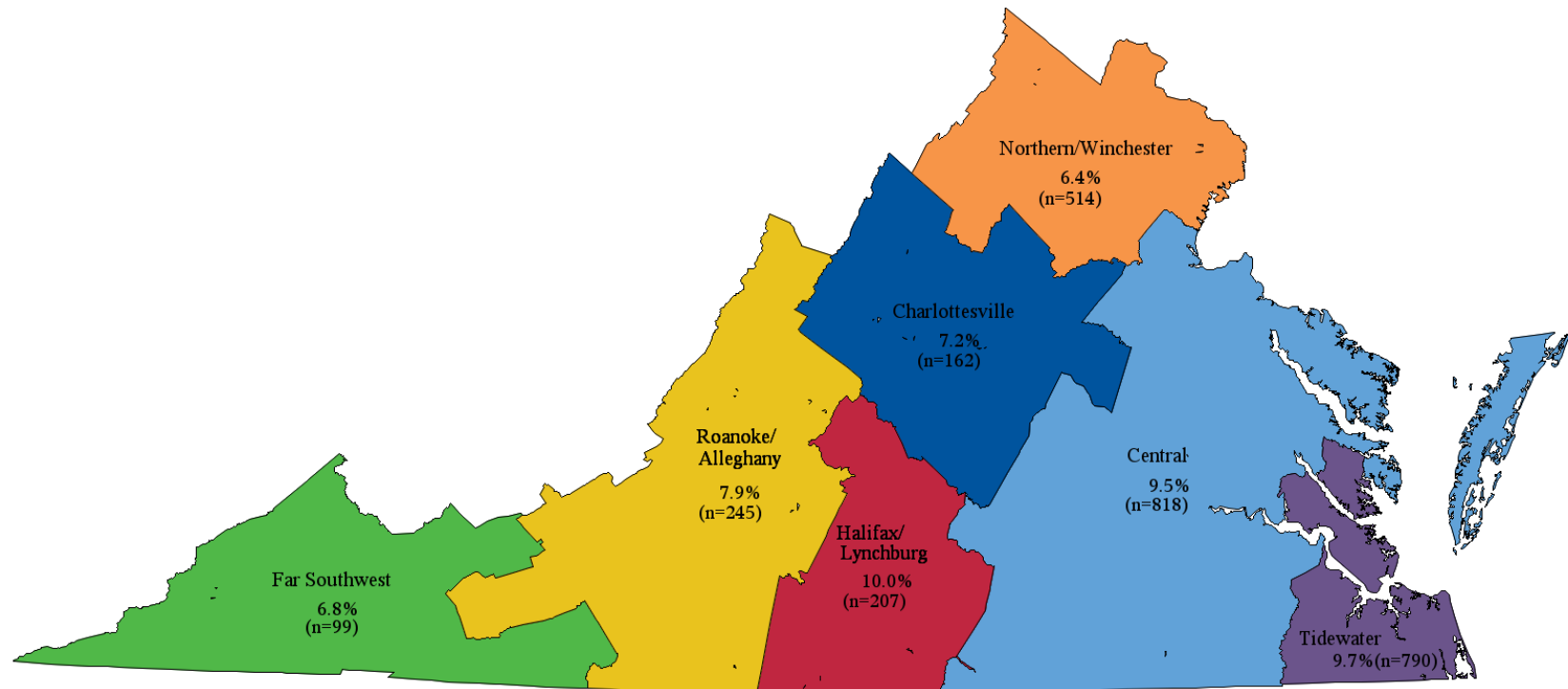


Figure B-4—Percentage of Very Low Birth Weight Births (<1,500 Grams) by Managed Care Region, CY 2015

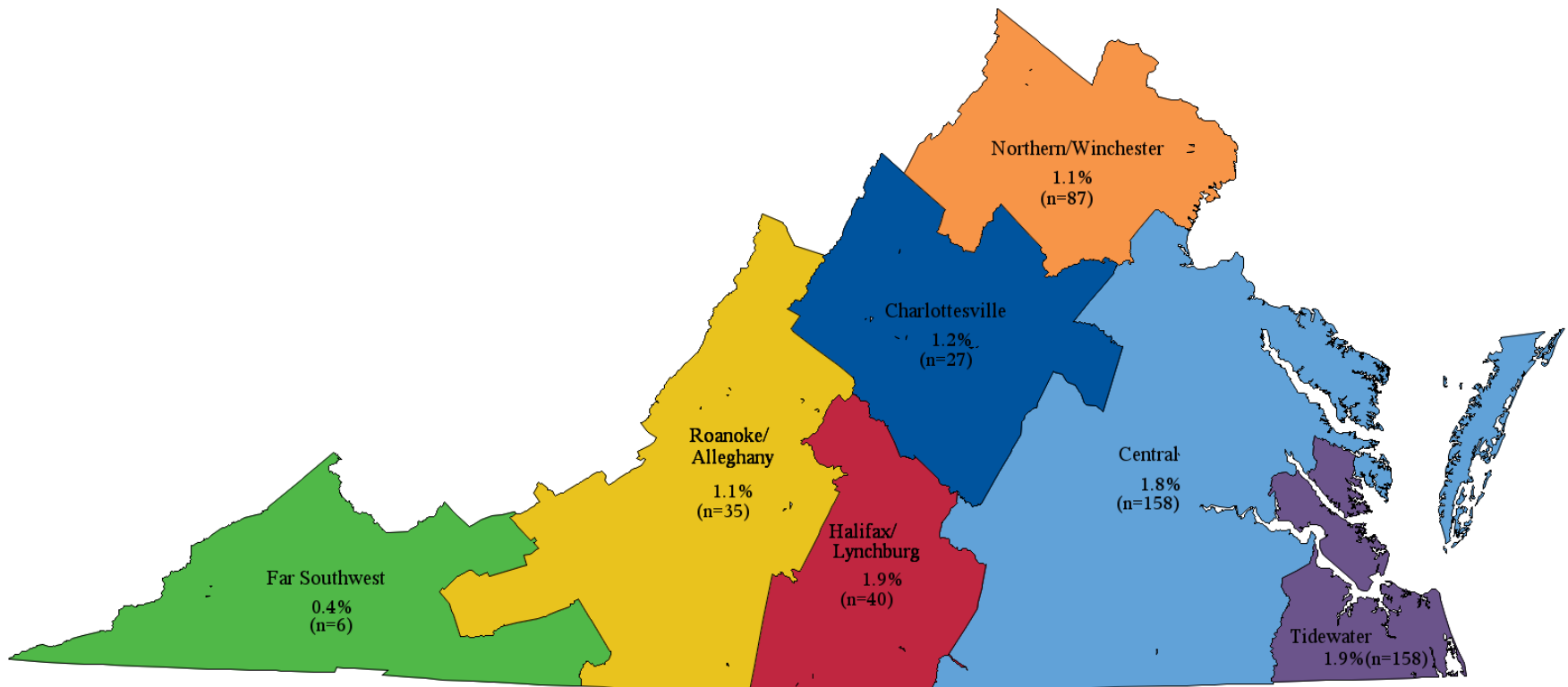


Table B-9—Distribution of Singleton Births by Birth Weight Indicator, Population Group, and Maternal Age, CY 2014 and CY 2015

Maternal Age	Very Low Birth Weight (<1,500g)		Moderately Low Birth Weight (1,500g—2,499g)		Normal Birth Weight (≥2,500g)		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015*	
							n	%	n	%
Study Population										
Singleton Births (n)	424	410	1,842	1,951	24,712	25,741	26,979	100.0	28,103	100.0
15 Years and Younger	0.5%	0.7%	0.7%	0.3%	0.4%	0.3%	115	0.4	76	0.3
16 Through 17 Years	1.9%	0.7%	2.1%	1.6%	2.1%	1.3%	568	2.1	379	1.3
18 Through 20 Years	12.5%	10.0%	14.3%	10.6%	14.2%	10.5%	3,815	14.1	2,941	10.5
21 Through 24 Years	25.0%	25.9%	30.0%	28.0%	29.8%	28.7%	8,016	29.7	8,036	28.6
25 Through 29 Years	29.5%	32.0%	29.3%	31.3%	29.6%	31.8%	7,972	29.5	8,922	31.7
30 Through 34 Years	19.8%	16.8%	14.5%	17.4%	15.8%	17.9%	4,257	15.8	5,018	17.9
35 Through 39 Years	9.2%	12.2%	6.7%	8.5%	6.7%	7.7%	1,821	6.7	2,188	7.8
40 Through 44 Years	1.4%	1.2%	2.4%	2.1%	1.4%	1.7%	396	1.5	491	1.7
45 Years and Older	0.2%	0.2%	0.1%	0.2%	0.1%	0.1%	19	0.1	35	0.1
Comparison Population										
Singleton Births (n)	114	101	362	373	5,621	5,172	6,098	100.0	5,646	100.0
15 Years and Younger	0.0%	0.0%	0.8%	0.5%	0.3%	0.2%	22	0.4	11	0.2
16 Through 17 Years	0.0%	1.0%	1.1%	1.6%	2.0%	1.0%	118	1.9	57	1.0
18 Through 20 Years	13.2%	9.9%	18.2%	12.9%	13.3%	10.9%	828	13.6	620	11.0
21 Through 24 Years	22.8%	17.8%	19.3%	21.2%	22.5%	21.0%	1,361	22.3	1,184	21.0
25 Through 29 Years	32.5%	25.7%	25.1%	26.5%	28.0%	27.6%	1,701	27.9	1,550	27.5
30 Through 34 Years	18.4%	21.8%	20.2%	20.6%	21.0%	22.7%	1,277	20.9	1,274	22.6
35 Through 39 Years	11.4%	17.8%	12.2%	13.7%	10.4%	13.3%	639	10.5	757	13.4
40 Through 44 Years	1.8%	5.9%	2.5%	2.4%	2.3%	3.1%	143	2.3	173	3.1
45 Years and Older	0.0%	0.0%	0.6%	0.0%	0.1%	0.2%	9	0.1	9	0.2

* There are 17 mothers with unknown age in the study population, and 11 mothers with unknown age in the comparison group; births to these women are included in the totals. Note: Due to rounding, the sum of the percentages in each column may not equal 100 percent.

Table B-10—Distribution of Singleton Births by Birth Weight Indicator, Population Group, and Maternal Race/Ethnicity, CY 2014 and CY 2015

Maternal Race/Ethnicity	Very Low Birth Weight (<1,500g)		Moderately Low Birth Weight (1,500g—2,499g)		Normal Birth Weight (≥2,500g)		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
							n	%	n	%
Study Population										
Singleton Births (n)	424	410	1,842	1,951	24,712	25,741	26,979	100.0	28,103	100.0
White, Non-Hispanic	27.4%	31.5%	37.4%	39.7%	45.8%	45.4%	12,129	45.0	12,592	44.8
Black, Non-Hispanic	61.8%	59.0%	49.5%	50.2%	39.0%	39.1%	10,810	40.1	11,275	40.1
Asian, Non-Hispanic	2.4%	2.0%	3.8%	2.4%	3.6%	2.9%	978	3.6	811	2.9
Hispanic, Any Race	7.1%	6.1%	7.2%	5.7%	9.1%	9.3%	2,412	8.9	2,541	9.0
Other/Unknown	1.4%	1.5%	2.1%	2.0%	2.4%	3.3%	650	2.4	884	3.1
Comparison Population										
Singleton Births (n)	114	101	362	373	5,621	5,172	6,098	100.0	5,646	100.0
White, Non-Hispanic	20.2%	22.8%	25.4%	26.0%	25.2%	25.5%	1,530	25.1	1,441	25.5
Black, Non-Hispanic	50.9%	44.6%	39.5%	33.0%	22.4%	22.4%	1,459	23.9	1,326	23.5
Asian, Non-Hispanic	4.4%	2.0%	3.6%	5.9%	3.7%	3.0%	228	3.7	181	3.2
Hispanic, Any Race	22.8%	29.7%	30.4%	31.4%	46.7%	46.1%	2,760	45.3	2,532	44.8
Other/Unknown	1.8%	1.0%	1.1%	3.8%	2.0%	2.9%	121	2.0	166	2.9

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

Table B-11—Distribution of Singleton Births by Birth Weight Indicator, Population Group, and Maternal Region of Residence, CY 2014 and CY 2015

Maternal Region of Residence	Very Low Birth Weight (<1,500g)		Moderately Low Birth Weight (1,500g—2,499g)		Normal Birth Weight (≥2,500g)		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
							n	%	n	%
Study Population										
Singleton Births (n)	424	410	1,842	1,951	24,712	25,741	26,979	100.0	28,103	100.0
Central	31.6%	33.2%	28.6%	29.2%	26.6%	26.6%	7,233	26.8	7,562	26.9
Charlottesville	5.0%	5.4%	6.0%	5.5%	7.5%	6.9%	1,981	7.3	1,907	6.8
Far Southwest	0.5%	1.0%	4.8%	4.3%	5.1%	4.7%	1,359	5.0	1,306	4.6
Halifax/Lynchburg	6.4%	8.5%	6.2%	7.7%	6.1%	6.6%	1,655	6.1	1,883	6.7
Northern/Winchester	17.7%	13.2%	16.6%	15.4%	20.5%	20.2%	5,444	20.2	5,564	19.8
Roanoke/Alleghany	8.5%	6.8%	8.6%	9.5%	9.0%	9.5%	2,425	9.0	2,660	9.5
Tidewater	30.2%	32.0%	28.9%	28.4%	24.9%	25.4%	6,820	25.3	7,221	25.7
Out-of-State	0.2%	0.0%	0.4%	0.0%	0.2%	0.0%	62	0.2	0	0.0
Comparison Population										
Singleton Births (n)	114	101	362	373	5,621	5,172	6,098	100.0	5,646	100.0
Central	31.6%	21.8%	29.3%	24.4%	21.4%	18.4%	1,347	22.1	1,063	18.8
Charlottesville	7.9%	5.0%	4.7%	7.5%	6.1%	6.3%	369	6.1	357	6.3
Far Southwest	0.0%	2.0%	2.2%	2.4%	2.3%	2.6%	137	2.2	146	2.6
Halifax/Lynchburg	3.5%	5.0%	6.1%	4.6%	3.9%	3.3%	245	4.0	191	3.4
Northern/Winchester	26.3%	32.7%	27.9%	33.8%	42.6%	45.6%	2,528	41.5	2,515	44.5
Roanoke/Alleghany	7.0%	6.9%	7.5%	6.4%	6.9%	7.7%	425	7.0	429	7.6
Tidewater	23.7%	26.7%	22.1%	20.9%	16.5%	16.2%	1,036	17.0	945	16.7
Out-of-State	0.0%	0.0%	0.3%	0.0%	0.2%	0.0%	11	0.2	0	0.0

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

Table B-12—Distribution of Singleton Births by Birth Weight Indicator, Population Group, and Maternal Citizenship Status, CY 2014 and CY 2015

Maternal Citizenship Status	Very Low Birth Weight (<1,500g)		Moderately Low Birth Weight (1,500g—2,499g)		Normal Birth Weight (≥2,500g)		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
							n	%	n	%
Study Population										
Singleton Births (n)	424	410	1,842	1,951	24,712	25,741	26,979	100.0	28,103	100.0
U.S. Citizen	94.8%	96.3%	94.7%	95.4%	92.3%	91.6%	24,948	92.5	25,824	91.9
Documented Immigrant	4.7%	3.4%	5.2%	4.4%	7.6%	8.4%	2,001	7.4	2,250	8.0
Undocumented Immigrant	0.5%	0.2%	0.1%	0.2%	0.0%	0.1%	11	0.0	19	0.1
Other/Unknown	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	19	0.1	10	0.0
Comparison Population										
Singleton Births (n)	114	101	362	373	5,621	5,172	6,098	100.0	5,646	100.0
U.S. Citizen	70.2%	69.3%	68.0%	65.1%	50.0%	50.9%	3,138	51.5	2,945	52.2
Documented Immigrant	11.4%	5.9%	7.2%	9.4%	7.6%	7.2%	465	7.6	415	7.4
Undocumented Immigrant	18.4%	24.8%	24.9%	25.2%	42.2%	41.7%	2,481	40.7	2,277	40.3
Other/Unknown	0.0%	0.0%	0.0%	0.3%	0.2%	0.1%	14	0.2	9	0.2

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

Detailed Findings—Follow-Up Care With a PCP

Figure B-5—Percentage of Births With At Least Two PCP Visits by Managed Care Region, CY 2015

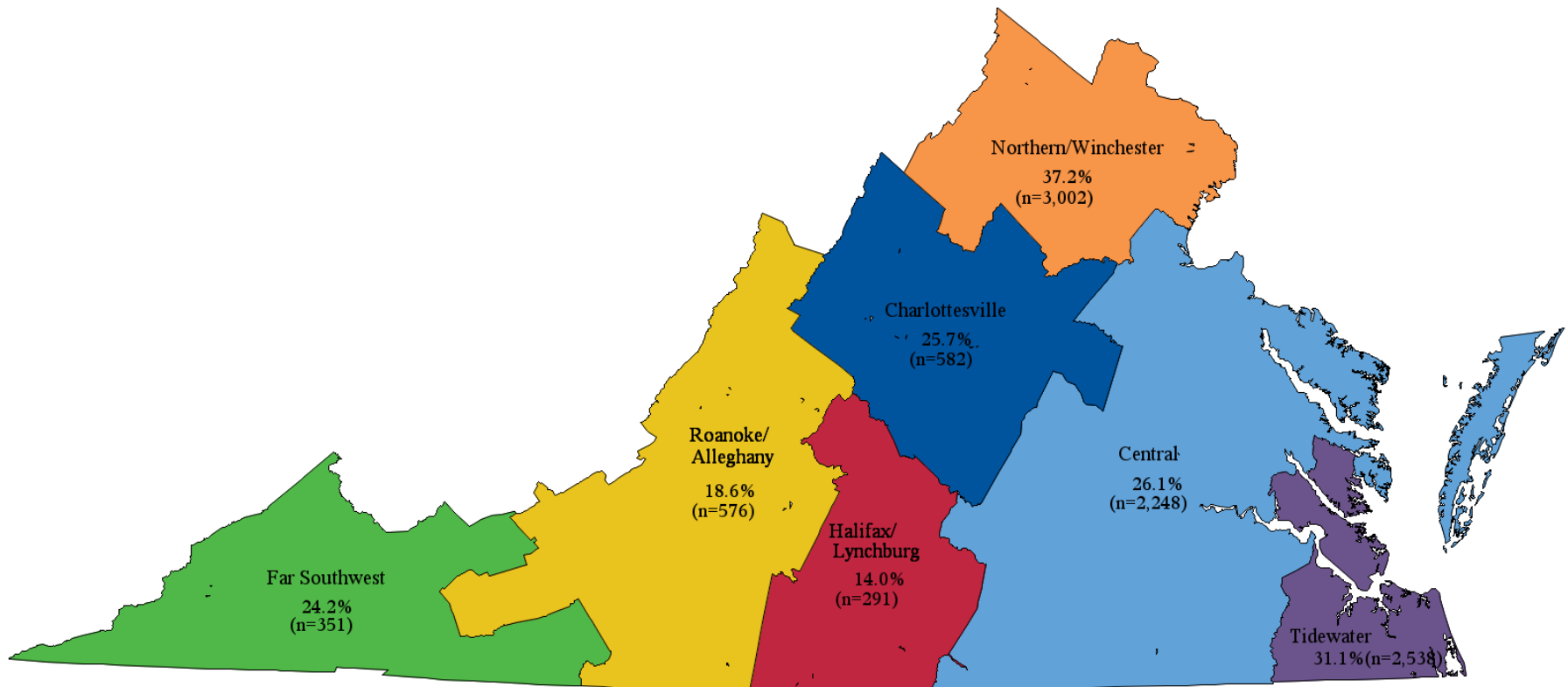


Table B-13—Distribution of Singleton Births by PCP Indicator, Population Group, and Maternal Age, CY 2014 and CY 2015

Maternal Age	Zero Visits		One Visit		Two or More Visits		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015*	
							n	%	n	%
Study Population										
Singleton Births (n)	17,570	17,330	2,694	3,142	6,138	7,165	26,402	100.0	27,637	100.0
15 Years and Younger	0.4%	0.3%	0.7%	0.5%	0.3%	0.2%	114	0.4	75	0.3
16 Through 17 Years	2.2%	1.5%	1.8%	1.0%	2.0%	1.1%	559	2.1	374	1.4
18 Through 20 Years	13.8%	10.4%	14.8%	10.3%	14.8%	10.7%	3,739	14.2	2,899	10.5
21 Through 24 Years	29.6%	28.1%	29.5%	30.5%	30.5%	28.9%	7,862	29.8	7,908	28.6
25 Through 29 Years	29.8%	31.9%	30.2%	31.1%	28.4%	31.7%	7,796	29.5	8,770	31.7
30 Through 34 Years	16.0%	17.9%	14.8%	16.6%	15.5%	18.3%	4,166	15.8	4,930	17.8
35 Through 39 Years	6.6%	8.0%	6.6%	7.8%	7.0%	7.3%	1,767	6.7	2,153	7.8
40 Through 44 Years	1.5%	1.7%	1.5%	1.9%	1.3%	1.6%	381	1.4	476	1.7
45 Years and Older	0.1%	0.1%	0.0%	0.2%	0.0%	0.1%	18	0.1	35	0.1
Comparison Population										
Singleton Births (n)	3,397	2,835	623	627	1,912	2,049	5,932	100.0	5,511	100.0
15 Years and Younger	0.4%	0.2%	0.5%	0.3%	0.3%	0.2%	20	0.3	11	0.2
16 Through 17 Years	1.9%	0.8%	1.9%	1.9%	1.9%	1.1%	113	1.9	56	1.0
18 Through 20 Years	12.2%	9.8%	14.1%	11.8%	15.9%	12.2%	806	13.6	600	10.9
21 Through 24 Years	20.0%	19.9%	25.7%	22.3%	24.9%	21.7%	1,318	22.2	1,150	20.9
25 Through 29 Years	28.7%	26.6%	27.9%	29.2%	26.3%	28.2%	1,652	27.8	1,514	27.5
30 Through 34 Years	22.8%	24.0%	18.8%	21.7%	18.6%	21.0%	1,247	21.0	1,246	22.6
35 Through 39 Years	11.5%	14.9%	8.3%	9.9%	9.7%	12.7%	628	10.6	745	13.5
40 Through 44 Years	2.4%	3.5%	2.6%	2.4%	2.2%	2.7%	139	2.3	169	3.1
45 Years and Older	0.1%	0.2%	0.2%	0.2%	0.2%	0.1%	9	0.2	9	0.2

*There are 17 mothers with unknown age in the study population, and 11 mothers with unknown age in the comparison group; births to these women are included in the totals.

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

Table B-14—Distribution of Singleton Births by PCP Indicator, Population Group, and Maternal Race/Ethnicity, CY 2014 and CY 2015

Maternal Race/Ethnicity	Zero Visits		One Visit		Two or More Visits		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
							n	%	n	%
Study Population										
Singleton Births (n)	17,570	17,330	2,694	3,142	6,138	7,165	26,402	100.0	27,637	100.0
White, Non-Hispanic	45.0%	45.2%	43.0%	42.4%	46.0%	45.3%	11,891	45.0	12,404	44.9
Black, Non-Hispanic	40.8%	40.7%	43.8%	43.9%	35.8%	36.4%	10,550	40.0	11,041	40.0
Asian, Non-Hispanic	3.3%	2.7%	3.9%	2.6%	4.5%	3.6%	954	3.6	804	2.9
Hispanic, Any Race	8.6%	8.5%	7.1%	8.0%	10.9%	11.0%	2,370	9.0	2,513	9.1
Other/Unknown	2.3%	3.0%	2.3%	3.1%	2.8%	3.7%	637	2.4	875	3.2
Comparison Population										
Singleton Births (n)	3,397	2,835	623	627	1,912	2,049	5,932	100.0	5,511	100.0
White, Non-Hispanic	24.8%	27.4%	28.3%	27.3%	24.5%	22.5%	1,486	25.1	1,410	25.6
Black, Non-Hispanic	24.4%	25.7%	31.5%	32.7%	19.7%	16.8%	1,401	23.6	1,278	23.2
Asian, Non-Hispanic	3.8%	3.0%	3.4%	2.4%	4.0%	3.7%	225	3.8	176	3.2
Hispanic, Any Race	45.3%	41.4%	34.5%	34.9%	49.7%	53.4%	2,704	45.6	2,486	45.1
Other/Unknown	1.8%	2.5%	2.4%	2.7%	2.1%	3.5%	116	2.0	161	2.9

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

Table B-15—Distribution of Singleton Births by PCP Indicator, Population Group, and Maternal Region of Residence, CY 2014 and CY 2015

Maternal Region of Residence	Zero Visits		One Visit		Two or More Visits		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
							n	%	n	%
Study Population										
Singleton Births (n)	17,570	17,330	2,694	3,142	6,138	7,165	26,402	100.0	27,637	100.0
Central	27.9%	28.0%	22.5%	23.1%	25.9%	26.1%	7,091	26.9	7,440	26.9
Charlottesville	8.0%	7.3%	6.9%	5.5%	5.6%	6.2%	1,945	7.4	1,885	6.8
Far Southwest	4.6%	4.6%	7.3%	6.6%	5.6%	4.1%	1,342	5.1	1,295	4.7
Halifax/Lynchburg	7.8%	8.6%	3.8%	4.3%	2.6%	3.3%	1,640	6.2	1,863	6.7
Northern/Winchester	18.5%	17.7%	20.2%	19.8%	25.4%	25.2%	5,353	20.3	5,487	19.9
Roanoke/Alleghany	10.0%	10.7%	9.6%	10.6%	6.2%	6.1%	2,390	9.1	2,633	9.5
Tidewater	22.9%	23.1%	29.7%	30.1%	28.6%	29.1%	6,579	24.9	7,034	25.5
Out-of-State	0.3%	0.0%	0.1%	0.0%	0.1%	0.0%	62	0.2	0	0.0
Comparison Population										
Singleton Births (n)	3,397	2,835	623	627	1,912	2,049	5,932	100.0	5,511	100.0
Central	24.8%	22.2%	18.5%	17.7%	18.0%	14.3%	1,302	21.9	1,033	18.7
Charlottesville	5.8%	7.0%	5.6%	5.3%	6.3%	5.8%	353	6.0	350	6.4
Far Southwest	2.4%	2.6%	2.6%	2.9%	1.8%	2.5%	134	2.3	143	2.6
Halifax/Lynchburg	4.9%	4.2%	4.0%	4.1%	2.5%	2.0%	240	4.0	188	3.4
Northern/Winchester	40.6%	40.8%	33.2%	31.3%	47.5%	54.9%	2,495	42.1	2,476	44.9
Roanoke/Alleghany	6.9%	7.6%	11.4%	14.5%	5.8%	5.6%	414	7.0	421	7.6
Tidewater	14.3%	15.7%	24.6%	24.2%	18.0%	14.8%	983	16.6	900	16.3
Out-of-State	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	11	0.2	0	0.0

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

Table B-16—Distribution of Singleton Births by PCP Indicator, Population Group, and Maternal Citizenship Status, CY 2014 and CY 2015

Maternal Citizenship Status	Zero Visits		One Visit		Two or More Visits		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
							n	%	n	%
Study Population										
Singleton Births (n)	17,570	17,330	2,694	3,142	6,138	7,165	26,402	100.0	27,637	100.0
U.S. Citizen	92.9%	92.8%	93.1%	91.9%	90.9%	89.3%	24,405	92.4	25,373	91.8
Documented Immigrant	7.0%	7.0%	6.8%	8.1%	9.1%	10.6%	1,967	7.5	2,235	8.1
Undocumented Immigrant	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	11	0.0	19	0.1
Other/Unknown	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	19	0.1	10	0.0
Comparison Population										
Singleton Births (n)	3,397	2,835	623	627	1,912	2,049	5,932	100.0	5,511	100.0
U.S. Citizen	52.2%	56.6%	60.2%	63.0%	46.1%	41.8%	3,030	51.1	2,856	51.8
Documented Immigrant	7.3%	6.8%	8.0%	6.1%	8.4%	8.5%	458	7.7	406	7.4
Undocumented Immigrant	40.4%	36.5%	31.6%	30.8%	45.1%	49.4%	2,430	41.0	2,240	40.6
Other/Unknown	0.1%	0.1%	0.2%	0.2%	0.5%	0.2%	14	0.2	9	0.2

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

Detailed Findings—Emergency Department (ED) Visits

Figure B-6—Percentages of Births With At Least One ED Visit by Managed Care Region, CY 2015

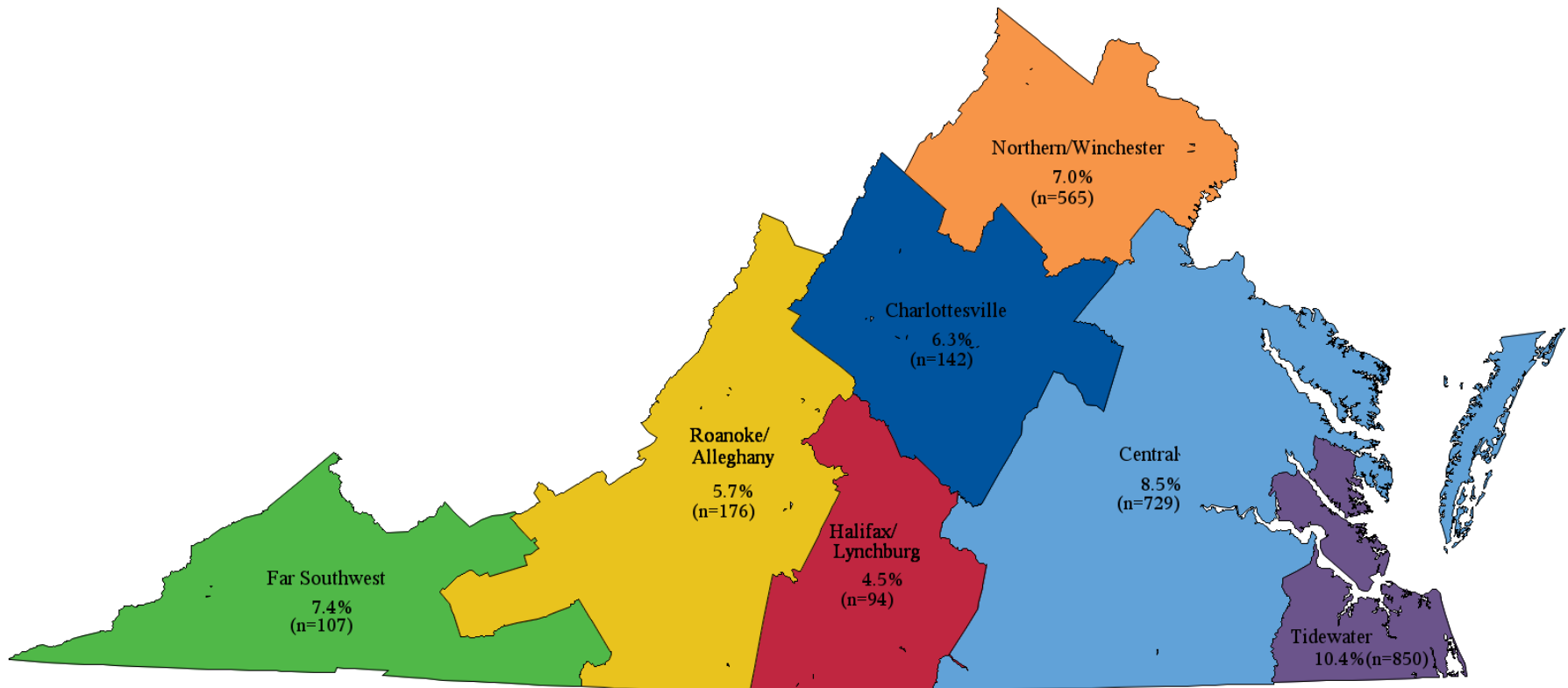


Table B-17—Distribution of Singleton Births by ED Indicator, Population Group, and Maternal Age, CY 2014 and CY 2015

Maternal Age	Zero Visits		One or More Visits		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015*	
					n	%	n	%
Study Population								
Singleton Births (n)	24,492	25,628	1,910	2,009	26,402	100.0	27,637	100.0
15 Years and Younger	0.4%	0.3%	0.6%	0.3%	114	0.4	75	0.3
16 Through 17 Years	2.0%	1.3%	3.0%	1.5%	559	2.1	374	1.4
18 Through 20 Years	13.9%	10.2%	18.1%	14.2%	3,739	14.2	2,899	10.5
21 Through 24 Years	29.3%	28.3%	35.9%	32.5%	7,862	29.8	7,908	28.6
25 Through 29 Years	29.9%	31.9%	24.1%	30.0%	7,796	29.5	8,770	31.7
30 Through 34 Years	16.1%	18.1%	11.8%	15.1%	4,166	15.8	4,930	17.8
35 Through 39 Years	6.8%	8.0%	5.5%	4.9%	1,767	6.7	2,153	7.8
40 Through 44 Years	1.5%	1.8%	0.8%	1.2%	381	1.4	476	1.7
45 Years and Older	0.1%	0.1%	0.1%	0.0%	18	0.1	35	0.1
Comparison Population								
Singleton Births (n)	5,256	4,965	676	546	5,932	100.0	5,511	100.0
15 Years and Younger	0.3%	0.2%	0.6%	0.2%	20	0.3	11	0.2
16 Through 17 Years	1.9%	0.9%	1.8%	1.8%	113	1.9	56	1.0
18 Through 20 Years	12.8%	10.4%	19.7%	15.0%	806	13.6	600	10.9
21 Through 24 Years	21.7%	20.6%	25.9%	23.3%	1,318	22.2	1,150	20.9
25 Through 29 Years	28.0%	27.4%	26.3%	28.0%	1,652	27.8	1,514	27.5
30 Through 34 Years	21.7%	23.0%	15.5%	19.0%	1,247	21.0	1,246	22.6
35 Through 39 Years	10.9%	13.9%	8.4%	10.4%	628	10.6	745	13.5
40 Through 44 Years	2.4%	3.2%	1.6%	1.6%	139	2.3	169	3.1
45 Years and Older	0.2%	0.2%	0.1%	0.2%	9	0.2	9	0.2

* There are 17 mothers with unknown age in the study population, and 11 mothers with unknown age in the comparison group; births to these women are included in the totals.

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

Table B-18—Distribution of Singleton Births by ED Indicator, Population Group, and Maternal Race/Ethnicity, CY 2014 and CY 2015

Maternal Race/Ethnicity	Zero Visits		One or More Visits		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
					n	%	n	%
Study Population								
Singleton Births (n)	24,492	25,628	1,910	2,009	26,402	100.0	27,637	100.0
White, Non-Hispanic	45.7%	45.4%	36.6%	38.1%	11,891	45.0	12,404	44.9
Black, Non-Hispanic	39.2%	39.3%	49.2%	48.1%	10,550	40.0	11,041	40.0
Asian, Non-Hispanic	3.7%	2.9%	2.6%	2.4%	954	3.6	804	2.9
Hispanic, Any Race	9.0%	9.2%	9.2%	8.3%	2,370	9.0	2,513	9.1
Other/Unknown	2.4%	3.2%	2.5%	3.1%	637	2.4	875	3.2
Comparison Population								
Singleton Births (n)	5,256	4,965	676	546	5,932	100.0	5,511	100.0
White, Non-Hispanic	25.3%	26.2%	23.1%	19.6%	1,486	25.1	1,410	25.6
Black, Non-Hispanic	23.2%	22.6%	26.6%	28.2%	1,401	23.6	1,278	23.2
Asian, Non-Hispanic	3.9%	3.4%	2.7%	1.5%	225	3.8	176	3.2
Hispanic, Any Race	45.6%	44.8%	45.1%	47.8%	2,704	45.6	2,486	45.1
Other/Unknown	1.9%	2.9%	2.5%	2.9%	116	2.0	161	2.9

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

Table B-19—Distribution of Singleton Births by ED Indicator, Population Group, and Maternal Region of Residence, CY 2014 and CY 2015

Maternal Region of Residence	Zero Visits		One or More Visits		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
					n	%	n	%
Study Population								
Singleton Births (n)	24,492	25,628	1,910	2,009	26,402	100.0	27,637	100.0
Central	26.9%	26.8%	26.6%	28.5%	7,091	26.9	7,440	26.9
Charlottesville	7.6%	6.9%	4.4%	5.7%	1,945	7.4	1,885	6.8
Far Southwest	5.0%	4.7%	6.0%	4.6%	1,342	5.1	1,295	4.7
Halifax/Lynchburg	6.5%	7.0%	2.9%	4.0%	1,640	6.2	1,863	6.7
Northern/Winchester	20.4%	20.2%	18.3%	16.0%	5,353	20.3	5,487	19.9
Roanoke/Alleghany	9.3%	9.7%	5.9%	6.9%	2,390	9.1	2,633	9.5
Tidewater	24.1%	24.8%	35.7%	34.3%	6,579	24.9	7,034	25.5
Out-of-State	0.2%	0.0%	0.2%	0.0%	62	0.2	0	0.0
Comparison Population								
Singleton Births (n)	5,256	4,965	676	546	5,932	100.0	5,511	100.0
Central	21.8%	18.3%	23.2%	23.1%	1,302	21.9	1,033	18.7
Charlottesville	5.9%	6.6%	6.5%	4.0%	353	6.0	350	6.4
Far Southwest	2.2%	2.6%	2.5%	2.4%	134	2.3	143	2.6
Halifax/Lynchburg	4.3%	3.6%	2.4%	2.0%	240	4.0	188	3.4
Northern/Winchester	42.5%	45.3%	38.3%	41.4%	2,495	42.1	2,476	44.9
Roanoke/Alleghany	7.3%	7.9%	4.3%	5.1%	414	7.0	421	7.6
Tidewater	15.8%	15.7%	22.6%	22.0%	983	16.6	900	16.3
Out-of-State	0.2%	0.0%	0.1%	0.0%	11	0.2	0	0.0

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

Table B-20—Distribution of Singleton Births by ED Indicator, Population Group, and Maternal Citizenship Status, CY 2014 and CY 2015

Maternal Citizenship Status	Zero Visits		One or More Visits		Total			
	CY 2014	CY 2015	CY 2014	CY 2015	CY 2014		CY 2015	
					n	%	n	%
Study Population								
Singleton Births (n)	24,492	25,628	1,910	2,009	26,402	100.0	27,637	100.0
U.S. Citizen	92.4%	91.8%	93.2%	92.3%	24,405	92.4	25,373	91.8
Documented Immigrant	7.5%	8.1%	6.7%	7.6%	1,967	7.5	2,235	8.1
Undocumented Immigrant	0.0%	0.1%	0.0%	0.0%	11	0.0	19	0.1
Other/Unknown	0.1%	0.0%	0.1%	0.0%	19	0.1	10	0.0
Comparison Population								
Singleton Births (n)	5,256	4,965	676	546	5,932	100.0	5,511	100.0
U.S. Citizen	50.9%	51.9%	52.4%	51.3%	3,030	51.1	2,856	51.8
Documented Immigrant	7.6%	7.6%	8.3%	4.9%	458	7.7	406	7.4
Undocumented Immigrant	41.2%	40.3%	39.1%	43.8%	2,430	41.0	2,240	40.6
Other/Unknown	0.2%	0.2%	0.3%	0.0%	14	0.2	9	0.2

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