Commonwealth of Virginia Department of Medical Assistance Services

2021–22 Dental Utilization in Pregnant Women Data Brief

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1. Overview and Methodology

The Commonwealth of Virginia Department of Medicaid Assistance Services (DMAS) contracted with Health Services Advisory Group, Inc. (HSAG), to assess dental utilization and birth outcomes among pregnant women covered by Virginia Medicaid or the Family Access to Medical Insurance Security (FAMIS) MOMS program following the expansion of dental services to this population on March 1, 2015, through the Smiles for Children (SFC) program that is administered by DentaQuest.[1-1]

The assessment includes all women 21 years of age or older with deliveries from January 1 through December 31, 2021. A woman with a live or non-live birth during calendar year (CY) 2021 would have conceived the pregnancy after the initiation of dental service benefit, allowing the woman time to learn about and access covered dental services. Additionally, DMAS began enrolling individuals in the Medicaid Expansion program on January 1, 2019, and these women would be eligible to participate in the SFC program. Starting July 1, 2021, the SFC program expanded to provide an adult dental benefit to all members ages 21 years and older enrolled in Medicaid or FAMIS, which may impact dental utilization and rates as women enrolled in Medicaid may have already been receiving dental care prior to conception.

HSAG used deterministic and probabilistic data linking to match eligible members with birth registry records to identify births paid by Virginia Medicaid during CY 2021 provided by DMAS and the Virginia Department of Health (VDH).[1-2] HSAG limited the assessment to deliveries among women 21 years of age and older at the time of conception based on the gestational age of the baby at delivery. In addition, because women younger than 21 years of age are eligible for dental services under a separate benefit, HSAG excluded 5,397 deliveries among women younger than 21 years of age at the start of the prenatal period from this assessment.

HSAG used dental encounter data to identify which dental services, if any, were utilized during the woman's perinatal period (i.e., time of conception to the end of the month following the 60th day after delivery).[1-3] Dental services were identified and grouped according to DentaQuest's covered services and categories. Please see Appendix A for further details.

In addition to calculating dental utilization rates, HSAG also performed a statistical analysis related to the association of the receipt of dental health services and the following birth outcomes:

- Relationship between dental utilization and preterm birth (<37 weeks gestation)
- Relationship between dental utilization and newborns with low birth weight (<2,500 grams)
- Relationship between dental utilization and adequate prenatal care

[1-1] The SFC program is administered by DentaQuest and covers most perinatal dental services for women ages 21 years and older. The latest DMAS program information is available at: https://www.dmas.virginia.gov/for-members/benefits-and-services/dental/pregnant-women/. Refer to Appendix A in this data brief for the list of dental procedure codes applicable to the CY 2021 measurement period.

[1-2] Prior to this year's report, HSAG identified women with deliveries during the measurement period using member demographic, enrollment and eligibility, and claims/encounter data files supplied by DMAS and limited the assessment to deliveries among women ages 21 years and older at the potential start of the prenatal period (i.e., 280 days prior to the date of delivery). As a result, comparisons to prior years may be difficult due to the differences in the total population based on the new data source.

[1-3] The analysis only includes paid claims. All zero-paid claims were excluded.

- Relationship between dental utilization and postpartum emergency department (ED) utilization for non-traumatic dental-related services
- Relationship between dental utilization and postpartum ambulatory care utilization

To evaluate differences for each birth outcome for those who received dental health services and those who did not, HSAG used Pearson's chi-square test with a *p*-value of 0.005 to determine significance between the two rates. Additionally, HSAG compared the utilization of dental services to each birth outcome for any dental service received as well as preventive services received.[1-4]

[1-4] Please note that the analysis does not account for when visits are allowed by doctors; however, the results are stratified by overall dental utilization and preventive visits.

2. Findings

Overall, HSAG identified 34,401 deliveries from January 1 through December 31, 2021. HSAG excluded 5,397 deliveries from the study population because the woman was less than 21 years of age at the start of the prenatal period (i.e., the time of conception based on gestational age at birth). The final study population included 29,004 deliveries among 28,962 women.

Dental Utilization

Table 2-1 displays the number and percentage of deliveries where perinatal dental services were received, stratified by dental service category. Please note that a delivery is counted once for each applicable category; thus, the same delivery may be included in more than one dental service category.

Table 2-1—Distribution of Women with Perinatal Dental Utilization, by Dental Service Category

Dental Service Category	Count of Deliveries Where Perinatal Dental Services Were Received*	Percent of Study Population (n=29,004)	Percent of Deliveries Where Perinatal Dental Services Were Received (n=4,749)
Any Dental Service	4,749	16.37%	100.00%
Adjunctive General Services	644	2.22%	13.56%
Diagnostic Services	4,551	15.69%	95.83%
Endodontics	808	2.79%	17.01%
Oral and Maxillofacial Surgery	1,171	4.04%	24.66%
Periodontics	667	2.30%	14.05%
Preventive Services	2,226	7.67%	46.87%
Prosthodontics	45	0.16%	0.95%
Restorative	1,964	6.77%	41.36%

**Because a woman may have had more than one dental service during the perinatal period, the count of deliveries for each dental service category may not sum to the overall number of deliveries among women with any dental service.*

As shown in Table 2-1, women received perinatal dental services in approximately 16.37 percent (n=4,749) of deliveries. Of the deliveries among women receiving perinatal dental services, 76.44 percent (n=3,630) were deliveries where services were received during the prenatal period, and 43.99 percent (n=2,089) were deliveries where services were received during the postpartum period. Additionally, 20.42 percent (n=970) were deliveries where services were received during both the prenatal and postpartum periods.

The distribution of deliveries among women receiving perinatal dental services varied widely by Medicaid program (i.e., Medicaid for Pregnant Women, Medicaid Expansion, FAMIS MOMS,[2-1] Low-Income Families with Children [LIFC], or Other Medicaid[2-2]); managed care program (i.e., Medallion 4.0, Commonwealth Coordinated Care [CCC] Plus, or FAMIS); and delivery system (i.e., managed care or fee-for-service [FFS]). Table 2-2 presents the number and percentage of deliveries where perinatal dental services were received, stratified by Medicaid program, managed care program, and delivery system, as of the woman's date of delivery.

Table 2-2—Distribution of Women with Perinatal Dental Utilization, by Medicaid Program at Time of Delivery

Medicaid Program, Managed Care Program, and Delivery System at Time of Delivery	Count of Deliveries	Percent of Study Population (n=29,004)	Count of Deliveries with Any Covered Dental Service	Percent of Deliveries with Perinatal Dental Services Received
Any Program*	29,004	100.00%	4,749	16.37%
Medicaid Program				
Medicaid for Pregnant Women	13,674	47.15%	2,641	19.31%
Medicaid Expansion	5,639	19.44%	832	14.75%
FAMIS MOMS	3,377	11.64%	485	14.36%
LIFC	3,431	11.83%	506	14.75%
Other Medicaid	1,621	5.59%	281	17.33%
Medicaid Managed Care Program				
Medallion 4.0	21,541	74.27%	3,999	18.56%
CCC Plus	779	2.69%	152	19.51%
FAMIS	2,100	7.24%	381	18.14%
Medicaid Delivery System				
Managed Care	24,420	84.20%	4,532	18.56%
FFS	3,322	11.45%	213	6.41%

**Please note 1,262 members who were not enrolled on their date of delivery are included in the Any Program Rate but are not included in any other stratification.*

[2-1] Starting on July 1, 2021, DMAS began enrolling pregnant women who do not meet immigration status rules for other coverage into the FAMIS Prenatal Coverage program. Within this year's report, these members are included in the FAMIS MOMS Medicaid program.

[2-2] Other Medicaid includes all other births not covered by Medicaid for Pregnant Women, Medicaid Expansion, FAMIS MOMS, and LIFC. Please note that Other Medicaid excludes births to women in Plan First and the Department of Corrections, which are included in the Not Enrolled category.

Among the CY 2021 study population, most services were covered by the Medicaid managed care delivery system (84.20 percent; n=24,420), with 18.56 percent (n=4,532) of those deliveries to women who received perinatal dental services. Conversely, while FFS covered 11.45 percent (n=3,322) of services, only 6.41 percent (n=213) of those deliveries were to women who received perinatal dental services. Within the managed care delivery system, 74.27 percent (n=21,541) of deliveries were covered by the Medallion 4.0 program, with 18.56 percent (n=3,999) of these deliveries to women who had received perinatal dental services. Of note, the CCC Plus program had the highest percentage of deliveries where the woman received perinatal dental services (19.51 percent, n=152). Additionally, women enrolled in the Medicaid for Pregnant Women program accounted for the largest proportion of deliveries by Medicaid program (47.15 percent; n=13,674), with 19.31 percent (n=2,641) of these deliveries to women who received perinatal dental services.

The length of time a woman was continuously enrolled in Medicaid during pregnancy may have also contributed to the ability to obtain perinatal dental services through the SFC program. Of the overall study population, 67.64 percent (n=19,618) of women were continuously enrolled in Medicaid for at least 90 days prior to and including the day of the delivery, and 94.32 percent (n=18,503) of these deliveries were among women enrolled in either Medallion 4.0 or FAMIS MOMS on their delivery date. Among the deliveries for continuously enrolled women, 18.70 percent (n=3,669) received one or more dental services during the perinatal period. In contrast, women received perinatal dental services in only 11.51 percent (n=1,080) of those deliveries to women who were not continuously enrolled for at least 90 days prior to and including the day of delivery.

Table 2-3 presents the number of deliveries among continuously enrolled women, as well as the number and percentage of deliveries where women received any perinatal dental service and preventive dental services, stratified by region of residence.

Table 2-3—Dental Utilization Among Continuously Enrolled Women, by Managed Care Region of Residence

Region of Residence	Count of Deliveries Among Continuously Enrolled Women	Deliveries Where Any Perinatal Dental Service Was Received		Deliveries Where Preventive Dental Services Were Received	
		Number	Percent	Number	Percent
Total	19,618	3,669	18.70%	1,692	8.62%
Central	5,428	1,043	19.22%	472	8.70%
Charlottesville/Western	2,518	359	14.26%	167	6.63%
Northern & Winchester	4,137	1,169	28.26%	634	15.33%
Roanoke/Alleghany	1,822	238	13.06%	98	5.38%
Southwest	650	92	14.15%	48	7.38%
Tidewater	5,063	768	15.17%	273	5.39%

Table 2-3 shows that the highest rate of perinatal dental utilization occurred in deliveries among women residing in the Northern & Winchester region (28.26 percent; n=1,169), and the lowest rate of perinatal dental utilization occurred in deliveries among women residing in the Roanoke/Alleghany region (13.06 percent; n=238).

Table 2-4 presents the number of deliveries among continuously enrolled women, as well as the number and percentage of deliveries where women received any perinatal dental service and preventive dental services, stratified by maternal age at delivery and maternal race and ethnicity.

Table 2-4—Dental Utilization Among Continuously Enrolled Women, by Maternal Age at Delivery and Maternal Race and Ethnicity

	Count of Deliveries Among Continuously Enrolled Women	Deliveries Where Any Perinatal Dental Service Was Received		Deliveries Where Preventive Dental Services Were Received	
		Number	Percent	Number	Percent
Total	19,618	3,669	18.70%	1,692	8.62%
Age at Delivery					
21–24	4,418	652	14.76%	312	7.06%
25–29	7,140	1,342	18.80%	625	8.75%
30–34	5,137	1,062	20.67%	479	9.32%
35–39	2,384	511	21.43%	230	9.65%
40 and Older	539	102	18.92%	46	8.53%
Race and Ethnicity					
White, Non-Hispanic	9,481	1,803	19.02%	896	9.45%
Black, Non-Hispanic	7,706	1,329	17.25%	510	6.62%
Asian, Non-Hispanic	929	271	29.17%	150	16.15%
Hispanic, Any Race	818	160	19.56%	84	10.27%
Other/Unknown	684	106	15.50%	52	7.60%

In reviewing the differences in perinatal dental utilization based on age and race, Table 2-4 shows that dental utilization rates were highest among deliveries to women ages 35–39 years (21.43 percent; n=511) and among deliveries to Asian, Non-Hispanic women (29.17 percent; n=271). Conversely, dental utilization rates were lowest among deliveries to women ages 21–24 years (14.76 percent; n=652) and among deliveries to women of Other/Unknown race (15.50 percent; n=106).

Table 2-5 presents the number of deliveries among continuously enrolled women, as well as the number and percentage of deliveries where women received any perinatal dental service and preventive dental services, stratified by managed care region of residence and maternal race and ethnicity.

Table 2-5—Dental Utilization Among Continuously Enrolled Women, by Managed Care Region of Residence and Maternal Race and Ethnicity

	Count of Deliveries Among Continuously Enrolled Women	Deliveries Where Any Perinatal Dental Service Was Received		Deliveries Where Preventive Dental Services Were Received	
		Number	Percent	Number	Percent
Central					
White, Non-Hispanic	2,199	422	19.19%	220	10.00%
Black, Non-Hispanic	2,647	489	18.47%	183	6.91%
Asian, Non-Hispanic	177	51	28.81%	29	16.38%
Hispanic, Any Race	229	47	20.52%	25	10.92%
Other/Unknown	176	34	19.32%	15	8.52%
Charlottesville/Western					
White, Non-Hispanic	1,540	224	14.55%	101	6.56%
Black, Non-Hispanic	776	102	13.14%	46	5.93%
Asian, Non-Hispanic	45	*S*	*S*	*S*	*S*
Hispanic, Any Race	82	13	15.85%	11	13.41%
Other/Unknown	75	*S*	*S*	*S*	*S*
Northern & Winchester					
White, Non-Hispanic	2,216	641	28.93%	344	15.52%
Black, Non-Hispanic	978	244	24.95%	129	13.19%
Asian, Non-Hispanic	540	194	35.93%	110	20.37%
Hispanic, Any Race	209	49	23.44%	27	12.92%
Other/Unknown	194	41	21.13%	24	12.37%
Roanoke/Alleghany					
White, Non-Hispanic	1,328	175	13.18%	75	5.65%
Black, Non-Hispanic	363	49	13.50%	17	4.68%
Asian, Non-Hispanic	39	*S*	*S*	*S*	*S*

	Count of Deliveries Among Continuously Enrolled Women	Deliveries Where Any Perinatal Dental Service Was Received		Deliveries Where Preventive Dental Services Were Received	
		Number	Percent	Number	Percent
Hispanic, Any Race	42	*S*	*S*	*S*	*S*
Other/Unknown	50	*S*	*S*	*S*	*S*
Southwest					
White, Non-Hispanic	605	81	13.39%	43	7.11%
Black, Non-Hispanic	18	*S*	*S*	*S*	*S*
Asian, Non-Hispanic	*S*	*S*	*S*	*S*	*S*
Hispanic, Any Race	*S*	*S*	*S*	*S*	*S*
Other/Unknown	14	*S*	*S*	*S*	*S*
Tidewater					
White, Non-Hispanic	1,593	260	16.32%	113	7.09%
Black, Non-Hispanic	2,924	439	15.01%	131	4.48%
Asian, Non-Hispanic	124	13	10.48%	*S*	*S*
Hispanic, Any Race	247	44	17.81%	19	7.69%
Other/Unknown	175	12	6.86%	*S*	*S*

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

Though several rates in Table 2-5 are suppressed, the rate of deliveries where any perinatal dental service was received was highest among Asian, Non-Hispanic women in three of the six managed care regions (Central, Charlottesville/Western, and Northern & Winchester). Additionally, in two of the six regions of residence, Hispanic, Any Race women had the highest rate of deliveries where any perinatal dental service was received (Roanoke/Alleghany and Tidewater) and Black, Non-Hispanic women had the highest rate of deliveries where any perinatal dental service was received in the Southwest managed care region.

Birth Outcomes

As previously mentioned, HSAG performed a statistical analysis related to the association of the receipt of prenatal dental health services and birth outcomes. Table 2-6, on the next page, presents the total number of deliveries among continuously enrolled women and the number and percentage of deliveries with any dental service during the prenatal period, by birth outcome. Additionally, Table 2-6 presents the results of the Pearson's chi-square test with significance between the two rates for each birth

outcome indicated by an up arrow (i.e., the Any Dental Services group's rate is significantly higher than the No Dental Services group's rate) or a down arrow (i.e., the Any Dental Services group's rate is significantly lower than the No Dental Services group's rate) on the Any Dental Services group's rate.

Table 2-6—Prenatal Dental Utilization and Birth Outcomes Chi-Square Analysis—Any Dental Services

	Total Deliveries	Number of Deliveries with Birth Outcome	Percentage of Deliveries with Birth Outcome
Preterm Births (<37 Weeks Gestation)*			
Any Dental Services	3,629	348	9.59%
No Dental Services	25,370	2,590	10.21%
Newborns with Low Birth Weight (<2,500 grams)*			
Any Dental Services	3,627	301	8.30%
No Dental Services	25,367	2,325	9.17%
Births with Adequate Prenatal Care			
Any Dental Services	3,568	2,796	78.36% ↑
No Dental Services	24,565	18,301	74.50%
Postpartum ED Utilization for Non-Traumatic Dental Services*			
Any Dental Services	3,628	15	0.41%
No Dental Services	24,114	74	0.31%
Postpartum Ambulatory Care Utilization			
Any Dental Services	3,628	2,495	68.77% ↑
No Dental Services	24,114	13,575	56.30%

**a lower rate indicates better performance for this indicator.*
↓indicates that the Any Dental Services group's rate was significantly lower than the No Dental Services group's rate within the birth outcome.
↑indicates that the Any Dental Services group's rate was significantly higher than the No Dental Services group's rate within the birth outcome.

Table 2-6 shows that there were statistically significant differences in rates for deliveries that received any dental services versus those that received no dental services for two of the birth outcomes: *Births with Adequate Prenatal Care* and *Postpartum Ambulatory Care Utilization*. The percentage of deliveries for *Births with Adequate Prenatal Care* was significantly higher for those who received at least one prenatal dental service (78.36 percent) compared to those who received no prenatal dental services (74.50 percent). For *Postpartum Ambulatory Care Utilization*, the deliveries where at least one prenatal dental service was received had significantly higher rates (68.77 percent) compared to deliveries that received no dental services (56.30 percent).

Table 2-7, on the next page, presents the total number of deliveries among continuously enrolled women and the number and percentage of deliveries with preventive dental services during the

prenatal period, by birth outcome. Additionally, Table 2-7 presents the results of the Pearson's chi-square test with significance between the two rates for each birth outcome indicated by an up arrow (i.e., the Preventive Services group's rate is significantly higher than the No Preventive Services group's rate) or a down arrow (i.e., the Preventive Services group's rate is significantly lower than the No Preventive Services group's rate) on the Preventive Services group's rate.

Table 2-7—Prenatal Dental Utilization and Birth Outcomes Correlation Analysis—Preventive Dental Services

	Total Deliveries	Number of Deliveries with Birth Outcome	Percentage of Deliveries with Birth Outcome
Preterm Births (<37 Weeks Gestation)*			
Preventive Services	1,642	137	8.34%
No Preventive Services	27,357	2,801	10.24%
Newborns with Low Birth Weight (<2,500 grams)*			
Preventive Services	1,642	116	7.06% ↓
No Preventive Services	27,352	2,510	9.18%
Births with Adequate Prenatal Care			
Preventive Services	1,620	1,281	79.07% ↑
No Preventive Services	26,513	19,816	74.74%
Postpartum ED Utilization for Non-Traumatic Dental Services*			
Preventive Services	1,640	*S*	*S*
No Preventive Services	26,102	*S*	*S*
Postpartum Ambulatory Care Utilization			
Preventive Services	1,640	1,144	69.76% ↑
No Preventive Services	26,102	14,926	57.18%

**a lower rate indicates better performance for this indicator.*
↓indicates that the Preventive Services group's rate was significantly lower than the No Preventive Services group's rate within the birth outcome.
↑indicates that the Preventive Services group's rate was significantly higher than the No Preventive Services group's rate within the birth outcome.
S indicates that the data were suppressed due to a small numerator or denominator (i.e., fewer than 11). In instances where only one stratification was suppressed, the value for the second smallest population was also suppressed, even if the value was 11 or more.

Table 2-7 shows that there were statistically significant differences in the rates for deliveries that received preventive services versus those that did not receive any preventive services for three of the birth outcomes: *Newborns with Low Birth Weight (<2,500 grams)*, *Births with Adequate Prenatal Care*, and *Postpartum Ambulatory Care Utilization*. Deliveries receiving preventive services had significantly lower rates of *Newborns with Low Birth Weight (<2,500 grams)* (7.06 percent) compared to deliveries that did not receive preventive services (9.18 percent). Deliveries receiving preventive services also

had significantly higher rates of *Births with Adequate Prenatal Care* (79.07 percent) compared to deliveries that did not receive preventive services (74.74 percent). For *Postpartum Ambulatory Care Utilization*, the rate for deliveries receiving preventive services (69.76 percent) was significantly higher than the rate for deliveries with no preventive services (57.18 percent).

3. Additional Considerations and Conclusions

Additional Considerations

This study considered perinatal dental utilization data for all women ages 21 years and older with a delivery during CY 2021. HSAG used deterministic and probabilistic data linking to match eligible members with birth registry records to identify births paid by Virginia Medicaid during CY 2021 provided by DMAS and the VDH. Enrollment was determined by matching these birth records to Medicaid enrollment data provided by DMAS. Methodological or data-related factors may influence the identification of dental services utilized during the perinatal period (e.g., dental services may have been rendered prior to the perinatal period). Additionally, HSAG's dental utilization results were derived from dental encounter data provided by DMAS.

Prior to this year's report, HSAG identified women with deliveries during the measurement period using member demographic, enrollment and eligibility, and claims/encounter data files supplied by DMAS and limited the assessment to deliveries among women ages 21 years and older at the potential start of the prenatal period (i.e., 280 days prior to the date of delivery). As a result, comparisons to prior years may be difficult due to the differences in the total population based on the new data source.

Starting July 1, 2021, the SFC program expanded to provide an adult dental benefit to all members ages 21 and older enrolled in Medicaid or FAMIS, which may impact dental utilization and rates as women enrolled in Medicaid may have already been receiving dental care prior to conception.

Conclusions

Enhanced oral health care among pregnant women is essential for both mother and baby. Pregnancy may result in changes in oral health (e.g., pregnancy gingivitis, periodontic disease). Poor oral health is associated with cardiovascular disease and diabetes, and periodontic disease is associated with an increased risk for preterm birth.[3-1] Therefore, delaying necessary dental treatment could result in significant risk for mother and baby (e.g., an infection of a tooth could spread throughout the body).[3-2] The SFC program provides pregnant women with a critically important opportunity to receive dental services during the prenatal and postpartum periods, and VDH offers guidance for providers providing dental services to pregnant women.[3-3] In CY 2021, relatively few women (16.37 percent; n=4,749)

[3-1] The American College of Obstetricians and Gynecologists. Oral health care during pregnancy and through the lifespan. Committee Opinion No. 569. *Obstet Gynecol* 2013;122:417–22. Available at: https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2013/08/oral-health-care-during-pregnancy-and-through-the-lifespan. Accessed on: Aug 23, 2022.

[3-2] Oral Health Care During Pregnancy Expert Workgroup. 2012. Oral Health Care During Pregnancy: A National Consensus Statement. Washington, DC: National Maternal and Child Oral Health Resource Center. Available at: https://www.mchoralhealth.org/PDFs/OralHealthPregnancyConsensus.pdf. Accessed on: Aug 23, 2022.

[3-3] Virginia Department of Health, Dental Health Program. Oral Health During Pregnancy: Practice Guidance for Virginia's Prenatal and Dental Providers. Available at: https://www.vdh.virginia.gov/content/uploads/sites/30/2019/03/PracticeGuideforVirginiaPrenatalDentalProvidersWEB.pdf. Accessed on: Aug 23, 2022.

received dental services during or after pregnancy, and only 7.67 percent (n=2,226) of eligible women received preventive dental services (e.g., a dental cleaning) during the perinatal period.

Health insurance coverage and other access to care considerations (e.g., provider availability) play a role in whether women access dental services for which they are eligible. This is demonstrated by the finding that 18.56 percent (n=4,532) of deliveries to women covered by managed care on their date of delivery had perinatal dental utilization, compared to 6.41 percent (n=213) of deliveries among women with FFS coverage. Overall, dental utilization was similar among the various Medicaid programs, with Medicaid Expansion, LIFC, FAMIS MOMS, and Other Medicaid ranging between 14.36 percent and 17.33 percent receiving perinatal dental services. Additionally, perinatal dental services were received for only 11.51 percent of deliveries for women who were not continuously enrolled in Medicaid for 90 days prior to and including their date of delivery.

Overall, perinatal dental utilization and the receipt of preventive dental services varied by managed care region. Among women with continuous enrollment, utilization was highest in the Northern & Winchester region and lowest in the Roanoke/Alleghany region. Perinatal dental utilization was highest for deliveries among Asian, Non-Hispanic women (29.17 percent; n=271) and lowest among deliveries to women of Other/Unknown race (15.50 percent; n=106). The statewide patterns for race/ethnicity varied within each managed care region. It should be noted that women may have received services that DMAS did not cover (e.g., the services were covered by other public health initiatives);[3-4] however, the regional distribution of perinatal dental utilization may be indicative of regional differences in women's access to dental providers.

When reviewing the relationship between birth outcomes and dental utilization, deliveries that received any dental service (including preventive services) during the prenatal period had a significantly higher rate for *Births with Adequate Prenatal Care* and *Postpartum Ambulatory Care Utilization* than those who did not receive any services. Additionally, those who received preventive services during the prenatal period also had a significantly lower rate of *Newborns with Low Birth Weight (<2,500 grams)* than deliveries that did not receive preventive services during the prenatal period. It is important to note that this analysis focuses on the relationship between dental utilization and birth outcomes. While the rates were significantly different for several birth outcomes between deliveries that received dental services and those that did not, many additional factors can contribute to each birth outcome.

[3-4] Perinatal and Infant Oral Health Quality Improvement Expansion Program 2019 Final Progress Narrative. Richmond, VA: Virginia Department of Health. Available at: https://www.mchoralhealth.org/PDFs/H47MC28478.pdf. Accessed on: Aug 23, 2022.

Appendix A. Covered Dental Services Included in Analysis

Appendix A provides the list of the Current Dental Terminology procedure codes for dental benefits covered by the SFC—Over 21 Pregnant Women population from the July 1, 2021, DentaQuest SFC Office Manual,[A-1] which aligns with the CY 2021 births addressed in this data brief.

- Adjunctive General Services
  - D9110, D9222, D9223, D9230, D9239, D9243, D9248, D9310, D9420, D9610, D9630, D9930, D9990, D9992, D9994, D9995, D9996, D9999
- Diagnostic Services
  - D0120, D0140, D0150, D0170, D0220, D0230, D0240, D0250, D0251, D0270, D0272, D0274, D0330
- Endodontics
  - D3110, D3120, D3221, D3310, D3320, D3330
- Oral and Maxillofacial Surgery
  - D7111, D7140, D7210, D7220, D7230, D7240, D7241, D7250, D7260, D7261, D7285, D7286, D7288, D7310, D7311, D7320, D7321, D7450, D7451, D7471, D7472, D7473, D7510, D7511, D7880
- Periodontics
  - D4210, D4211, D4341, D4342, D4346, D4355, D4910
- Preventive Services
  - D1110, D1208
- Prosthodontics
  - D5110, D5120, D5213, D5214, D5410, D5411, D5421, D5422, D6930
- Restorative
  - D2140, D2150, D2160, D2161, D2330, D2331, D2332, D2335, D2391, D2392, D2393, D2394, D2740, D2750, D2751, D2752, D2753, D2790, D2791, D2792, D2794, D2920, D2931, D2940, D2950, D2951, D2952, D2954

[A-1] DentaQuest, LLC. Office reference manual Smiles for Children Commonwealth of Virginia Medicaid, FAMIS, FAMIS Plus, Dental Program.