Report on Pregnant Women, Infants and Children

December 31, 2019

Governor Mike DeWine | Lt. Governor Jon Husted | Director Maureen Corcoran

medicaid.ohio.gov

Ohio | Department of Medicaid

Mike DeWine, Governor
Jon Husted, Lt. Governor

Maureen Corcoran, Director

December 31, 2019

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Ohio House Speaker, the Honorable Larry Householder
Ohio Senate President, the Honorable Larry Obhof
Ohio House Minority Leader, the Honorable Emilia Strong Sykes
Ohio Senate Minority Leader, the Honorable Kenny Yuko
Ohio Commission on Infant Mortality, Representative Sara Carruthers, Co-Chair
Ohio Commission on Infant Mortality, Senator Stephanie Kunze, Co-Chair
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Joint Medicaid Oversight Committee, Dave Burke, Vice Chair
Legislative Service Commission Director, Wendy Zhan

RE: Pregnant Women, Infants, and Children Report - State Fiscal Year 2019

The attached report is provided in compliance with Section 5162.13 of the Ohio Revised Code requiring the Ohio Department of Medicaid (ODM) to report annually on the effectiveness of the Medicaid program meeting the health care needs of low-income pregnant women, infants, and children. In addition, this report focuses on infant mortality, preterm births, and low birth weight infants.

The rates reported for infant mortality, preterm births and low birth weight infants are calculated for individuals who have Medicaid and individuals who do not have Medicaid, based on both Medicaid data and infant death and birth files from The Ohio Department of Health Bureau of Vital Statistics using the same basic methodology as historically used in the Ohio Medicaid 2014 -2018 Reports on Pregnant Women, Infants and Children.

Given that this report focuses on the Medicaid population, ODM employs methodologies for these calculations appropriate for the Medicaid population and data as described in Section II and Appendix A of this report that differ from those used by the Ohio Department of Health. Therefore, the data on infant mortality, preterm births, and low birth weight infants published by The Ohio Department of Health may not be directly compared to the data presented in this report.

Sincerely,

Maureen M. Corcoran
Director

Enclosure

50 W. Town Street, Suite 400
Columbus, Ohio 43215
medicaid.ohio.gov

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PLEASE NOTE: When race data is collected through Ohio Benefits, it is an optional, self-reported data field. Due to the significant level of non-reported race data on Medicaid eligibility / claims records, this information will not always be included in this report.

Section I: Profile of Ohio Births

1.1 Overall Medicaid Enrollment

Figure 1 presents the average monthly enrollment in Ohio Medicaid for calendar years (CY) 2013 - 2018. The impact of Medicaid expansion in Ohio is reflected by the increase in enrollment in 2015. The decline in enrollment started in 2017 and extended into 2019. This decline followed a pause in Medicaid's eligibility renewal process as the new Ohio Benefits eligibility system was implemented. While these factors alone do not entirely capture the dynamics of Medicaid enrollment, the decline is a natural extension of the renewal process and an improving economy over the same time period. For more information on changes in Medicaid enrollments over time, please see medicaid.ohio.gov/Portals/0/Resources/JMOC/Child-Caseload-White-Paper.pdf.

Figure 1: Ohio Medicaid Enrollment, CY 2013 - 2018

Average Monthly Enrollment					
2013	**2014**	**2015**	**2016**	**2017**	**2018**
2,389,017	2,776,163	3,066,685	3,062,161	3,071,625	2,928,962

1.2 Profile of Ohio Births and Medicaid Demographics

Medicaid plays a significant role in access to health care for pregnant women and children in Ohio. In CY 2013 – 2018, Medicaid has consistently paid for approximately 51-52% of births in Ohio (see Figure 2). The information below is based on the total number of births to Ohio residents* on the CY 2013 - 2018 birth files provided by the Ohio Department of Health (ODH) Vital Statistics (VS) file; Medicaid-paid deliveries are identified via Medicaid claims/eligibility data. Throughout this report, comparisons are made between individuals with Medicaid and individuals without Medicaid based on the linked VS birth and death data and Medicaid claims/eligibility data. *Please see Appendix A for more information on this process.* The population of individuals without Medicaid, often referred to collectively as "non-Medicaid" in this report, includes those Ohioans with commercial insurance, without insurance, and those who are self-employed or otherwise obtain or purchase private insurance.

Figure 2: Ohio Births by Payer, CY 2013 - 2018

	# of Births (N)						% of Total Births					
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
All	136,137	136,570	136,417	135,074	133,892	132,136	100%	100%	100%	100%	100%	100%
Medicaid	70,885	70,634	70,816	70,004	69,261	67,880	52.07%	51.72%	51.91%	51.83%	51.73%	51.37%
Non-Medicaid	65,252	65,936	65,601	65,070	64,631	64,256	47.93%	48.28%	48.09%	48.17%	48.27%	48.63%

1.3 Demographic Information Related to Ohio Births

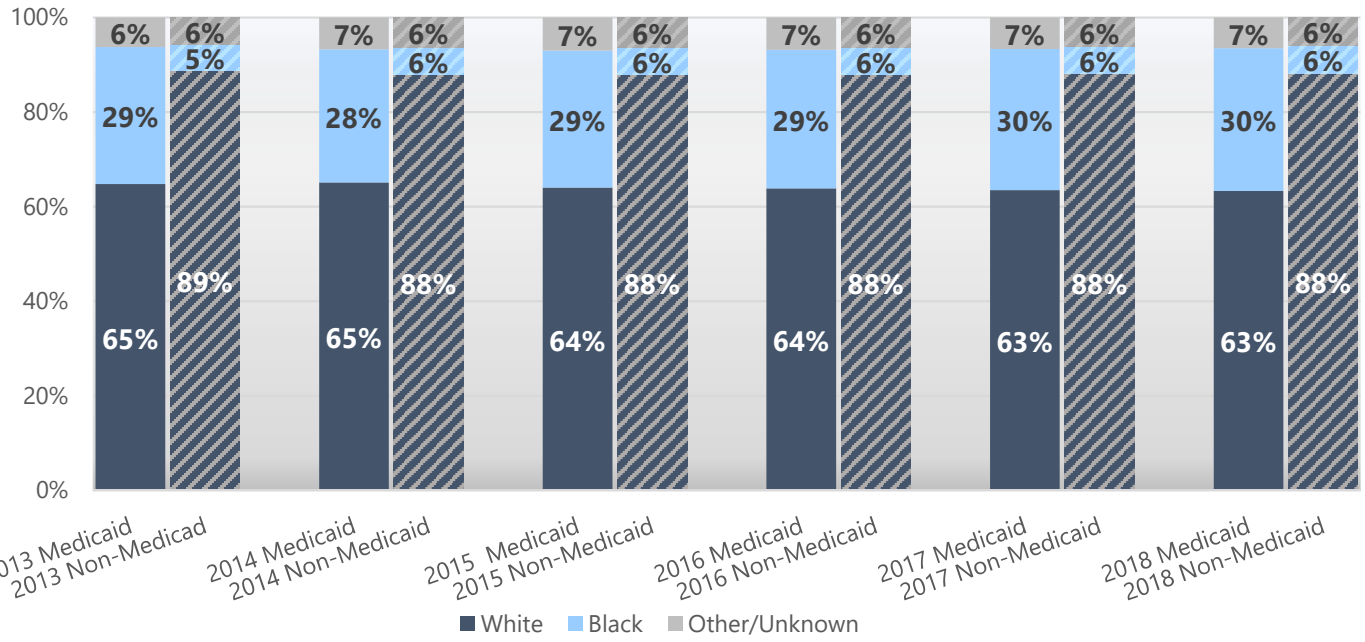
Throughout CYs 2013 - 2018, there are notable differences in the demographics of mothers with Medicaid-paid deliveries as compared to mothers with non-Medicaid paid deliveries (Figures 3-5). This report includes comparisons between individuals with Medicaid and those without Medicaid by demographic factors known to be associated with birth outcomes: race, ethnicity, maternal age, and marital status. [1-3]

* This number reflects births that occurred in Ohio to Ohio residents.

1.3.1 Ohio Births by Maternal Race

The composition of Ohio's population has been stable over the last several years. As the graphs below show, there are significant differences in race between the populations with and without Medicaid insurance. The population with Medicaid has a five-fold greater proportion of Black births compared to the population without Medicaid.

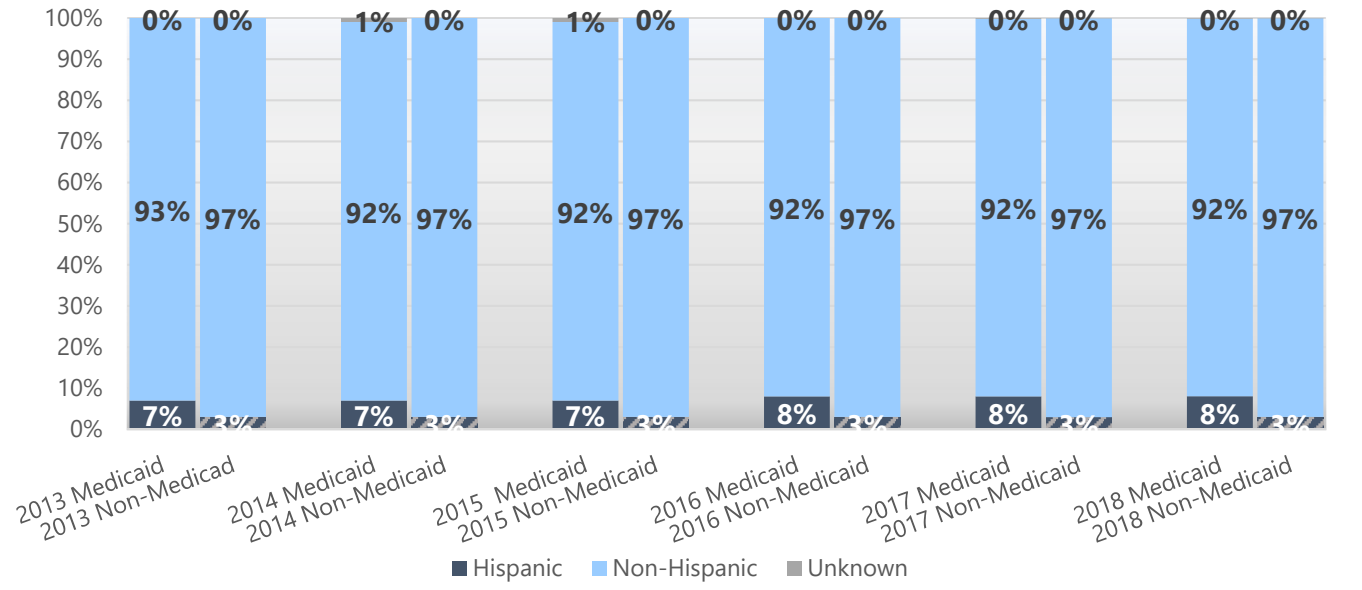
Figure 3: Ohio Births by Maternal Race, CY 2013 - 2018



1.3.2 Ohio Births by Maternal Ethnicity

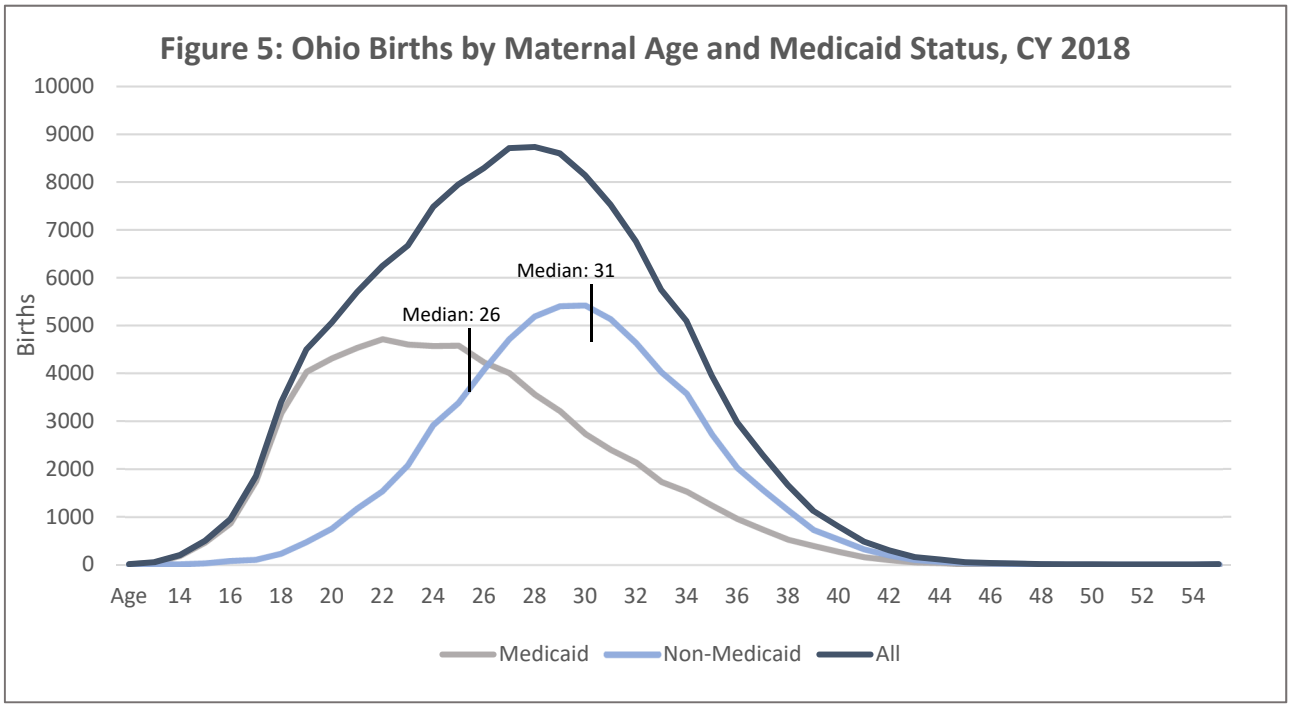
Since 2013, Medicaid has consistently financed more births among the Hispanic population compared to non-Medicaid payers.

Figure 4: Ohio Births by Maternal Ethnicity, CY 2013 - 2018



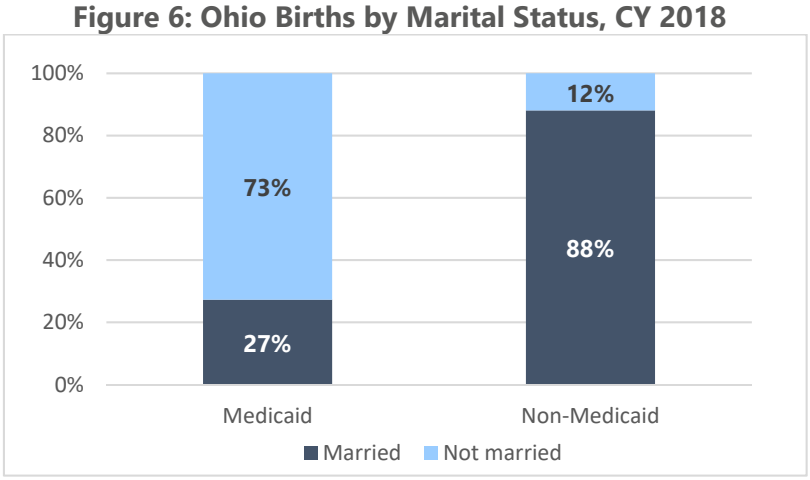
1.3.3 Maternal Age

As shown in Figure 5, a disparity exists in the maternal age of Ohio mothers when comparing women with Medicaid to those not receiving Medicaid benefits at the time of delivery. In 2013, the median age for mothers with a Medicaid-paid delivery was 24 years of age; the median age for this group rose to 26 years of age for CYs 2014 – 2018. The median age for women with non-Medicaid paid deliveries held steady at 30 years of age from 2013 – 2017, increasing to 31 in 2018.



1.3.4 Marital Status

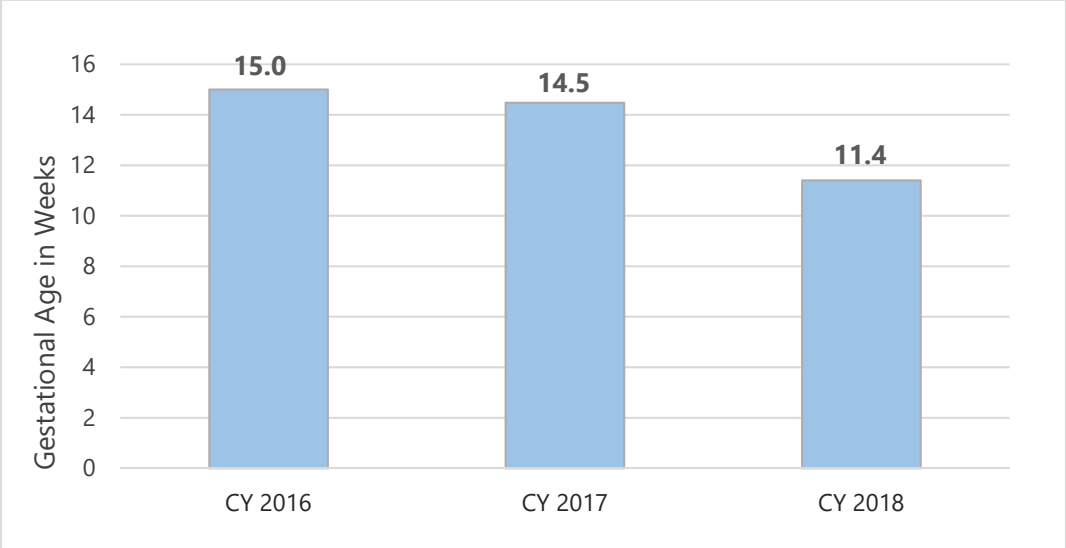
In 2013, 26.6% of women with Medicaid-paid deliveries were married, as compared to 88.4% of women with non-Medicaid paid deliveries. This trend increased slightly over CYs 2014 -2018 with 27.26% of women with Medicaid-paid deliveries identifying as being married in CY 2018.



1.4 Medicaid Program Enrollment and Gestational Age

Using the linked VS/Medicaid data, in CY 2016, 2017 and 2018 respectively, 62,797 (CY 2016), 64,569 (CY 2017), and 63,586 (CY 2018) women enrolled in Ohio Medicaid delivered a liveborn infant[†]. Approximately three-quarters of the women were enrolled in Ohio Medicaid nine months prior to the delivery date (74% in CY 2016, 75% in CY 2017, and 74% in CY 2018). As these women were enrolled in Medicaid throughout their entire pregnancy, they were removed from the analysis below, which details gestational age at enrollment into the Medicaid program. In this analysis, 15,594 (CY 2016), 16,252 (CY 2017), and 16,715 (CY 2018) women who delivered on Medicaid were not enrolled in Medicaid prior to their pregnancy. Of the women who were not already enrolled in Medicaid prior to their pregnancy, 52% (CY 2016), 50% (CY 2017), and 52% (CY 2018) were enrolled in Medicaid during their first trimester. For these women, the average gestational age at first enrollment was 15 weeks in CY 2016, suggesting that these women may not have met an ideal care standard of being seen within the first 12 weeks of pregnancy. However, by CY 2018, the average gestational age at enrollment dropped to 11.4 weeks, a notable improvement (see figures 7-9). Please note that the date of first enrollment in tables 6-12 reflects the initial Medicaid enrollment date regardless of program type; it is not specific to Fee for Service (FFS) or Managed Care Plan (MCP) enrollment.

Figure 7: Average Gestational Age at First Enrollment for Women Not Enrolled Prior to Pregnancy, CY 2016 - 2018



[†] Mothers who gave birth twice in 2016 (e.g., January and December) were counted twice, once for each delivery. In the case of a multiple births delivery (e.g., twins) the mother was counted once.

Figure 8: First Enrollment by Gestational Age in Weeks, CY 2018

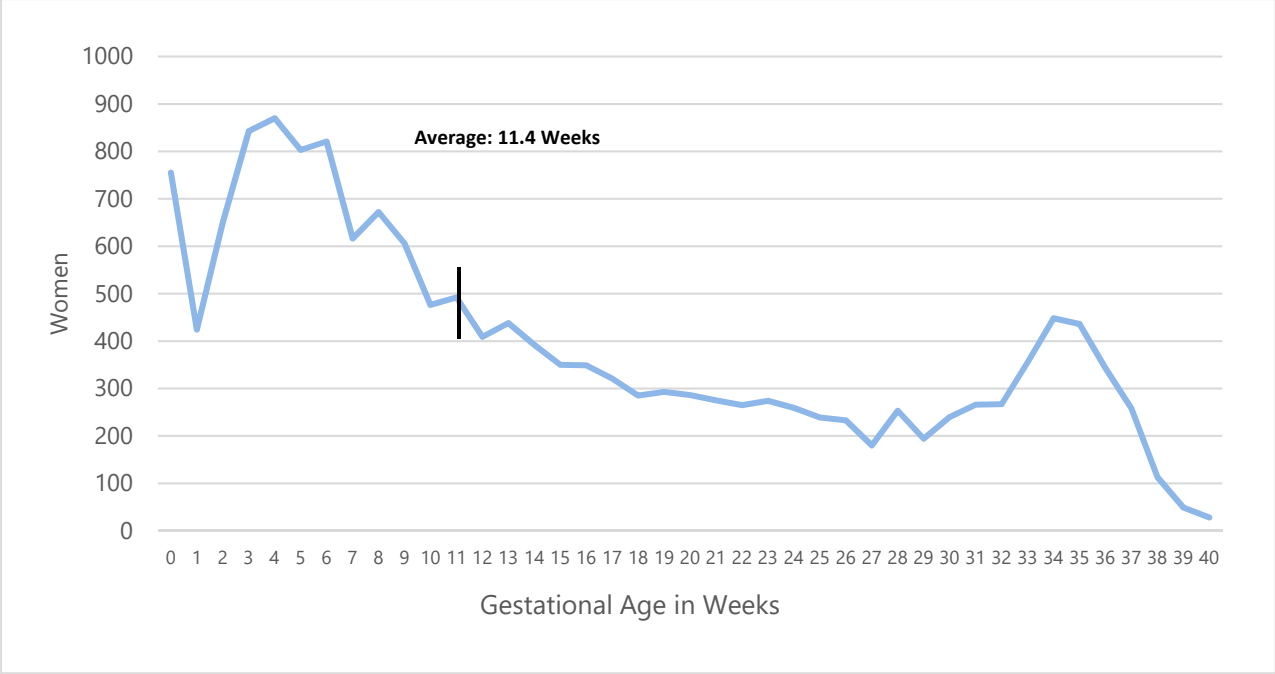
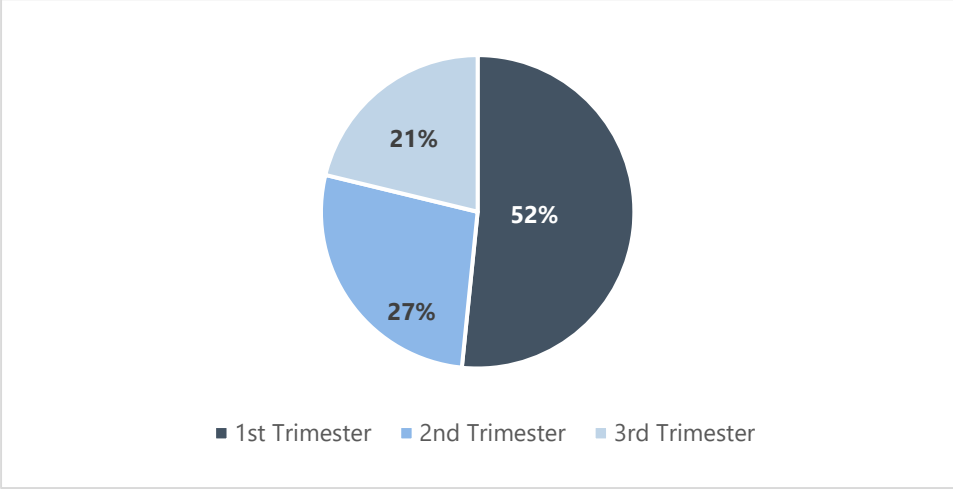


Figure 9: First Enrollment by Trimester, CY 2018



Section II: Birth Outcomes and Risk Factors

2.1 Infant Mortality

Using the linked VS/Medicaid data, the Ohio Department of Medicaid (ODM) calculated Ohio's infant mortality rate using a cohort approach for births to Ohio residents in CYs 2012 - 2017, comparing Medicaid-paid to non-Medicaid paid deliveries. This cohort approach identifies all infants who were born with Ohio maternal residence by year and follows them through their first year of life. This methodology differs from the standard utilized by public health officials, but allows the Medicaid program to identify specific opportunities and gaps that impact outcomes for mothers and infants in the program. Because the cohort approach is different from traditional measures of infant mortality, ODM's statistics should not be compared directly to other Infant mortality rates, including those published by the National Center for Health Statistics (NCHS) or the Ohio Department of Health (ODH). In addition, the Medicaid infant death data lags one full year behind birth data, rendering CY 2017 the most recent available data for these measures.

Using this cohort approach, the infant mortality rate for the Medicaid population has gradually worsened, as detailed in the table below. Mothers in the Medicaid program experienced 7.57 deaths per 1,000 live births in 2012; 7.72 deaths per 1,000 live births in 2013; 8.03 deaths per 1,000 live births in 2014; 8.30 deaths per 1,000 live births in 2015; 8.53 deaths per 1,000 live births in 2016; and 8.52 deaths per 1,000 live births in 2017.

Figure 10: Ohio Medicaid Infant Mortality Rates by Medicaid Status, CYs 2012 – 2017

	Infant Mortality Rate	
	Medicaid	Non-Medicaid
2012	7.57	5.75
2013	7.72	5.29
2014	8.03	5.35
2015	8.30	5.35
2016	8.53	5.66
2017	8.52	5.66

Figure 11: Ohio Infant Mortality Rates by Medicaid Status, Race, and Ethnicity, CYs 2012 – 2017

	Race			Ethnicity		
	White	Black	Other/Unknown	Hispanic	Non-Hispanic	Unknown
Medicaid						
2012	6.56	10.42	5.22	3.99	7.79	13.99
2013	6.78	9.88	7.43	6.84	7.79	7.08
2014	6.43	12.46	4.45	6.48	8.16	5.10
2015	6.99	12.05	4.83	3.72	8.61	14.89
2016	7.04	12.15	6.89	5.18	8.81	7.52
2017	6.59	13.62	7.35	6.50	8.87	N/A
Non-Medicaid						
2012	5.20	16.48	4.15	4.64	5.76	14.18
2013	4.18	21.86	6.67	11.52	5.09	17.05
2014	4.40	19.71	5.48	6.30	5.3	17.86
2015	4.45	18.72	6.06	8.74	5.22	22.90
2016	4.64	21.14	5.92	12.16	5.43	16.81
2017	4.27	20.71	7.09	10.06	5.19	N/A

Figure 11 shows the infant mortality rate broken down by Medicaid status, race, and ethnicity. Across all six measurement years, the infant mortality rates have risen for the Black population in both Medicaid and non-Medicaid populations. White women without Medicaid is the only group that have experienced improved infant mortality rates. Hispanic mothers historically have had the lowest overall infant mortality rates for both Medicaid and non-Medicaid populations. However, over the last six years, the Hispanic infant mortality rate has more than doubled for those not covered by Medicaid. The infant mortality rate for Hispanics within the Medicaid program has increased much more slowly, reaching rates similar to those experienced by white families.

It is important to take denominator size (N) into account when comparing demographic breakdowns. The Hispanic population is much smaller than the others, particularly in the non-Medicaid population, resulting in fairly wide swings in the rates.

2.2 Preterm Birth and Low Birth Weight

Prematurity (birth prior to 37 weeks gestation) and low birth weight (a birth weight under 2,500 grams) are significant risk factors for infant mortality.[4] Prematurity is an issue that is not limited to the population of individuals with Medicaid, but is a broader public health issue across the state of Ohio. Preterm birth (PTB) and low birth weight (LBW) rates have remained consistent over time (CYs 2013 – 2018) for both Medicaid and non-Medicaid paid births (Figure 12).

Figure 12: Ohio Preterm and Low Birth Weight Rates by Medicaid Status, CYs 2013 – 2018

	Preterm Birth		Low Birth Weight	
	Medicaid	Non-Medicaid	Medicaid	Non-Medicaid
2013	14.37%	9.86%	10.18%	6.36%
2014	14.53%	9.73%	10.21%	6.21%
2015	14.40%	9.61%	10.27%	6.18%
2016	14.74%	9.55%	10.70%	6.11%
2017	14.40%	9.63%	10.44%	6.37%
2018	14.46%	9.66%	10.50%	6.07%

Similar to the racial and ethnic breakdown of infant mortality rates in section 2.1, the PTB and LBW rates by Medicaid status, race, and ethnicity remain consistent over time, with infants in the Medicaid program not faring as well (Figures 13 and 14). In parallel to the trends seen with infant mortality rates by race, the rates for PTB and LBW are higher for the Black populations for all six measurement years with or without coverage by Medicaid.

Figure 13: Ohio Preterm and Low Birth Weight Rates by Medicaid Status and Race, CYs 2013 – 2018

	Medicaid			Non-Medicaid		
	White	Black	Other/Unknown	White	Black	Other/Unknown
Preterm Births						
2013	12.97%	17.54%	14.04%	9.52%	15.93%	9.46%
2014	13.02%	17.93%	14.67%	9.37%	14.70%	10.26%
2015	12.92%	17.69%	14.31%	9.30%	15.38%	8.80%
2016	13.30%	17.91%	14.62%	9.10%	15.56%	10.47%
2017	13.04%	17.58%	13.20%	8.99%	17.80%	11.15%
2018	13.37%	16.90%	13.78%	9.27%	15.87%	9.41%
Low Birth Weight						
2013	8.88%	13.42%	8.66%	5.99%	11.02%	7.74%
2014	8.88%	13.42%	9.35%	5.80%	10.88%	7.63%
2015	8.84%	13.76%	8.94%	5.75%	11.95%	7.18%
2016	9.22%	14.24%	9.38%	5.67%	11.27%	7.75%
2017	9.02%	13.78%	9.18%	5.71%	13.91%	8.89%
2018	9.19%	13.49%	9.44%	5.55%	12.45%	7.68%

Figure 14: Ohio Preterm and Low Birth Weight Rates by Medicaid Status and Ethnicity, CYs 2013 – 2018

			Medicaid		Non-Medicaid	
	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown
Preterm Births						
2013	13.57%	14.38%	20.43%	10.58%	9.84%	13.29%
2014	14.41%	14.53%	16.37%	9.77%	9.72%	16.07%
2015	14.26%	14.38%	17.99%	9.79%	9.60%	12.31%
2016	14.50%	14.74%	19.62%	12.38%	9.46%	11.11%
2017	14.06%	14.43%	14.73%	12.30%	9.54%	19.67%
2018	14.52%	13.48%	28.23%	9.27%	9.41%	15.87%
Low Birth Weight						
2013	8.23%	10.29%	14.52%	6.64%	6.34%	9.41%
2014	8.48%	10.33%	12.53%	5.69%	6.22%	10.71%
2015	7.97%	10.40%	17.24%	6.31%	6.17%	9.23%
2016	8.61%	10.84%	18.77%	8.11%	6.05%	6.03%
2017	8.57%	10.60%	14.73%	8.04%	6.31%	18.33%
2018	7.99%	10.70%	24.79%	5.80%	6.07%	15.38%

Regarding ethnicity, PTB rates are somewhat static and similar for the Hispanic population, as compared to the non-Hispanic population among individuals with and without Medicaid. Hispanic LBW rates are lower than non-Hispanic LBW rates in the Medicaid subpopulation, while LBW rates for the Hispanic population as compared to the non-Hispanic population are similar in the subpopulation of individuals without Medicaid.

2.2.1 Risk Factors for Preterm Birth and Low Birth Weight

In the section that follows ODM describes risk factors for mothers covered by the Medicaid program compared to those who do not have Medicaid coverage. As the data shows, there is a greater risk for a preterm and/or low birth weight delivery if the mother had either a previous preterm birth or poor birth outcome, low maternal weight gain, smoked during pregnancy, delivered within 18 months of a prior delivery, or received little or no prenatal care.[1-3]

As shown in Figure 15, risk factor rates show consistent worsening trends over time (CYs 2013-2018) for both Medicaid and non-Medicaid covered populations with the notable exception of smoking during pregnancy. In addition, women with Medicaid experience higher rates of these risk factors compared to women without Medicaid. Although the gap in smoking rates between Medicaid and non-Medicaid pregnancies slightly narrowed over time, the rates for pregnant women with Medicaid were approximately 6 to 7 times higher than rates for mothers not covered by Medicaid. In CY 2013, 28.16% of mothers with Medicaid coverage smoked during pregnancy, compared to 4.62% of mothers without Medicaid. By CY 2018 these smoking rates declined to 22.4% and 3.11%, respectively.

Figure 15: Selected Risk Factors for Prematurity and Low Birth Weight, CY 2013 – 2018

	Previous Preterm Birth		Low Maternal Weight Gain		Smoking During Pregnancy		Previous Poor Outcome		Birth Spacing (< 18 months)		No Prenatal Care	
	Medicaid	Non-Medicaid	Medicaid	Non-Medicaid	Medicaid	Non-Medicaid	Medicaid	Non-Medicaid	Medicaid	Non-Medicaid	Medicaid	Non-Medicaid
2013	6.36%	3.65%	31.72%	21.94%	28.16%	4.62%	5.27%	3.75%	5.42%	6.87%	2.07%	0.71%
2014	6.80%	4.00%	31.30%	21.55%	27.14%	4.38%	5.13%	3.79%	5.55%	7.27%	2.82%	0.95%
2015	6.69%	4.09%	32.01%	22.02%	25.62%	3.83%	5.67%	4.55%	5.60%	7.44%	2.48%	2.48%
2016	7.33%	4.15%	32.89%	22.95%	24.34%	3.39%	6.63%	4.66%	5.84%	7.74%	2.24%	0.80%
2017	7.50%	4.15%	33.75%	24.08%	23.53%	3.23%	6.68%	4.56%	6.38%	7.91%	2.21%	0.77%
2018	8.27%	4.27%	34.44%	24.89%	22.40%	3.11%	7.61%	6.40%	6.85%	8.20%	2.21%	0.74%

Figure 16: Selected Risk Factors for Prematurity and Low Birth Weight in Ohio Medicaid-Paid Births by Race, CY 2013-2018

	Previous Preterm Birth			Low Maternal Weight Gain			Smoking During Pregnancy			Previous Poor Outcome			Birth Spacing (< 18 months)			No Prenatal Care		
	White	Black	Other/ Unknown	White	Black	Other/ Unknown	White	Black	Other/ Unknown	White	Black	Other/ Unknown	White	Black	Other/ Unknown	White	Black	Other/ Unknown
2013	5.36%	8.81%	5.24%	29.38%	35.95%	36.96%	35.81%	15.28%	7.84%	4.80%	6.35%	5.17%	5.48%	5.67%	3.68%	1.66%	2.90%	2.59%
2014	5.90%	9.12%	5.49%	28.80%	35.17%	39.43%	34.71%	14.60%	7.07%	4.85%	5.83%	4.77%	5.63%	5.86%	3.53%	2.19%	3.97%	4.08%
2015	5.98%	9.37%	5.98%	29.55%	35.72%	39.74%	32.90%	14.21%	5.73%	5.20%	6.77%	5.38%	5.54%	6.03%	4.50%	2.06%	3.22%	3.27%
2016	6.41%	9.87%	5.07%	30.70%	36.20%	39.57%	31.51%	13.03%	5.30%	5.63%	8.68%	7.12%	5.84%	6.31%	3.90%	1.89%	3.03%	2.21%
2017	6.35%	10.21%	6.41%	31.59%	37.03%	39.99%	30.72%	12.41%	4.41%	5.54%	8.98%	7.23%	6.47%	6.55%	4.91%	1.98%	2.85%	1.63%
2018	7.02%	11.18%	6.94%	32.13%	37.37%	40.11%	29.44%	11.50%	4.18%	6.60%	9.83%	7.08%	6.75%	7.30%	5.88%	2.08%	2.61%	1.61%

When comparing these pregnancy risk factors across racial breakdowns within the Medicaid program, mothers who are white have less risk factors. This disparity is most pronounced in the previous preterm birth measure, which highlights that only 7.0% of White mothers had a previous preterm infant compared to 11.1% of mothers who are Black. The measure of smoking during pregnancy shows rates in the White population that are well over twice that of the Black population covered by Medicaid (Figure 16).

Figure 17: Selected Risk Factors for Prematurity and Low Birth Weight in Ohio Non-Medicaid Paid Births by Race, CY 2013 – 2018

	Previous Preterm Birth			Low Maternal Weight Gain			Smoking During Pregnancy			Previous Poor Outcome			Birth Spacing (< 18 months)			No Prenatal Care		
	White	Black	Other/ Unknown	White	Black	Other/ Unknown	White	Black	Other/ Unknown	White	Black	Other/ Unknown	White	Black	Other/ Unknown	White	Black	Other/ Unknown
2013	3.48%	6.70%	3.37%	21.16%	31.10%	25.60%	4.94%	3.30%	1.00%	3.74%	4.78%	2.93%	7.01%	5.62%	5.92%	0.58%	1.59%	1.97%
2014	3.79%	7.39%	3.77%	20.53%	31.52%	27.00%	4.62%	4.18%	1.24%	3.79%	4.71%	3.05%	7.34%	6.97%	6.47%	0.78%	2.13%	2.29%
2015	3.88%	7.54%	3.89%	21.11%	31.59%	26.78%	4.02%	3.98%	0.94%	4.46%	6.97%	3.49%	7.54%	7.18%	6.17%	0.57%	1.74%	1.70%
2016	3.96%	7.72%	3.58%	21.97%	32.59%	28.42%	3.58%	3.45%	0.69%	4.43%	8.81%	4.12%	7.92%	6.51%	6.20%	0.71%	2.15%	0.89%
2017	3.95%	7.75%	3.65%	23.09%	34.31%	28.71%	3.41%	2.82%	0.91%	4.32%	8.02%	4.73%	7.99%	7.85%	6.92%	0.66%	1.96%	1.21%
2018	4.09%	7.15%	4.07%	23.83%	33.78%	28.51%	3.31%	2.35%	71.00%	6.10%	9.57%	7.70%	8.29%	8.31%	6.99%	0.68%	1.60%	0.77%

The trends in risk factors for individuals without Medicaid are similar. Black mothers without Medicaid coverage again shoulder greater rates of risk factors, particularly for previous preterm births or poor birth outcomes, but also for low maternal weight gain and no prenatal care. For those women not insured by Medicaid, smoking rates are only slightly lower for Blacks (2.35% in CY 2018) compared to 3.31% for Whites in CY 2018 – strikingly less than the 11.5% for blacks and 29.4% in CY 2018 for women covered in the Medicaid program.

Figure 18: Selected Risk Factors for Prematurity and Low Birth Weight in Ohio Medicaid-Paid Births by Ethnicity, CY 2013 – 2018

	Previous Preterm Birth			Low Maternal Weight Gain			Smoking During Pregnancy			Previous Poor Outcome			Birth Spacing (< 18 months)			No Prenatal Care		
	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown
2013	5.60%	6.40%	8.01%	36.14%	31.37%	38.71%	10.69%	29.48%	22.58%	4.36%	5.34%	5.10%	4.67%	5.49%	3.17%	2.07%	2.04%	7.27%
2014	5.63%	6.90%	4.35%	38.00%	30.76%	40.00%	11.01%	28.40%	20.12%	4.03%	5.22%	3.32%	4.43%	5.65%	2.78%	3.51%	2.75%	6.55%
2015	6.00%	7.01%	10.26%	38.84%	31.46%	36.31%	9.08%	26.97%	15.92%	4.37%	5.76%	6.62%	4.97%	5.67%	3.14%	3.20%	2.40%	7.12%
2016	5.77%	7.43%	15.59%	38.94%	32.35%	43.48%	8.82%	25.68%	12.39%	5.59%	6.71%	6.84%	4.71%	5.93%	6.47%	1.82%	2.26%	6.84%
2017	6.97%	7.55%	9.02%	38.06%	33.38%	35.48%	8.64%	24.83%	17.82%	6.55%	6.70%	5.26%	5.40%	6.48%	1.67%	1.43%	2.28%	2.65%
2018	7.81%	8.29%	18.90%	40.41%	33.68%	35.14%	7.24%	23.73%	20.78%	7.09%	7.65%	9.45%	5.93%	6.93%	7.41%	1.54%	2.26%	2.78%

When considering ethnicity, Hispanic populations covered by Medicaid have slightly lower rates of these risk factors compared to non-Hispanics in all areas, with the exception of low maternal weight gain, which impacts 40.41% of Hispanic women compared to 33.68% of non-Hispanic mothers. Rates of these risk factors are generally not widely disparate between Hispanic and non-Hispanic populations, except for smoking during pregnancy, which is almost three times higher in non-Hispanic women compared to Hispanic women (23.73% vs 7.24%). For women without Medicaid, the Hispanic and non-Hispanic populations have fairly similar rates of these risk factors given the fact that this subgroup is small, rendering the data subject to wide fluctuation.

Figure 19: Selected Risk Factors for Prematurity and Low Birth Weight in Ohio Non-Medicaid Paid Births by Ethnicity, CY 2013 – 2018

	Previous Preterm Birth			Low Maternal Weight Gain			Smoking During Pregnancy			Previous Poor Outcome			Birth Spacing (< 18 months)			No Prenatal Care		
	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown	Hispanic	Non-Hispanic	Unknown
2013	3.30%	3.66%	2.96%	28.25%	21.76%	32.28%	3.29%	4.66%	3.52%	2.69%	3.78%	2.37%	4.94%	6.93%	5.33%	1.80%	0.67%	6.41%
2014	4.47%	3.99%	2.70%	27.43%	21.38%	28.40%	3.00%	4.42%	5.38%	3.73%	3.80%	2.70%	6.40%	7.30%	4.21%	2.76%	0.89%	8.08%
2015	5.41%	4.05%	5.34%	29.64%	21.80%	29.21%	2.75%	3.86%	4.76%	3.72%	4.56%	8.40%	7.31%	7.44%	8.18%	1.46%	0.68%	2.56%
2016	4.15%	4.15%	5.08%	30.28%	22.72%	26.19%	2.23%	3.43%	4.00%	4.56%	4.67%	0.85%	6.87%	7.77%	4.17%	0.87%	0.79%	3.74%
2017	5.35%	4.11%	3.08%	31.41%	23.87%	16.00%	2.76%	3.24%	5.77%	4.56%	4.56%	3.08%	7.25%	7.93%	7.55%	1.29%	0.74%	7.02%
2018	5.38%	4.24%	1.79%	29.98%	24.53%	27.03%	N/A	2.10%	3.14%	7.25%	6.38%	1.79%	6.83%	8.26%	4.17%	1.05%	72.83%*	2.33%

*Variable rate observed as a result of a small population size

2.3 Progesterone

The State of Ohio remains committed to reducing the incidence of preterm birth, one of the largest contributors to infant mortality. ODM has a long-standing preterm birth prevention effort in partnership with perinatal clinicians and hospitals affiliated with the Ohio Perinatal Quality Collaborative (OPQC), as well as Medicaid managed care plans (MCPs), sister state agencies, home health agencies, pharmacies and community organizations to prevent preterm birth through identifying and addressing risk factors for poor birth outcomes.

The timely identification of pregnancy and assessment of risk factors has been found to be one of the largest gaps in this effort. Building on past quality improvement work, ODM worked with partners to create a web-based, standardized Pregnancy Risk Assessment and Notification Form (PRAF 2.0) for real time population health management. When clinicians and other submit the PRAF that efficiently communicates key needs of a pregnant individual, the information is integrated into Ohio Benefits to automate the maintenance of Medicaid coverage throughout the pregnancy and postpartum period. The PRAF 2.0 also provides same-day notification to the patient's MCP and Ohio Department of Health (ODH) for referral to home visiting and tobacco cessation services, allowing timely linkages to needed services. If progesterone for the prevention of preterm birth is indicated, this same PRAF can be optionally used to automatically notify the appropriate pharmacy and home health agency to eliminate complexity and expedite the timely provision of this important therapy.

The provision of progesterone rates presented in Figure 20 reflect the percentage of women with Medicaid who had a high-risk pregnancy, as determined by a either a prior preterm birth or shortened cervix during their pregnancy, who were administered progesterone to help prevent preterm birth. ODM recognizes that this measure is not precise enough to exclusively identify progesterone candidacy, but it does identify a much higher-risk subpopulation who requires additional attention. Rates of progesterone administration have continued to increase from 2013 to 2018 for all women in the Medicaid program, with the highest overall progesterone administration rate of 37.36% being achieved in high-risk Black women in 2018, as detailed in the table below.

Figure 20: Overall Progesterone Rates for Medicaid-Paid High-Risk Pregnancies by Maternal Race and Ethnicity, CYs 2013 – 2018

		Race			Ethnicity	
	Overall Rate	White	Black	Other	Hispanic	Non-Hispanic
2013	24.64%	23.38%	26.88%	24.76%	22.71%	24.87%
2014	26.65%	25.17%	28.80%	22.66%	26.16%	26.67%
2015	30.20%	29.28%	31.29%	36.23%	31.90%	30.12%
2016	30.50%	29.08%	32.60%	32.32%	29.56%	30.55%
2017	33.13%	30.73%	35.83%	44.90%	41.65%	32.70%
2018	34.84%	33.73%	37.36%	27.29%	28.19%	35.32%

ODM continues to work with preterm birth prevention partners, especially in communities of greatest infant mortality disparities, to improve use of the PRAF database to spur immediate connectivity to community and health services, including the appropriate provision of progesterone.

While some efforts to improve pre-term birth rates are anchored in Ohio's health systems, there is growing awareness of the importance of the social factors or determinants that contribute to poor birth outcomes. As such, ODM and the MCPs continue to support community infant mortality grants that attempt to scale community-based work that may garner more trust for the culturally appropriate social and emotional support

that families require given the extra stressors of pregnancy. Most of the communities have chosen to support ODH evidence-based home visiting programs, centering™ or group prenatal care efforts and the use of community health workers, often connected to a Pathways Hub. This Community initiative also welcomes innovation from doulas, fatherhood groups and others committed to the care of mothers and infants.

2.4 Smoking Cessation

Smoking is one of the most common modifiable risk factors for infant mortality as it increases the risk of preterm birth, low birth weight and sleep-related deaths. Ohio is expanding publicly funded maternal and child health programs and recommended clinical practice guidelines from the U.S. Public Health Service about how to encourage people to quit smoking. The state also promotes a nationally recognized, evidence-based smoking cessation model to reduce smoking among women during pregnancy. The *Moms Quit for Two* program utilizes the "Baby and Me – Tobacco Free" model and is offered across Ohio by many local health departments, Ohio Equity Institute teams, and other community organizations.

Rates presented in Figure 21 show the percentage of members aged 15 - 44 screened for tobacco use who received cessation counseling intervention if identified as a tobacco user, as reported on Medicaid claims. The procedure codes used to calculate this measure are voluntary so the calculated rates may be underrepresented in Medicaid claims data.

Figure 21: Tobacco Cessation and Counseling for Women 15-44 Years of Age by Race and Ethnicity, CYs 2015 – 2018

		Race			Ethnicity	
	Overall Rate	White	Black	Other	Hispanic	Non-Hispanic
2015	4.45%	5.24%	2.91%	3.24%	2.90%	4.95%
2016	5.27%	6.15%	3.64%	3.64%	3.30%	5.33%
2017	10.72%	11.72%	8.87%	9.19%	9.55%	10.76%
2018	21.14%	22.23%	18.92%	20.58%	23.55%	21.04%

There has been a dramatic increase in the rates of tobacco screening and counselling for women across all races and ethnicities in the Medicaid program. Beginning in 2017, the *Preventive Care and Screening Tobacco Use: Screening and Cessation Intervention* measure was added to the list of quality metrics for providers participating in Ohio's patient-centered medical home initiative, the Comprehensive Primary Care (CPC) program. This level of accountability as well as additional focus through the Smoke Free Families quality improvement efforts, the Baby and Me-Tobacco Free model and the 2018 Medicaid support for the Quitline may all have influenced these improvements.

Section III: Perinatal Episode of Care

As payers across the country are shifting away from a Fee-For-Service (FFS) payment structure that may not offer sufficient accountability for the quality in care that drives improved health outcomes, ODM has implemented a payment mechanism bundling together an entire episode of care for the delivery of a newborn infant. The episode is triggered by a live birth and includes all prenatal care 280 days before the delivery through postnatal care 60 days after discharge from the delivering facility. The obstetrical provider is assigned as the Principle Accountable Provider (PAP), as he/she is in the best position to guide ideal birth outcomes, both in quality and cost. The PAP subsequently receives relevant reports to assist in the management of this population. Please see https://medicaid.ohio.gov/provider/PaymentInnovation/Episodes for more detail.

There are three quality metrics in the perinatal episode of care with thresholds that must be exceeded in order to be eligible for gain-sharing: rates of prenatal HIV screening, caesarean sections rate, and post-partum visits. Quality thresholds for these measures for 2019 are 61%, 34%, and 66% respectively, and ODM plans to raise these threshold rates over time. The care of the newborn is addressed through three separate episodes across low, moderate, and high-risk levels based on gestational age.

Despite the fact that the perinatal episode has been linked to incentive payments since 2016, improvements in quality have not been fully realized, as most perinatal improvement efforts have focused on more granular aspects of care for specialized populations. Beginning in 2020, the perinatal episode will be refined to include additional views of the high-risk population using new sources of data, including social determinants of health, and new quality measures, including evidence-based practices for high risk women, connections to community supports, and metrics of neonatal outcomes. These enhancements bring focus to a higher-risk subset of women, thereby connecting payments for high quality health care in the Medicaid program to a statewide strategy that helps reduce disparities in maternal and infant outcomes.

Section IV: Prenatal and Postnatal Visits

4.1 Measure Results by Statewide Average, Medicaid Managed Care Plan, and Fee-for-service

HEDIS, the Healthcare Effectiveness Data and Information Set, is a healthcare quality measurement tool developed by the National Committee for Quality Assurance (NCQA) that is utilized by more than 90 percent of America's health plans to monitor the provision of health services across five domains of care. Self-reported, audited HEDIS data from Ohio's five MCPs, as well as administrative FFS data were used to examine prenatal and postpartum care, and well-child visits within the Medicaid program, as detailed in Figure 22. Self-reported, audited HEDIS rates may contain data from both claims and medical record reviews (hybrid methodology), while FFS data is solely claims based (administrative); therefore, the results between MCPs and FFS may not be comparable.

Figure 22: Medicaid MCP Self-Reported, Audited HEDIS and FFS Rates, CYs 2013 – 2018

	Frequency of Ongoing Prenatal Care		Timeliness of Prenatal Care		Postpartum Care	
	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range
STATEWIDE						
2013	69.9%	P50-P75	86.0%	P50-P75	63.0%	P25-P50
2014	69.8%	P50-P75	85.9%	P50-P75	61.4%	P25-P50
2015	69.1%	P50-P75	83.9%	P25-P50	62.8%	P50-P75
2016	68.8%	P50-P75	84.5%	P50-P75	62.9%	P50-P75
2017	N/A - HEDIS measure retired		81.1%	P25-P50	63.4%	P25-P50
2018	N/A - HEDIS measure retired		83.5%	P50-P75	65.8%	P50-P75
BUCKEYE						
2013	67.4%	P50-P75	82.5%	P25-P50	63.6%	P25-P50
2014	69.0%	P50-P75	85.2%	P50-P75	63.9%	P50-P75
2015	71.2%	P75-P90	88.4%	P50-P75	60.4%	P25-P50
2016	71.9%	P75-P90	86.8%	P50-P75	65.3%	P50-P75
2017	N/A - HEDIS measure retired		86.6%	P50-P75	63.7%	P25-P50
2018	N/A - HEDIS measure retired		79.1%	P25-P50	59.4%	P10-P25
CARESOURCE						
2013	68.4%	P50-P75	86.1%	P50-P75	64.0%	P50-P75
2014	67.6%	P50-P75	85.4%	P50-P75	60.6%	P25-P50
2015	66.4%	P50-P75	82.7%	P25-P50	63.5%	P50-P75
2016	65.9%	P50-P75	83.7%	P50-P75	63.3%	P50-P75
2017	N/A - HEDIS measure retired		78.6%	P25-50	62.3%	P25-50
2018	N/A - HEDIS measure retired		83.7%	P50-P75	66.4%	P50-P75
MOLINA						
2013	72.5%	P50-P75	85.5%	P25-P50	56.6%	P10-P25
2014	76.2%	P75-P90	88.7%	P50-P75	62.5%	P25-P50
2015	75.8%	≥P90	84.1%	P25-P50	63.7%	P50-P75
2016	73.8%	P75-P90	84.0%	P50-P75	58.8%	P25-P50
2017	N/A - HEDIS measure retired		82.8%	P25-50	62.6%	P25-50
2018	N/A - HEDIS measure retired		83.0%	P25-P50	67.4%	P50-P75
PARAMOUNT						
2013	78.7%	P75-P90	89.9%	P75-P90	71.6%	P75-P90
2014	76.2%	P75-P90	86.4%	P50-P75	68.6%	P50-P75
2015	74.2%	P75-P90	85.9%	P50-P75	67.9%	P50-P75
2016	73.7%	P75-P90	87.6%	P75-P90	63.7%	P50-P75
2017	N/A - HEDIS measure retired		83.0%	P25-50	69.1%	P50-75
2018	N/A - HEDIS measure retired		86.4%	P50-P75	70.3%	P75-P90
UNITED HEALTH						

2013	68.8%	P50-P75	86.9%	P50-P75	59.0%	P25-P50
2014	69.6%	P50-P75	85.4%	P50-P75	54.8%	P10-P25
2015	67.5%	P50-P75	82.9%	P25-P50	56.0%	P25-P50
2016	69.3%	P50-P75	83.5%	P50-P75	61.2%	P50-P75
2017	N/A - HEDIS measure retired		83.7%	P50-75	64.3%	P25-50
2018	N/A - HEDIS measure retired		85.5%	P50-P75	65.5%	P50-P75
FFS						
2013	37.5%	N/A	58.6%	N/A	31.7%	N/A
2014	33.1%	N/A	51.3%	N/A	31.3%	N/A
2015	31.6%	N/A	55.8%	N/A	33.1%	N/A
2016	23.3%	N/A	48.9%	N/A	30.5%	N/A
2017	N/A - HEDIS measure retired		50.2%	N/A	31.0%	N/A
2018	N/A - HEDIS measure retired		57.3%	N/A	28.3%	N/A

Using HEDIS methodology, in 2018, 83.5% of women in Medicaid MCPs received timely prenatal care; and 65.8% received post-partum visit within 90 days of delivery. The frequency of ongoing prenatal care measure was not reported for 2017, as this measure was retired by the National Committee for Quality Assurance effective 2017. Since 2013, there has been a slight downward trend in the percent of women in Medicaid MCPs receiving timely prenatal care as 86.0% receiving a timely initial prenatal visit in 2013. The percent of women receiving postpartum care has trended up slightly from 63.0% receiving care in 2013 to 65.8% in 2018.

The percentile ranking represents how Ohio's Medicaid MCPs' HEDIS results compare with national Medicaid benchmarks collected by NCQA. For example, Ohio's Medicaid MCPs were between the 50th and 75th national percentiles for the timeliness of prenatal care HEDIS measure in comparison with other Medicaid MCPs across the country in 2013, 2014, 2016 & 2018, and between the 25th and 50th percentile for 2015 and 2017. For the postpartum visits (between 21 and 56 days after delivery), Ohio's Medicaid MCPs were between the 50th and 75th percentile in calendar years 2015, 2016 & 2018, and between the 25th and 50th percentiles in 2013, 2014, and 2017.

While performance is largely better than average by these measures, ODM is still focused on improving maternal and infant outcomes and eliminating disparities in ways which may not be reflected by this measurement framework.

Established four years ago, the Community Infant Mortality Partnership brought together the Medicaid MCPs and Ohio's nine counties with the highest infant mortality disparities, activating communities to address the racial disparities, social determinants of health and isolation that negatively impact this critical period of life. To date, there has been a focus on group education with or without formal prenatal care (Centering™), home visiting, utilization of community health workers through the Pathways Hub model as well as independently, and a variety of other place-based initiatives that include peer supports, doulas and fathers. Sites have activated neighborhoods and report different improvements, including improved connectivity and trust among women, improved breastfeeding rates and reduced preterm births.

ODM has also hosted focus groups to listen to the voices of women in their pregnancy and postpartum experiences. Women in the Medicaid program expressed distrust in the health systems, citing lack of provider empathy and inadequate communication. They also expressed a lack of social supports, community resources and routine coverage of community services such as doulas and lactation nurses, all of which will be taken into consideration as ODM implements strategies to continuously improve maternal and infant outcomes.

Section V: Behavioral Health Services

ODM, in collaboration with the Ohio Department of Mental Health and Addiction Services (OMHAS), implemented significant revisions and enhancements to the Medicaid behavioral health benefit beginning January 2018. Changes included the addition of new services for people with high intensity needs and alignment of the procedure codes used by Ohio's behavioral health providers to better integrate physical and behavioral health care.

Of the women enrolled in Ohio Medicaid identified as having had a birth via the linked VS/Medicaid data †, 25% (15,515) in CY 2016, 26% (16,389) in CY 2017, and 27% (17,299) in CY 2018, had a behavioral health clinical condition identified by a primary diagnosis on a Medicaid claim † (Figures 23 and 24). Of those women, approximately 40% received services from a community mental health center (CMHC); and 22% received addiction services from a substance use disorder (SUD) clinic. Women receiving SUD clinic services, 13% (2,027) in CY 2016,14% (2,217) in CY 2017 and 13% (2,182) in CY 2018 utilized medication assisted treatment (MAT) services for substance abuse issues.

Figure 23: Women with a Medicaid-Paid Delivery in CY 2018 with a Behavioral Health Clinical Condition

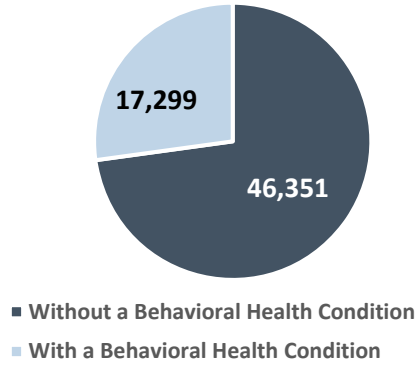
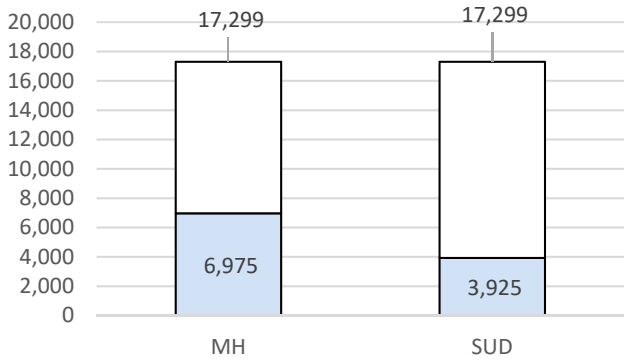


Figure 24: Women with a Medicaid-Paid Delivery in CY 2018 with a Behavioral Health Clinical Condition Treated by a Mental Health Provider



ODM continues efforts to address the needs of pregnant and postpartum women with opioid use disorder (OUD). The Maternal Opiate Medical Supports Plus (MOMS+) quality improvement initiative builds on the MOMS pilot project, which expanded the use of medication assisted treatment (MAT) through an integrated care model that coordinated behavioral health and prenatal care with social supports for opioid-dependent pregnant women. The pilot resulted in greater utilization of behavioral health services including MAT, greater postpartum retention in MAT, and reduced out-of-home placement for program participants compared to a matched sample of opioid dependent pregnant women who received treatment as usual.

The MOMS+ project launched in 2018 and utilized these integrated sites as the hubs of a hub-and-spoke model to mentor and support newly engaged outpatient maternity care teams across Ohio. While the hubs are more closely associated with the larger tertiary centers where higher risk MAT inductions and other care can be delivered, the spoke or partner sites are supported by stronger local behavioral health and medication assisted treatment programs as well as pediatric practitioners who can continue care long-term. The mentoring sites also help maternity care providers develop the capacity to provide induction therapy close to home, collaborate with local child welfare, and link to housing and other social service resources in their communities, culminating in

more effective plans of safe care as referenced in the Comprehensive Addiction and Recovery Act (CARA). MOMS+ is currently in the early stages of developing best practices for the transition of maternal and infant care to the community with a longer-term focus on preventive care, specific developmental and infectious-disease-related considerations, parenting and social service support, and continued trauma-informed care.

Section VI: Medicaid Prenatal Care, Delivery, and Infant Costs

The average total cost during pregnancy of a woman enrolled in Medicaid (all covered services for nine months prior to the delivery month to one month after the delivery month) was $8,641 in 2013, $9,112 in 2014, $10,059 in 2015, $9,302 in 2016, $8,652 in 2017, and $8,873 in 2018 (see Figure 25). Prenatal and delivery costs[‡] paid by Medicaid include direct FFS payments to service providers, and capitation and birth premium payments to managed care providers for women enrolled in managed care.

In 2018, the total cost paid by Medicaid for prenatal care and deliveries was $602,331,351 for 67,880 births. Of these Medicaid payments, 53% of these dollars ($319,513,067) paid for deliveries compared to 47% ($282,818,284) which covered prenatal care. Only costs and member months for the period in which a woman had Medicaid eligibility were included. A woman may have utilized Medicaid for only a portion of her pregnancy, and in some instances only for the delivery of the infant.

Costs paid by Medicaid during an infant's first year of life included direct FFS payments to service providers, and capitation payments to managed care providers for infants enrolled in managed care. In 2018, 69,261 infants were eligible and enrolled in Medicaid for at least a portion of their first year of life.

The total cost paid by Medicaid for the first year of life for infants enrolled in 2018 was $917,928,267. Only costs and member months for those months of the infants' first year of life in which the infant had Medicaid eligibility were included; an infant may have utilized Medicaid for only a portion of their first year of life.

Overall, costs for prenatal care, deliveries, and infants in the first year of life decreased from CY 2017 to CY 2018. Total costs for prenatal care & deliveries increased by 0.5% from 2017 to 2018, with the average cost per woman with a delivery increasing by 2.6%; the average cost per member month increased by 4.0%. The number of deliveries decreased by 2.0% from 2017 to 2018 (i.e. from 69,261 deliveries in 2017 to 67,880 in 2018). For infants in the first year of life, total costs increased by 6.3% from 2017 to 2018, and average cost per infant and average cost per member month increased by approximately 7.4%. The total number of infants decreased by 1.0%.

For CY 2018, managed care costs accounted for approximately 89% of the costs for infants in the first year of life, approximately 93% of delivery costs, and approximately 88% of the total costs for deliveries and prenatal care. The FFS costs for infants in the first year of life, deliveries, and total costs for deliveries and prenatal care accounted for 11%, 7%, and 12% of total costs for each category, respectively. There were no industry standard data sources available with current costs of national Medicaid prenatal care, deliveries, and/or infant care for comparison with Ohio data.

[‡] Delivery costs include FFS delivery costs, delivery capitation payments and estimated delivery payments for certain managed care members as determined by the applicable capitation rate cell payment.

Figure 25: Total and Average Cost of Deliveries, Prenatal Care, and Infants, CY 2013 – 2018

	Deliveries	Prenatal Care	Total Prenatal Care and Delivery Care	Infants—First Year of Life[1]
Total Beneficiaries				
2013	70,885	70,885	70,885	69,667
2014	70,634	70,634	70,634	70,885
2015	70,816	70,816	70,816	70,634
2016	70,004	**70,004**	**70,004**	**70,816**
2017	69,261	**69,261**	**69,261**	**70,004**
2018	67,880	**67,880**	**67,880**	**69,261**
Total Cost				
2013	$324,895,506	$287,598,095	$612,493,601	$739,671,129
2014	$364,914,896	$278,720,827	$643,635,723	$842,220,609
2015	$413,599,850	$298,760,862	$712,320,711	$878,019,086
2016	$359,750,556	$290,516,588	$651,177,208	$841,213,314
2017	$318,269,463	$280,942,980	$599,212,443	863,649,749
2018	$319,513,067	$282,818,284	$602,331,351	$917,928,267
Average Cost/ Beneficiary				
2013	$4,583	$4,057	$8,641	$10,617
2014	$5,166	$3,946	$9,112	$11,882
2015	$4,840	$4,219	$10,059	$12,431
2016	$5,139	$4,150	$9,302	$11,879
2017	$4,595	$4,056	$8,652	$12,337
2018	$4,707	$4,166	$8,873	$13,253
Total Member Months				
2013	N/A	515,592	639,506	874,847
2014	N/A	521,369	659,310	884,729
2015	N/A	541,061	678,752	889,072
2016	N/A	548,472	686,766	896,922
2017	N/A	540,249	676,352	883,697
2018	N/A	520,704	653,754	875,984
Average Cost/ Member Month				
2013	N/A	$558	$958	$845
2014	N/A	$535	$976	$952
2015	N/A	$552	$1,049	$988
2016	N/A	$530	$948	$938
2017	N/A	$520	$886	$977
2018	N/A	$543	$921	$1,048

[1]The amounts reported for 2017 for Total Cost, Average Cost/Beneficiary, and Average Cost/Member Month for Infants-First Year of Life were understated in the 2018 Report on Pregnant Women, Infants and Children; corrected 2017 cost data is reported in Figure 25.

Section VII: Children in Medicaid

Ohio Medicaid provides care to nearly 3 million Ohioans—including more than 1.3 million youth, over 36,000 of whom are in the foster care system. The demographics of the infants, children, adolescents and adults under 21 years of age are delineated in Figure 26.

7.1 Summary of Medicaid's Children's Eligibility and Demographics CY 2018

Figure 26: Medicaid Monthly Average by Age Group, Gender, Race and Play Type, CY 2018

	Monthly Average	% of Total Medicaid Children
AGE IN YEARS		
<1 Year	81,133	6.2%
1-5 Years	348,720	26.6%
6-12 Years	463,137	35.3%
13-18 Years	336,548	25.7%
19-20 Years	81,225	6.2%
GENDER		
Female	647,180	49.4%
Male	663,583	50.6%
RACE		
Caucasian	722,242	55.1%
Black	372,196	28.4%
Asian/ Pacific Islander	22,221	1.7%
American Indian Or Alaskan Native	5,324	0.4%
Other	8,485	0.6%
Not Provided	180,295	13.8%
PLAN TYPE		
MCP (Managed Care)	1,254,354	95.7%
Indemnity (FFS)	56,409	4.3%
TOTAL MEDICAID CHILDREN	**1,310,763**	

7.2 Children's Chronic and Behavioral Health Conditions Frequency Distribution

The overall monthly average number of youth under age 21 enrolled in Medicaid is 1,310,763. Of these Medicaid youth, 37% (479,763) have at least one chronic condition, and 22% (288,515) have at least one behavioral health condition. While asthma and other respiratory conditions top the list for physical health conditions requiring care for physical health, attention deficit with hyperactivity disorder remains the most prominent behavioral health condition. Figures 27 and 28 detail additional clinical diagnoses that prompted care for youth in CY 2018.

Figure 27: Top 20 Most Prevalent Chronic Health Conditions among Medicaid Youth CY 2018

	Patient Count	All Medicaid Children
Asthma	98,512	7%
Other specified and unspecified upper respiratory disease	92,908	7%
Acute and chronic tonsillitis	32,233	2%
Esophageal disorders	30,937	2%
Menstrual disorders	28,815	2%
Headache; including migraine	25,020	2%
Allergic reactions	22,808	2%
Musculoskeletal congenital conditions	21,109	1%
Hearing loss	20,800	1%
Obesity	20,576	1%

Figure 28: Prevalence of Behavioral Health Conditions Among Medicaid Youth CY 2018

	Patient Count	All Medicaid Children
ADHD	141,847	10%
Adjustment Disorders	89,982	6%
Conduct Disorder	85,210	6%
Other Depression	43,954	3%
Other Psychological	43,954	3%
Personality Disorders	43,954	3%
Major Depression	28,769	2%
PTSD	24,591	2%
Autism	19,743	1%
Self-Harm	16,647	1%
Substance Use Disorder	14,013	1%
Bipolar Disorder	8,858	1%
Impulse Control Disorder	6,514	0.5%
Schizophrenia	4,782	0.3%
Mood Disorders	1,880	0.1%

7.3 Quality Measures for Children

Just as HEDIS results were used to assess quality for the maternity population, HEDIS specifications were utilized to assess care across three domains for children: Primary Care Access and Preventive Care, Acute and Chronic Care and Behavioral Health Care.

Data displayed in Figure 29, 30 and 31 include self-reported, audited HEDIS data from Ohio Medicaid's five MCPs, as well as administrative FFS data. Self-reported, audited HEDIS rates may contain data from both claims and medical record reviews (hybrid methodology), while FFS data is solely claims based (administrative); therefore, the results between MCPs and FFS may not be comparable.

7.3.1 Primary Care Access and Preventive Care

In 2018, 59.1% of infants in the Medicaid program met the requirement for the well-child visit criteria, within the first 15 months of life. Performance has slightly trended down from 60.1% in 2013. On the other hand, 72.3% of children in their third, fourth, fifth and sixth year of life met the well-child visit criteria in 2018, up from 69.0% in 2013. Among adolescents, the percentage of those who met the well-care visit criteria has continuously increased from 42.0% in 2013 to 50.8% in 2018, but still represent the group of youth least likely to be seen for preventive services.

Figure 29: Well-Care Measures Medicaid MCP Self-Reported, Audited HEDIS and FFS Rates, CYs 2013-2018

	Well-Child Visits (First 15 Months of Life, Six or More Visits)		Well-Child Visits (Third, Fourth, Fifth, and Sixth Year of Life)		Adolescent Well-Care Visits	
	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range
STATEWIDE						
2013	60.1%	P25-P50	69.0%	P25-P50	42.0%	P25-P50
2014	59.7%	P25-P50	63.1%	P10-P25	42.1%	P25-P50
2015	54.9%	P25-P50	65.7%	P25-P50	43.0%	P25-P50
2016	59.0%	P25-P50	69.7%	P25-P50	46.4%	P25-P50
2017	57.9%	P25-P50	71.2%	P25-P50	51.0%	P50-P75
2018	59.1%	P25-P50	72.2%	P25-P50	50.8%	P25-P50
BUCKEYE						
2013	57.2%	P25-P50	66.2%	P10-P25	45.6%	P25-P50
2014	61.9%	P25-P50	59.2%	<P10	40.2%	P10-P25
2015	50.3%	P10-P25	61.4%	P10-P25	35.8%	P10-P25
2016	53.5%	P25-P50	64.6%	P10-P25	49.8%	P50-P75
2017	60.3%	P25-50	68.6$	P25-P50	56.2%	P50-P75
2018	65.9%	P25-P50	67.8%	P25-P50	56.5%	P50-P75
CARESOURCE						
2013	60.3%	P25-P50	71.5%	P25-P50	41.1%	P10-P25
2014	59.1%	P25-P50	64.2%	P10-P25	43.8%	P25-P50
2015	55.7%	P25-P50	67.4%	P25-P50	46.2%	P25-P50
2016	61.6%	P50-P75	71.0%	P25-P50	45.0%	P25-P50
2017	57.2%	P25-50	73.0%	P50-P75	51.3%	P50-P75
2018	56.9%	P10-P25	74.7%	P50-P75	49.9%	P25-P50
MOLINA						
2013	55.0%	P10-P25	64.1%	P10-P25	40.2%	P10-P25
2014	58.0%	P25-P50	62.4%	P10-P25	43.7%	P25-P50
2015	50.5%	P10-P25	63.9%	P10-P25	41.9%	P25-P50
2016	58.1%	P25-P50	65.7%	P25-P50	46.6%	P25-P50
2017	61.8%	P25-50	69.1%	P25-P50	46.2%	P25-P50
2018	58.4%	P10-P25	69.6%	P25-P50	50.1%	P25-P50
PARAMOUNT						
2013	69.0%	P50-P75	67.8%	P25-P50	51.2%	P50-P75
2014	62.0%	P25-P50	60.6%	P10-P25	36.0%	P<10
2015	59.8%	P50-P75	64.8%	P10-P25	40.1%	P10-P25
2016	56.0%	P25-P50	69.2%	P25-P50	43.6%	P25-P50
2017	58.6%	P25-50	69.3%	P25-P50	45.7%	P25-P50
2018	62.8%	P25-P50	71.1%	P25-P50	48.2%	P25-P50

UNITED HEALTH						
2013	65.0%	P25-P50	63.6%	P10-P25	40.1%	P10-P25
2014	60.9%	P25-P50	63.5%	P10-P25	37.5%	P<10
2015	57.0%	P25-P50	64.6%	P10-P25	38.0%	P10-P25
2016	56.0%	P25-P50	73.6%	P50-P75	52.6%	P50-P75
2017	52.6%	P10-25	68.6%	P25-P50	52.6%	P50-P75
2018	59.5%	P25-P50	68.9%	P25-P50	51.7%	P25-P50
FFS						
2013	40.4%	N/A	52.4%	N/A	26.7%	N/A
2014	33.7%	N/A	51.9%	N/A	25.8%	N/A
2015	19.7%	N/A	50.9%	N/A	29.8%	N/A
2016	23.5%	N/A	35.9%	N/A	28.1%	N/A
2017	26.4%	N/A	38.4%	N/A	23.4%	N/A
2018	30.3%	N/A	34.2%	N/A	23.9%	N/A

Figure 30 delineates additional details related to dental services, immunizations and lead testing. In 2018, 50.8% of children in the Medicaid program received at least one dental visit, and improvement from 47.1% in 2014. There has been a downward trend in the percentage of children two years of age with a Childhood Immunization Status, Combination 3* by their second birthday, from 65.9% in 2014 to 63.9% in 2018. The rate of lead screening in children two years of age, however, has improved from 65.6% in 2014 to 67.7% in 2018. FFS is not included in the tables given the small numbers of children and not meeting denominator criteria for measures. See Appendix D for a breakout of managed care and fee-for-service specific rates.

Figure 30: Preventive Measures Medicaid MCP Self-Reported, Audited HEDIS, CYs 2013-2018

	Annual Dental Visits		Childhood Immunization Status, Combination 3*		Lead Screening in Children	
	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range
STATEWIDE MCP						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	47.1%	P25-P50	65.9%	P10-P25	65.6%	P25-P50
2015	48.4%	P25-P50	62.8%	P10-P25	66.2%	P25-P50
2016	49.8%	P25-P50	60.9%	P10-P25	71.4%	P50-P75
2017	50.5%	P25-P50	63.3%	P10-P25	68.9%	P25-P50
2018	50.8%	P25-P50	63.9%	P10-P25	67.7%	P25-P50

* Combination 3 vaccinations for Childhood Immunization Status includes DTap, IPV, MMR, HiB, HepB, VZV, and PCV.

7.3.2 Acute and Chronic Conditions

In 2018, among children who were diagnosed with pharyngitis and received an antibiotic, 81.0% received a strep test, a substantial improvement from 69.3% in 2014. The rate of children with asthma who were dispensed controller asthma medications for at least 75% of their treatment period also improved. For children 5-11 years of age, performance increased from 28.3% in 2014 to 33.8% in 2018, and for youth 12-18 years of age, performance improved from 25.7% in 2014, to 35.0% in 2018. FFS is not included in the tables given the small numbers of children and not meeting denominator criteria for measures. See Appendix D for a breakout of managed care and fee-for-service specific rates.

Figure 31: Acute and Chronic Conditions Measures - Medicaid MCP Self-Reported, Audited HEDIS Rates, CYs 2013-2018

	Appropriate Testing for Children with Pharyngitis		Medication Management for People with Asthma -75% compliance, 5-11 years		Medication Management for People with Asthma -75% compliance, 12-18 years	
	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range
STATEWIDE MCP						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	69.3%	P25-P50	28.3%	P50-P75	25.7%	P50-P75
2015	67.5%	P25-P50	36.3%	P75-P90	33.9%	P75-P90
2016	67.5%	P25-P50	32.5%	P50-P75	31.3%	P50-P75
2017	71.2%	P10-P25	33.7%	P50-P75	33.7%	P50-P75
2018	81.0%	P50-P75	33.8%	P50-P75	35.0%	P50-P75

7.3.3 Behavioral Health Care

The subset of measures described in Figure 32 can be utilized to gauge behavioral health services for youth in the Medicaid program. In 2018, the rate of children and adolescents who had a new prescription for an antipsychotic medication and had documentation of psychosocial care as first line treatment was 78.3%, up from 75.5% in 2014. The rate of adolescents 13-17 years of age who initiated alcohol or drug treatment and had two or more additional alcohol or other drug (AOD) services or medication-assisted treatment (MAT) within 34 days of the initiation visit reached 23.4% in 2018, demonstrating a significant increase from only 6.7% in 2014. The rate of children who had a prescription for ADHD medication and remained on the medication for at least 210 days and had at least two follow-up visits in the 9 months after the initiation phase was 64.6%, up from 61.7% in 2014. FFS is not included in the tables given the small numbers of children and not meeting denominator criteria for measures. See appendix D for a breakout of managed care and fee-for-service specific rates.

Figure 32: Behavioral Health Measures - Medicaid MCP Self-Reported, Audited HEDIS, CYs 2013-2018

	Use of First-Line Psychosocial Care for Children on Antipsychotics		Engagement of Alcohol and Other Drug Abuse or Dependence Treatment, 13-17 years		Follow-Up Care for Children Prescribed ADHD Medication Continuation/Maintenance Phase	
	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range
STATEWIDE MCP						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	75.5%	N/A	6.7%	P10-P25	61.7%	P75-P90
2015	77.1%	P≥90	16.1%	P50-P75	63.8%	P75-P90
2016	74.7%	P≥90	21.1%	P50-P75	64.3%	P75-P90
2017	75.1%	P≥90	22.5%	P75-P90	65.5%	P75-P90
2018	78.3%	P≥90	23.4%	P25-P50	64.6%	P75-P90

7.4 School-Based Measures Comparing Medicaid to Non-Medicaid Youth

Because health is an important factor in shaping educational outcomes, the Ohio Department of Medicaid and the Ohio Department of Education (ODE) partnered to understand the relationship of academic outcomes to the health status for youth in the Medicaid program. The school-based measures are standard measures routinely calculated by ODE and include touchpoints on a student's journey from kindergarten through high school graduation. Results for Medicaid and Non-Medicaid Populations in school year 2018 are detailed in Figure 33, with lower performance on all measures for youth in the Medicaid program.

Figure 33: Selected School Year 2017-2018 Measures by Medicaid Enrollment Status

	Medicaid Enrolled*	Not Medicaid Enrolled	Medicaid Enrolled N (Denominator)	Not Medicaid Enrolled N (Denominator)
% Kindergarteners demonstrating readiness on the Kindergarten Readiness Assessment (KRA)	27.9%	52.9%	53,996	64,102
% Third graders proficient or higher on the English Language Arts (ELA) state assessment	48.3%	72.0%	62,150	73,560
% Seventh graders proficient or higher on the Mathematics state assessment	43.3%	69.9%	48,627	74,156
Four-year on-time graduation rate (2018 graduation cohort)	73.4%	91.6%	47,749	90,289
Chronic absenteeism rate* **	25.0%	9.9%	653,822	966,765

*For this analysis, a student is flagged as Medicaid-enrolled if he or she participated in any Medicaid program in Ohio at any point in time from July 1, 2017 to June 30, 2018.

**A student is considered *chronically absent* if he or she is absent for 10% or more of enrolled time.

The Ohio Department of Medicaid and the Ohio Department of Education launched a School-Based Health Care initiative in 2018, supporting new health/education partnerships through networking and technical assistance opportunities and the development of the School-Based Health Care Support Toolkit. Additional details of initiatives designed to improve the health and well-being of Ohio's children are described below.

7.5 Children's Initiatives

Shortly after being signed into office at the beginning of 2019, Governor DeWine signed an Executive Order to create the Governor's Office of Children's Initiatives. This Office has been charged with taking bold steps to give Ohio kids a platform for lifelong success by:

- Elevating the importance of children's programming in Ohio and drive improvements within the many state programs that serve children;
- Advancing policy related to home visiting, early intervention services, early childhood education, foster care, and child physical and mental health;
- Initiating and guiding enhancements to the early childhood, home visiting, foster care, education, and pediatric health systems;
- Improving communication and coordination across all state agencies that provide services to Ohio's children; and
- Engaging local, federal, and private sector partners to align efforts and investments in order to have the largest possible impact on improving outcomes.

Medicaid is incredibly important to ensuring coverage and access to care for Ohio's youngest citizens. As the health insurance for more than 1.3 million children in the state, and in some Ohio counties, as the insurer for over 80% of children under age 5 residing in the county, Medicaid has great opportunity to improve the lifelong potential for Ohio's kids.

In response to the needs of children insured by Medicaid, as evidenced by the data above, the Department developed significant child health improvement strategies that were funded through the state fiscal years (SFY) 20-21 Biennial Budget. In total, Medicaid's 2-year budget included investments of $166.8 Million in children's initiatives.

One of the most promising new strategies funded through the SFY 20-21 budget entails enhancing the existing Comprehensive Primary Care (CPC) initiative to focus more on the pediatric population. As approximately 680,000 individuals under 21 years of age are attributed to primary care clinicians in this model of care, a "CPC kids" infrastructure will set the stage for measurably improving children's health and wellness statewide. The Medicaid Managed Care Plans (MCPs) will play an important role in population health management by partnering with CPC practices to provide outreach to families whose children have been unable to receive needed services, such as well checks and dental visits, and by facilitating visits through mitigating scheduling and transportation barriers. Alternative settings of care such as schools and other community settings can be incentivized through an alternative payment model, which can reward providers for their efforts to address the full spectrum of social determinants and behavioral health challenges faced by Ohio's children and families.

Additional child health policy development and implementation underway at Medicaid will promote improved maternal and infant outcomes, expand services for children with autism spectrum disorder, and enhance Medicaid's supports for children with the most complex, multi-system needs, including those served by the child protection system.

Section VIII: References

1. Centers for Disease Control and Prevention (2014). Factors Associated with Preterm Birth. Retrieved December 18, 2014 from http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PDF/PretermBirth- Infographic.pdf.

2. March of Dimes (2014). Low Birth Weight. Retrieved December 18, 2014 from http://www.marchofdimes.org/baby/low-birthweight.aspx#.

3. Institute of Medicine, Committee on Understanding Premature Birth and Assuring Healthy Outcomes (2007). Preterm Birth Causes, Consequences, and Prevention. Retrieved December 18, 2014 from http://www.ncbi.nlm.nih.gov/books/NBK11362/pdf/TOC.pdf.

4. Centers for Disease Control and Prevention. Infant Mortality. Retrieved December 18, 2014 from http://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm.

5. National Committee for Quality Assurance. HEDIS & Performance Measurement. Retrieved December 18, 2014 from http://www.ncqa.org/HEDISQualityMeasurement.aspx.

6. National Committee for Quality Assurance. HEDIS & Performance Measurement. Retrieved March 7, 2015 from http://www.ncqa.org/HEDISQualityMeasurement.aspx.

7. National Committee for Quality Assurance. HEDIS & Performance Measurement. Retrieved November 30, 2016 from http://www.ncqa.org/HEDISQualityMeasurement.aspx.

8. National Committee for Quality Assurance. HEDIS & Performance Measurement. Retrieved December 14, 2017 from http://www.ncqa.org/HEDISQualityMeasurement.aspx.

9. National Committee for Quality Assurance. HEDIS & Performance Measurement. Retrieved November 18, 2018 from http://www.ncqa.org/HEDISQualityMeasurement.aspx.

Appendix A: Data Sources and Methodologies for Calculations

Data Sources

Medicaid information was obtained from Medicaid claims, premium payment records, and eligibility records from ODM's Medicaid Information Technology System (MITS), Business Intelligence and Analytical Research (BIAR) system, and Medicaid's Quality Decision Support System (QDSS). In addition, the ODH Bureau of Vital Statistics provided birth certificate data and linked birth certificate/death certificate data. Where information is reported for Medicaid individuals and non-Medicaid populations, the linked VS/Medicaid data was used.

Linkage of Ohio Birth Certificates to Medicaid Data

Because vital statistics birth records and Medicaid administrative data do not contain common high-quality unique identifiers, such as Medicaid ID or social security Number, individuals in these two datasets were linked using a probabilistic linkage methodology[§]. When unique identifiers are not available, probabilistic linkage is typically the most efficient and effective way to minimize the risk of linkage error**.

The probabilistic linkage algorithm utilized†† all identifying information in order to assess whether two records in two different datasets refer to the same individual. For identifiers that were not names, such as zip code or date of birth, the algorithm assessed both perfect agreement as well as similarity. Searching for similarity is critical when linking administrative data because a certain percentage of cases contain errors. For example, the date "3/24/1998" shares a certain resemblance to "3/24/2998", and it is possible that the latter is a typographical error and was supposed to be recorded as "3/24/1998". For names, the similarity criteria was more complex because names may differ across datasets for legitimate reasons such as the use of nicknames, name changes, and misspellings.

Beyond perfect string matches, first and last names was assessed for similarity using a variety of methods, including but not limited to a string matching score, phonetic equivalence, one of the names is a nickname of the other, the names share a string of five or more common characters, and the first and last names appear to have been swapped. The linkage algorithm then compared this to a population-level database containing names, birthdays and other demographic information and estimate two probabilities: the probability ***m*** that two records on a certain field would agree if they belong to the same individual, and the probability ***u***, that the two fields would agree, but the records belong to different individuals. These probabilities were then used to create agreement and disagreement weights for each field within each record pair to translate the agreement, similarity, and disagreement patterns for a given record pair into a score linked to the probability that the two records referred to the same individual. Record pairs with extremely high matching scores were accepted as matches while record pairs with somewhat high matching scores will be manually reviewed to determine match status.

Match statistics are generated throughout the process and are ultimately used to quantify the success of the

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[§] Fellegi, Ivan P, and Alan B. Sunter. 1969. "A Theory of Record Linkage." *Journal of the American Statistical Association* 64:1183-1210.

[**] Tromp, Miranda, Anita C. Ravelli, Gouke J. Bonsel, Arie Hasman, and Johannes B. Reitsma. 2011. "Results from Simulated Data Sets: Probabilistic Record Linkage Outperforms Deterministic Record Linkage." *Journal of Clinical Epidemiology* 64:565-572.

[††] Link Plus, Centers for Disease Control and Prevention. https://www.cdc.gov/cancer/npcr/tools/registryplus/lp.htm.

linkage process. The proportion of Medicaid mothers joined to their infants via a common Ohio birth certificate is known as the "match rate." The historical annual match rates for the VS-claims birth linkage is depicted in Table 1A.

Table 1A: Combined Average Match Rate to Vital Statistics Birth Records for Mothers (Deliveries) and Infants (Births) in Medicaid Administrative Data

2012	2013	2014	2015	2016	2017	2018
90.8%	89.4%	90.1%	85.6%- 91.8%*	90.4%	91.1%	95.4%**

* The range for 2015 is a result of the transition from the 9th revision (ICD-9) to the 10th revision (ICD-10) of the International Statistical Classification of Diseases and Related Health Problems and more specifically, the inclusion or exclusion of ICD-10 code O99.89 in the matching process discussed in the below section.

**The higher match rate reflects methodological adjustments made during 2018-2019, including a more sophisticated treatment of twins, better use of blocking variables to expand the decision set for matches, and a more comprehensive manual review process.

ICD-9 to ICD-10 Coding Issues for 2015 Data

The United States Department of Health and Human Services identified October 1, 2015, as the date to begin compliance with the international classification of diseases, tenth revision (ICD-10) code sets. Following this date, O99.83 became the updated version of code 646.93 from ICD-9. While defined in ICD-9 as "unspecified complication of pregnancy, antepartum condition or complication," the ICD-10 code description also includes childbirth and the puerperium, or the six weeks after childbirth. Implementation of ICD-10 code O99.89 in the matching process beginning October 1, 2015, may result not only in deliveries, but also in flagging women as pregnant who already gave birth.

When including code O99.83 in the 2015 matching process, the linked percentage is 85.6%. There appears to be an increase in the deliveries, but not in the number of linked birth claims to birth certificates. Using more restrictive criteria to define deliveries and excluding code O99.83 when there are not birth certificate matches, results in a linked percentage of 91.8%. This is comparable to the rates from recent years.

In addition, analysis of the 2015 Medicaid claims data demonstrates that not all providers began implementation of the ICD-10 code sets on October 1, 2015, which may have impacted the 2015 linked percentage. For example, some providers continued to use ICD-9 code sets following the transition date for the classification of pregnancies and deliveries. In addition, some providers used ICD-10 codes prior to the Oct. 1, 2015, start date. Both errors may eventually result in resubmission of claims. Therefore, the matching rate from the latter half of 2015 may have been adversely affected by the ICD coding changeover.

Calculation of Costs During Pregnancy and the Cost of Deliveries

Costs were included for all Medicaid deliveries in CYs 2013 - 2017. Costs during pregnancy, for the purposes of this report, include all costs for the nine months prior to the month of delivery, the month of delivery and the month following the month of delivery.

The costs of deliveries for women enrolled in managed care include birth premium payments and estimated birth premium payments for women with managed care encounter claims for a delivery service(s), but no delivery premium payment (incurred but not paid deliveries). Estimated birth premium payments were determined using the mother's county of residence, the last date of service on the delivery encounter claim, and the applicable managed care delivery rate cell code and premium amount (delivery encounter claims included those with a

$0 payment and no indication of third-party payment, and those with a net claim payment > $0).

Delivery payments for mothers with FFS claims include net payments for inpatient hospital claims with an Ohio diagnosis-related group (DRG) code for a delivery, as applicable for the date of service/delivery. For those mothers with FFS claims indicating delivery, but no inpatient claim with an applicable DRG, the cost of delivery was estimated using the statewide FFS average net payment for inpatient claims with an Ohio DRG code for a delivery. There were deliveries identified for both managed care and FFS for which the Ohio Medicaid cost was $0: 1) managed care deliveries for which third party payment was rendered and the net payment (by the MCP) was $0; and 2) FFS claims with an Ohio DRG delivery code in a paid status where the net payment was $0. Delivery and prenatal care costs were estimated for infants with Medicaid IDs identified on the ODH VS birth file where the mother's Medicaid ID could not be determined.

Calculation of Costs of Infants in Medicaid

Infant costs include all managed care premium payments for dates of service in the month of birth through the month of the infant's first birthday if the infant was enrolled in an MCP. In addition, infant costs include FFS claims with dates of service in the month of birth up through the first 365 days of life. Infants may have both FFS claims and managed care premium payments included in the analysis. For CY 2017, costs were estimated for approximately 1.2% of newborns for whom a Medicaid recipient ID could not be determined, but who we were identified on the ODH VS birth file and linked to a mother with Medicaid birth and delivery claims data.

Chronic and Behavioral Health Conditions

Chronic conditions were derived using a chronic condition indicator included in the Clinical Conditions Software (CCS), developed by the Healthcare Cost and Utilization Project (HCUP). The chronic condition indicator flags claims as chronic at the diagnosis code level and then groups the claim by clinical condition. With that, it is possible for a clinical condition to be acute or chronic, but a member is not included in the count unless the diagnosis code was flagged as chronic by the chronic condition indicator (Figure 27)

Behavioral health conditions were also derived from the CCS. The CCS looks at the primary diagnosis code on FFS claims and encounter data and flags them according to what clinical condition they fall under. For some clinical conditions, diagnosis codes were modified to best capture the prevalence of behavioral health conditions across the Medicaid population (Figure 28).

Appendix B: Low Birth Weight (LBW) Births by County, CY 2018

County	Medicaid			Non-Medicaid		
County Name	LBW Births	Total Births	LBW Rate	LBW Births	Total Births	LBW Rate
Adams	13	185	7.03%	8	112	7.14%
Allen	86	713	12.06%	28	517	5.42%
Ashland	24	267	8.99%	13	352	3.69%
Ashtabula	61	682	8.94%	22	377	5.84%
Athens	29	276	10.51%	17	186	9.14%
Auglaize	23	205	11.22%	22	347	6.34%
Belmont	6	38	15.79%			2.86%
Brown	30	283	10.60%			2.72%
Butler	236	2,356	10.02%	132	2,128	6.20%
Carroll	12	135	8.89%	8	129	6.20%
Champaign	26	215	12.09%	15	209	7.18%
Clark	103	1,021	10.09%	29	532	5.45%
Clermont	90	956	9.41%	83	1,340	6.19%
Clinton	29	273	10.62%	8	178	4.49%
Columbiana	49	580	8.45%	20	336	5.95%
Coshocton	25	240	10.42%	11	218	5.05%
Crawford	38	309	12.30%	9	144	6.25%
Cuyahoga	979	7,718	12.69%	427	6,081	7.02%
Darke	17	271	6.27%	11	322	3.42%
Defiance	12	214	5.61%	11	155	7.10%
Delaware	35	373	9.38%	88	1,745	5.04%
Erie	47	432	10.88%	18	379	4.75%
Fairfield	68	768	8.85%	66	946	6.98%
Fayette	20	231	8.66%	10	134	7.46%
Franklin	1,019	9,625	10.59%	613	8,564	7.16%
Fulton	17	185	9.19%	14	279	5.02%
Gallia	16	176	9.09%			1.80%
Geauga	26	191	13.61%	52	772	6.74%
Greene	66	670	9.85%	66	1,051	6.28%
Guernsey	28	256	10.94%	11	174	6.32%
Hamilton	691	5,642	12.25%	295	4,977	5.93%
Hancock	29	340	8.53%	34	515	6.60%
Hardin	18	169	10.65%	10	201	4.98%
Harrison			4.08%			1.96%
Henry	15	139	10.79%	14	179	7.82%
Highland	29	347	8.36%	10	222	4.51%
Hocking	7	178	3.93%			3.74%
Holmes	6	111	5.41%	17	692	2.46%
Huron	32	387	8.27%	20	324	6.17%
Jackson	29	256	11.33%	7	150	4.67%
Jefferson	12	208	5.77%			4.30%
Knox	24	316	7.60%	23	460	5.00%
Lake	74	846	8.75%	79	1,363	5.80%

County	Medicaid			Non-Medicaid		
County Name	LBW Births	Total Births	LBW Rate	LBW Births	Total Births	LBW Rate
Lawrence			20.00%			0.00%
Licking	108	1,031	10.48%	68	975	6.97%
Logan	25	269	9.29%	12	292	4.11%
Lorain	171	1651	10.36%	95	1,546	6.15%
Lucas	391	3,348	11.68%	116	2,002	5.79%
Madison	17	184	9.24%	14	246	5.69%
Mahoning	208	1,460	14.25%	64	842	7.60%
Marion	43	504	8.53%	14	231	6.06%
Medina	31	458	6.77%	52	1,214	4.28%
Meigs	8	109	7.34%			4.29%
Mercer	15	158	9.49%	24	481	4.99%
Miami	31	540	5.74%	20	630	3.18%
Monroe			10.00%			13.16%
Montgomery	382	3,760	10.16%	166	2,672	6.21%
Morgan	10	83	12.05%			6.38%
Morrow	16	183	8.74%	13	212	6.13%
Muskingum	60	638	9.40%	20	384	5.21%
Noble	6	67	8.96%			6.17%
Ottawa	13	161	8.08%	10	162	6.17%
Paulding	6	103	5.83%			4.11%
Perry	19	240	7.92%	11	168	6.55%
Pickaway	24	301	7.97%	21	331	6.34%
Pike	23	243	9.47%	8	95	8.42%
Portage	53	601	8.82%	38	784	4.85%
Preble	21	213	9.86%			2.66%
Putnam	9	107	8.41%	16	309	5.18%
Richland	62	762	8.14%	47	595	7.90%
Ross	45	557	8.08%	12	291	4.12%
Sandusky	25	336	7.44%	20	302	6.62%
Scioto	52	530	9.81%	17	208	8.17%
Seneca	44	339	12.98%	10	274	3.65%
Shelby	23	267	8.61%	20	339	5.90%
Stark	234	2,235	10.47%	141	1,820	7.75%
Summit	341	3,069	11.11%	175	2,861	6.12%
Trumbull	132	1,270	10.39%	45	709	6.35%
Tuscarawas	49	556	8.81%	28	569	4.92%
Union	19	186	10.22%	23	517	4.45%
Van Wert	9	138	6.52%			0.00%
Vinton			4.35%			10.42%
Warren	64	641	9.98%	80	1,708	4.68%
Washington	12	241	4.98%	21	197	10.66%
Wayne	41	465	8.82%	43	990	4.34%
Williams	7	182	3.85%	6	168	3.57%
Wood	35	437	8.01%	45	813	5.54%
Wyandot	17	92	18.48%	9	143	6.29%

Appendix C: Preterm Births by County, CY 2018

County	Medicaid			Non-Medicaid		
County Name	Preterm Births	Total Births	Preterm Rate	Preterm Births	Total Births	Preterm Rate
Adams	29	185	15.68%	11	112	9.82%
Allen	133	716	18.58%	52	519	10.02%
Ashland	34	268	12.69%	25	354	7.06%
Ashtabula	102	683	14.93%	49	379	12.93%
Athens	37	276	13.41%	24	186	12.90%
Auglaize	47	207	22.71%	40	348	11.49%
Belmont	6	38	15.79%			8.57%
Brown	44	284	15.49%	9	183	4.92%
Butler	355	2,362	15.03%	194	2,133	9.10%
Carroll	12	135	8.89%	8	129	6.20%
Champaign	38	215	17.67%	24	209	11.48%
Clark	156	1,023	15.25%	59	534	11.05%
Clermont	145	957	15.15%	125	1,341	9.32%
Clinton	36	272	13.24%	15	176	8.52%
Columbiana	71	580	12.24%	35	336	10.42%
Coshocton	31	240	12.92%	17	218	7.80%
Crawford	40	309	12.95%	17	144	11.81%
Cuyahoga	1,205	7,740	15.57%	632	6,092	10.37%
Darke	24	271	8.86%	20	322	6.21%
Defiance	29	214	13.55%	12	155	7.74%
Delaware	46	374	12.30%	158	1,747	9.04%
Erie	53	432	12.27%	36	379	9.50%
Fairfield	94	768	12.24%	110	947	11.62%
Fayette	33	230	14.35%	10	133	7.52%
Franklin	1,378	9,643	14.29%	908	8,577	10.59%
Fulton	18	185	9.73%	21	279	7.53%
Gallia	18	177	10.17%	7	112	6.25%
Geauga	32	192	16.67%	68	772	8.81%
Greene	89	670	13.28%	115	1,054	10.91%
Guernsey	35	256	13.67%	22	174	12.64%
Hamilton	925	5,653	16.36%	444	4,986	8.91%
Hancock	49	341	14.37%	51	516	9.88%
Hardin	36	169	21.30%	19	202	9.41%
Harrison			8.16%			1.96%
Henry	12	139	8.63%	20	179	11.17%
Highland	50	347	14.41%	18	222	8.11%
Hocking	14	177	7.91%	10	107	9.35%
Holmes	10	111	9.01%	35	693	5.05%
Huron	52	387	13.44%	28	324	8.64%
Jackson	30	256	11.72%	13	150	8.67%
Jefferson	26	209	12.44%			3.23%
Knox	42	316	13.29%	39	460	8.48%
Lake	102	848	12.03%	123	1,363	9.02%

County	Medicaid			Non-Medicaid		
County Name	Preterm Births	Total Births	Preterm Rate	Preterm Births	Total Births	Preterm Rate
Lawrence			26.67%			7.69%
Licking	163	1,029	15.84%	109	976	11.17%
Logan	31	271	11.44%	34	292	11.64%
Lorain	241	1,653	14.58%	155	1,548	10.01%
Lucas	523	3,355	15.59%	204	2,002	10.19%
Madison	29	184	15.76%	30	246	12.20%
Mahoning	241	1,466	16.44%	100	843	11.86%
Marion	71	505	14.06%	24	231	10.39%
Medina	39	457	8.53%	89	1,214	7.33%
Meigs	17	109	15.60%			7.25%
Mercer	22	158	13.92%	60	481	12.47%
Miami	67	541	12.38%	43	630	6.83%
Monroe			12.50%			8.11%
Montgomery	583	3,767	15.48%	282	2,675	10.54%
Morgan	13	83	15.66%	7	47	14.89%
Morrow	20	181	11.05%	22	212	10.38%
Muskingum	77	638	12.07%	36	384	9.38%
Noble	10	67	14.93%	8	81	9.88%
Ottawa	10	161	6.21%	14	163	8.59%
Paulding	10	103	9.71%	7	73	9.59%
Perry	32	240	13.33%	15	168	8.93%
Pickaway	34	301	11.30%	38	333	11.41%
Pike	29	244	11.89%	12	95	12.63%
Portage	74	601	12.31%	61	788	7.74%
Preble	26	213	12.21%	13	189	6.88%
Putnam	18	109	16.51%	34	310	10.97%
Richland	91	762	11.94%	69	596	11.58%
Ross	71	555	12.79%	25	291	8.59%
Sandusky	36	336	10.71%	24	302	7.95%
Scioto	71	531	13.37%	27	208	12.98%
Seneca	49	340	14.41%	28	274	10.22%
Shelby	29	268	10.82%	29	340	8.53%
Stark	289	2,239	12.91%	188	1,820	10.33%
Summit	478	3,074	15.55%	253	2,868	8.82%
Trumbull	158	1,273	12.41%	69	710	9.72%
Tuscarawas	89	557	15.98%	51	569	8.96%
Union	33	187	17.65%	37	517	7.16%
Van Wert	17	138	12.32%			0.80%
Vinton	12	93	12.90%	8	48	16.67%
Warren	96	641	14.98%	152	1,712	8.88%
Washington	18	242	7.44%	34	198	17.17%
Wayne	80	469	17.06%	71	990	7.17%
Williams	12	182	6.59%	16	168	9.52%
Wood	53	440	12.05%	73	815	8.96%
Wyandot	15	92	16.30%	15	143	10.49%

Appendix D: Managed Care and Fee-For-Service Rates for Child Quality Measures

Table 1: Preventive Measures Medicaid MCP Self-Reported, Audited HEDIS and FFS Rates, CYs 2013-2018

	Annual Dental Visits		Childhood Immunization Status, Combination 3		Lead Screening in Children	
	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range
STATEWIDE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	47.1%	P25-P50	65.9%	P10-P25	65.6%	P25-P50
2015	48.4%	P25-P50	62.8%	P10-P25	66.2%	P25-P50
2016	49.8%	P25-P50	60.9%	P10-P25	71.4%	P50-P75
2017	50.5%	P25-P50	63.3%	P10-P25	68.9%	P25-P50
2018	50.8%	P25-P50	63.9%	P10-P25	67.7%	P25-P50
BUCKEYE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	44.50%	P25-P50	66.2%	P10-P25	60.0%	P25-P50
2015	41.70%	P25-P50	63.9%	P10-P25	58.6%	P25-P50
2016	43.50%	P25-P50	62.0%	P10-P25	87.7%	P≥90
2017	0.455	P10-P25	63.3%	P10-P25	80.2%	P75-P90
2018	0.4596	P10-P25	61.8%	P10-P25	75.4%	P50-P75
CARESOURCE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	50.40%	P25-P50	67.9%	P25-P50	68.4%	P25-P50
2015	51.30%	P25-P50	63.3%	P10-P25	68.1%	P25-P50
2016	53.10%	P50-P75	61.1%	P10-P25	69.6%	P25-P50
2017	53.40%	P25-P50	64.0%	P10-P25	68.1%	P25-P50
2018	53.67%	P25-P50	64.7%	P10-P25	67.6%	P25-P50
MOLINA						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	42.40%	P10-P25	63.1%	P10-P25	66.6%	P25-P50
2015	48.00%	P25-P50	60.0%	P10-P25	72.2%	P50-P75
2016	46.00%	P25-P50	59.6%	P10-P25	66.7%	P25-P50
2017	49.90%	P25-P50	65.5%	P25-P50	68.1%	P25-P50
2018	51.53%	P25-P50	63.3%	P10-P25	65.9%	P25-P50
PARAMOUNT						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	41.30%	P10-P25	61.8%	P10-P25	56.5%	P10-P25
2015	43.60%	P25-P50	62.3%	P10-P25	58.9%	P25-P50
2016	45.80%	P25-P50	63.3%	P10-P25	58.4%	P10-P25
2017	44.90%	P10-P25	58.4%	P10-P25	66.4%	P25-P50
2018	45.02%	P10-P25	66.9%	P25-P50	64.0%	P25-P50
UNITED HEALTH						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	41.70%	P10-P25	60.1%	P10-P25	59.4%	P25-P50
2015	44.50%	P25-P50	63.5%	P10-P25	62.3%	P25-P50
2016	46.10%	P25-P50	57.7%	P<10	79.1%	P50-P75
2017	45.60%	P10-P25	61.3%	P10-P25	61.4%	P10-P25
2018	46.22%	P10-P25	60.6%	P10-P25	63.8%	P25-P50
FFS						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	N/A	N/A	N/A	N/A	N/A	N/A
2015	N/A	N/A	N/A	N/A	N/A	N/A
2016	N/A	N/A	N/A	N/A	N/A	N/A
2017	29.5%	N/A	9.9%	N/A	45.8%	N/A
2018	28.7%	N/A	10.5%	N/A	43.7%	N/A

* Combination 3 vaccinations for Childhood Immunization Status includes DTap, IPV, MMR, HiB, HepB, VZV, and PCV.

Table 2: Acute and Chronic Conditions Measures Medicaid MCP Self-Reported Audited HEDIS and FFS Rates, CYs 2013-2018

	Appropriate Testing for Children with Pharyngitis		Medication Management for People with Asthma -75% compliance, 5-11 years		Medication Management for People with Asthma -75% compliance, 12-18 years	
	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range
STATEWIDE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	69.3%	P25-P50	28.3%	P50-P75	25.7%	P50-P75
2015	67.5%	P25-P50	36.3%	P75-P90	33.9%	P75-P90
2016	67.5%	P25-P50	32.5%	P50-P75	31.3%	P50-P75
2017	71.2%	P10-P25	33.7%	P50-P75	33.7%	P50-P75
2018	81.0%	P50-P75	33.8%	P50-P75	35.0%	P50-P75
BUCKEYE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	62.7%	P10-P25	26.0%	P50-P75	25.0%	P50-P75
2015	62.7%	P10-P25	30.6%	P50-P75	30.7%	P75-P90
2016	64.5%	P10-P25	29.5%	P50-P75	27.8%	P50-P75
2017	68.3%	P10-P25	44.5%	P≥90	43.5%	P≥90
2018	78.3%	P25-P50	40.8%	P75-90	36.9%	P75-P90
CARESOURCE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	70.4%	P25-P50	27.1%	P50-P75	24.6%	P50-P75
2015	70.4%	P25-P50	37.9%	P75-P90	35.3%	P75-P90
2016	71.3%	P25-P50	32.4%	P50-P75	32.2%	P50-P75
2017	73.1%	P25-P50	31.7%	P50-P75	32.3%	P50-P75
2018	81.3%	P50-P75	32.3%	P50-P75	34.6%	P50-P75
MOLINA						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	67.7%	P25-P50	35.4%	P75-P90	33.6%	P75-P90
2015	67.7%	P25-P50	38.5%	P75-P90	37.6%	P≥90
2016	67.6%	P25-P50	34.7%	P75-P90	32.0%	P50-P75
2017	71.2%	P10-P25	34.4%	P50-P75	33.0%	P50-P75
2018	80.3%	P50-P75	35.6%	P75-P90	36.7%	P75-P90
PARAMOUNT						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	65.2%	P25-P50	27.0%	P50-P75	23.9%	P50-P75
2015	65.2%	P25-P50	31.1%	P50-P75	27.0%	P50-P75
2016	63.8%	P10-P25	35.8%	P75-P90	30.5%	P50-P75
2017	68.0%	P10-P25	36.2%	P75-P90	34.8%	P75-P90
2018	83.0%	P50-P75	36.0%	P75-P90	38.8%	P75-P90
UNITED HEALTH						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	71.6%	P50-P75	34.0%	P75-P90	29.6%	P75-P90
2015	71.6%	P25-P50	31.7%	P50-P75	29.5%	P50-P75
2016	67.5%	P25-P50	30.7%	P50-P75	29.0%	P50-P75
2017	71.5%	P10-P25	33.0%	P50-P75	32.0%	P50-P75
2018	80.7%	P50-P75	31.8%	P50-P75	28.7%	P50-P75
FFS						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	N/A	N/A	N/A	N/A	N/A	N/A
2015	N/A	N/A	N/A	N/A	N/A	N/A
2016	N/A	N/A	N/A	N/A	N/A	N/A
2017	76.2%	N/A	41.1%	N/A	43.8%	N/A
2018	81.8%	N/A	38.4%	N/A	38.8%	N/A

Table 3: Behavioral Health Measures Medicaid MCP Self-Reported, Audited HEDIS and FFS Rates, CYs 2013-2018

	Use of First-Line Psychosocial Care for Children on Antipsychotics		Engagement of Alcohol and Other Drug Abuse or Dependence Treatment, 13-17 years		Follow-Up Care for Children Prescribed ADHD Medication Continuation/Maintenance Phase	
	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range	Overall Reported Rate	NCQA Percentile Range
STATEWIDE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	75.5%	N/A	6.7%	P10-P25	61.7%	P75-P90
2015	77.1%	P≥90	16.1%	P50-P75	63.8%	P75-P90
2016	74.7%	P≥90	21.1%	P50-P75	64.3%	P75-P90
2017	75.1%	P≥90	22.5%	P75-P90	65.5%	P75-P90
2018	78.3%	P≥90	23.4%	P25-P50	64.6%	P75-P90
BUCKEYE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	65.5%	N/A	9.5%	P25-P50	57.5%	P50-P75
2015	66.9%	P50-P75	11.9%	P25-P50	53.6%	P50-P75
2016	81.6%	P≥90	21.8%	P75-P90	54.5%	P50-P75
2017	78.9%	P≥90	23.1%	P75-P90	66.2%	P75-P90
2018	78.7%	P≥90	20.8%	P≥90	67.6%	P75-P90
CARESOURCE						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	81.2%	N/A	5.5%	P10-P25	64.7%	P75-P90
2015	81.1%	P≥90	19.4%	P50-P75	68.2%	P≥90
2016	74.2%	P75-P90	23.7%	P75-P90	69.2%	P≥90
2017	76.3%	P≥90	25.8%	P≥90	68.1%	P75-P90
2018	78.4%	P≥90	22.5%	P≥90	69.9%	P ≥ 90
MOLINA						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	67.0%	N/A	7.3%	P10-P25	62.2%	P75-P90
2015	70.4%	P75-P90	8.2%	P10-P25	67.0%	P75-P90
2016	68.9%	P75-P90	8.5%	P10-P25	61.5%	P50-P75
2017	68.8%	P75-P90	12.8%	P25-P50	67.2%	P75-P90
2018	75.9%	P≥90	35.6%	P≥90	57.9%	P50-P75
PARAMOUNT						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	80.6%	N/A	6.7%	P10-P25	63.8%	P75-P90
2015	81.1%	P≥90	7.6%	P10-P25	62.2%	P50-P75
2016	80.9%	P≥90	10.0%	P10-P25	69.5%	P≥90
2017	81.6%	P≥90	8.3%	P10-P25	69.1%	P75-P90
2018	81.0%	P≥90	17.6%	P≥90	65.8%	P75-P90
UNITED HEALTH						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	60.2%	N/A	7.4%	P10-P25	40.2%	P25-P50
2015	68.6%	P75-P90	9.0%	P10-P25	42.8%	P25-P50
2016	71.2%	P75-P90	14.6%	P25-P50	45.2%	P25-P50
2017	66.9%	P50-P75	6.9%	P10-P25	40.8%	P10-P25
2018	77.7%	P≥90	22.2%	P≥90	40.3%	P10-P25
FFS						
2013	N/A	N/A	N/A	N/A	N/A	N/A
2014	N/A	N/A	N/A	N/A	N/A	N/A
2015	N/A	N/A	N/A	N/A	N/A	N/A
2016	N/A	N/A	N/A	N/A	N/A	N/A
2017	58.8%	N/A	11.4%	N/A	64.7%	N/A
2018	52.3%	N/A	9.7%	N/A	44.2%	N/A