

Results

Preconception: Risk Factors for GDM

The demographic characteristics for women of reproductive age (aged 18-44 years) in Ohio influence the risk for GDM in the population. Among Ohio women of reproductive age during 2017-19, 74.7 percent were Non-Hispanic White, 14.3 percent were Non-Hispanic Black, and 4.8 percent were Hispanic (Table 1a). About half of women were ever married, almost two thirds (62.8%) had at least some college education, and about half (45.2%) resided in a metropolitan county. The change in insurance rates, which previously increased 75% between timeframes, sustained with most (90.7%) covered under an insurance plan.

Table 1a. Demographics among women aged 18-44 years, Ohio, 2011-19. Source: Ohio Behavioral Risk Factor Surveillance System (BRFSS).

		2011-13		2014-16		2017-19	
		%	95% CI	%	95% CI	%	95% CI
Overall		(n= 5118)		(n=4176)		(n=4602)	
Age (years)	18-24	27.6	25.8-29.4	28.0	25.9-34.7	27.4	25.5 - 29.3
	25-34	36.1	34.3-37.8	36.7	34.7-38.7	37.6	35.7 - 39.4
	35-44	36.3	34.7-37.9	35.4	33.5-37.3	35.1	33.3 - 36.8
Race/Ethnicity	Non-Hispanic White	76.9	74.0-79.9	76.3	74.3-78.2	74.7	73.0 - 76.5
	Non-Hispanic Black	14.4	11.9-16.9	13.8	12.1-15.4	14.3	12.8 - 15.7
	Hispanic	4.2	2.6-5.8	4.8	3.8-5.8	4.8	3.9 - 5.7
	Multi-racial	0.9	0.4-1.4	2.0	1.4-2.5	1.9	1.4 - 2.3
	Other	3.5	2.2-4.9	3.2	2.3-4.0	4.3	3.8 - 5.2
Marital Status ^a	Ever Married	52.8	51.0-54.6	52.4	50.2-54.5	51.5	49.6 - 53.5
	Never Married	47.2	45.4-49.0	47.6	45.5-49.8	48.5	46.5 - 53.5
Education	Less than High School	12.2	10.6-13.7	10.2	8.5-11.9	8.3	6.9 - 9.7
	High School Graduate	26.6	25.0-28.3	27.1	25.2-29.0	28.8	27.0 - 30.6
	Some College	35.9	34.1-37.7	35.1	33.1-37.2	33.9	32.1 - 35.8
	College Graduate	25.3	24.0-26.7	27.5	25.9-29.2	28.9	27.3 - 30.5
Insurance	Plan	16.2	14.8-17.6	91.2	89.9-92.5	90.7	89.5 - 91.9
	No Plan	83.8	82.4-85.2	8.8	7.5-10.1	9.3	8.1 - 10.5
Income-Level	Less than \$15,000	16.9	15.3-18.4	12.4	10.8-14.0	9.6	8.4 - 10.8
	\$15,000-\$24,999	20.2	18.6-21.7	19.5	17.6-21.3	19.5	17.8 - 21.3
	\$25,000- \$34,999	11.5	10.2-12.8	10.2	8.8-11.6	12.1	10.7 - 13.5
	\$35,000 -\$49,000	13.3	12.0-14.6	13.2	11.7-14.8	13.8	12.3 - 15.2
	\$50,000 or More	38.2	36.4-40.0	44.8	42.6-47.0	45.0	42.9 - 47.1
County Type ^b	Suburban	29.0	27.4-30.7	31.6	29.4-33.7	30.2	28.4 - 32.1
	Rural	9.7	8.7-10.8	8.9	7.8-10.0	8.4	7.5 - 9.3
	Metropolitan	44.4	42.8-46.1	42.8	40.6-45.1	45.2	43.3 - 47.1
	Appalachian	16.8	15.6-18.1	16.7	15.4-18.0	16.2	15.1 - 17.4

Gestational Diabetes in Ohio, 2008-2019

Table 1a, Cont. Prevalence of demographic preconception risk factors among women aged 18-44 years, Ohio, 2011-19

Source: Ohio Behavioral Risk Factor Surveillance System (BRFSS), Ohio Department of Health, 2019.

Note:
95 percent confidence interval (CI): if the survey was repeated 100 times and 100 different confidence intervals were calculated, 95 percent of the intervals would contain the true estimate. The more narrow a CI, the more precise the estimate.

^a Ever Married=Married, Divorced, Widowed, Separated; Never Married=Never Married, Member of Unmarried Couple.

^b Rural and suburban excludes counties otherwise designated as Appalachian by the Appalachian Regional Commission.



Gestational Diabetes in Ohio, 2008-2019

Table 1b displays preconception health status and presence of risk behaviors among women of reproductive age in Ohio. In 2017-19, the percent of Ohio women of childbearing age that reported ever smoking continued to decrease to 35.6 percent. Furthermore, more than half of these women were overweight or obese and more than one in 4 women did not attend a routine medical check-up in the past 12 months.

Table 1b. Prevalence of preconception health status and risk behaviors among women aged 18-44 years, Ohio 2011-19. Source: Ohio Behavioral Risk Factor Surveillance System (BRFSS).

		2011-13		2014-16		2017-19	
		%	95% CI	%	95% CI	%	95% CI
Overall		(n=5118)		(n=4176)		(n=3102)	
BMI (kg/m²)	Underweight (< 18.5)	3.1	2.4-3.8	2.7	1.9-3.5	2.5	1.8 - 3.1
	Normal weight (18.5 - 24.99)	44.9	43.0-46.8	41.9	39.7-44.1	38.8	36.7 - 40.8
	Overweight (25.00-29.99)	25.5	23.8-27.1	28.0	26.0-30.1	26.3	24.5 - 28.1
	Obese (30.0+)	26.6	24.9-28.2	27.3	25.4-29.3	32.4	30.5 - 34.3
Smoker	Ever Smoker	43.6	41.8-45.5	37.5	35.4-39.6	35.6	33.7 - 37.4
	Never Smoker	56.4	54.5-58.2	62.5	60.4-64.6	64.4	62.6 - 66.3
History of Diabetes (not Gestational)	Yes	3.1	2.5-3.7	3.1	2.5-3.8	3.7	3.0 - 4.4
	No	96.9	96.3-97.5	96.9	96.2-97.5	96.3	95.6 - 97.0
History of Hypertension ^a	Yes	10.6	9.2-12.0	10.2	7.9-12.4	11.7	10.1 - 13.2
	No	89.4	88.0-90.8	89.8	87.6-92.1	88.3	86.8 - 89.9
Time since Last Routine Check-up	Within the Past Year	65.4	63.7-67.2	68.1	66.1-70.1	72.0	70.2 - 73.8
	More than a Year	34.6	32.8-36.3	31.9	29.9-33.9	28.0	26.2 - 29.8
Exercise in the Past 30 Days ^b	Yes	77.7	76.2-79.3	79.9	78.2-81.7	76.1	74.4 - 77.8
	No	22.3	20.7-23.8	20.1	18.3-21.8	23.9	22.2 - 25.6

Source: Ohio Behavioral Risk Factor Surveillance System (BRFSS), Ohio Department of Health, 2019.

Note:

^a Question not asked in 2012, 2016 and 2018. Estimates derived from 2011, 2013, 2014, 2015, and 2017 data only.

^b Any physical activity or exercise outside of respondent's regular job.

Gestational Diabetes in Ohio, 2008-2019

Table 2a displays the demographics of women who had a live birth in Ohio at various points between 2016 and 2019. More than half of the women who delivered a child in 2019 were between the ages of 25-34 years. Over 70 percent of the women were White and over 18 percent Black. More than 43 percent had a college education and almost 5 percent were uninsured.

Table 2a. Prevalence of preconception risk factors among women with a live birth, by demographics, Ohio 2016- 2018. Source: Ohio Pregnancy Assessment Survey.

Overall (n)		2016		2017		2018		2019	
		(3386)		(5377)		(6840)		(4,376)	
		%	95% CI	%	95% CI	%	95% CI	%	95% CI
Age (years)	18-24	27.0	24.2 - 29.9	26.5	24.7 - 28.4	25.2	23.5 - 27.1	24.9	22.9 - 27.1
	25-34	58.1	55.2 - 61.0	58.2	56.2 - 60.1	58.9	57.0 - 60.8	59.0	56.8 - 61.2
	35-44	13.4	11.7 - 15.0	13.6	12.5 - 14.8	14.2	13.0 - 15.4	14.6	13.3 - 16.0
Race/Ethnicity	Non-Hispanic White	72.2	69.8 - 74.7	71.6	69.9 - 73.2	71.7	70.0 - 73.2	71.4	69.5 - 73.1
	Non-Hispanic Black	17.7	15.4 - 19.9	17.9	16.5 - 19.4	17.9	16.5 - 19.3	18.2	16.7 - 19.7
	Hispanic	5.5	4.2 - 6.8	5.5	4.7 - 6.5	5.5	4.7 - 6.5	5.8	4.9 - 6.8
	Other ^a	4.6	3.7 - 5.6	4.8	4.1 - 5.6	4.7	4.0 - 5.5	4.5	3.7 - 5.4
Education	Less than HS	9.9	8.1 - 11.6	11.1	9.9 - 12.5	10.4	9.3 - 11.7	10.7	9.4 - 12.3
	HS Graduate	22.4	19.8 - 25.0	24.4	22.7 - 26.2	26.0	24.3 - 27.9	27.3	25.2 - 29.5
	Some College	22.0	19.5 - 24.6	19.7	18.2 - 21.4	18.1	16.7 - 19.7	18.5	16.8 - 20.4
	College Graduate	45.7	42.9 - 48.5	44.2	42.4 - 46.1	44.9	43.0 - 46.7	43.0	40.9 - 45.1
Pre-Pregnancy Health Insurance	Uninsured	3.6	2.6 - 4.6	3.9	3.3 - 4.7	3.7	3.1 - 4.5	4.7	3.8 - 5.8
	Medicaid	38.8	35.9 - 41.8	38.4	36.5 - 40.3	38.6	36.7 - 40.5	39.5	37.3 - 41.7
	From Job	44.0	41.3 - 46.8	46.2	44.4 - 48.1	45.8	43.9 - 47.6	45.2	43.1 - 47.4
	Self Pay (not from job)	8.1	6.2 - 10.0	5.0	4.2 - 5.9	3.2	2.5 - 3.9	3.1	2.4 - 3.9
	TRICARE or Other Military	1.4	0.8 - 2.0	1.4	1.1 - 1.9	1.6	1.2 - 2.1	1.2	0.8 - 1.7
	Other	4.1	2.8 - 5.4	6.2	5.3 - 7.3	6.2	5.3 - 7.3	6.2	5.2 - 7.4
Annual Household Income ^b	Less than \$15,000	21.2	18.7 - 23.7	22.2	20.5 - 24.0	21.1	19.5 - 23.0	19.5	17.7 - 21.5
	\$15,000-\$24,999	12.5	10.4 - 14.5	14.1	12.7 - 15.7	12.1	10.9 - 13.5	13.2	11.6 - 15.0
	\$25,000- \$34,999	8.8	7.0 - 10.6	7.6	6.6 - 8.7	8.9	7.8 - 10.1	8.3	7.1 - 9.6
	\$35,000 - \$49,999	10.2	8.4 - 12.1	11.1	9.9 - 12.5	11.2	10.0 - 12.5	12.3	10.8 - 14.0
	\$50,000 or More	47.3	44.5 - 50.1	43.9	42.0 - 45.9	45.6	43.7 - 47.5	45.7	43.5 - 47.9
County Type ^c	Metropolitan	58.9	56.7 - 61.0	58.3	57.2 - 59.5	57.9	56.5 - 59.3	58.1	56.8 - 59.4
	Suburban	15.2	12.9 - 17.5	16.4	15.0 - 17.9	15.0	13.7 - 16.5	16.6	14.9 - 18.4
	Appalachian	13.0	10.9 - 15.1	12.7	11.3 - 14.2	13.0	11.6 - 14.6	12.3	10.8 - 14.0
	Rural	12.9	10.8 - 15.0	12.4	11.1 - 13.8	13.9	12.5 - 15.4	12.8	11.2 - 14.5

Gestational Diabetes in Ohio, 2008-2019

Table 2a, Cont.. Prevalence of preconception risk factors among women with a live birth, by demographics, Ohio

Source: 2016-2019 Analyses using Ohio Pregnancy Assessment Survey.

Note:

^a Includes those who reported multiple races.

^b Household income categories changed substantially in Ohio Pregnancy Assessment Survey, making it not possible to do a direct comparison to previous years' data. New categories include \$0-16,000, \$16,001-\$24,000, \$24,001-\$32,000, \$32,001-\$48,000, and >\$48,000.

^c Rural and suburban excludes counties otherwise designated as Appalachian by the Appalachian Regional Commission. Historic data can be found in Appendix C.



Gestational Diabetes in Ohio, 2008-2019

Table 2b displays behavioral and health status risks during the preconception period among women who had a live birth in Ohio during various timeframes. Around one third of women (34.9 percent) were obese before pregnancy in 2019, representing a slight increase over prior periods. Ohio women with a history of hypertension before becoming pregnant remained steady, around 5 percent. A 4.6 percent increase is noted among women with a live birth that reported having smoked in the past 2 years, from 17.2 percent in 2016 to 21.8 percent in 2019.

Table 2b. Prevalence of preconception health status and behavioral risk factors among women with a live birth in Ohio. Source: Ohio Pregnancy Assessment Survey (OPAS).

	2016		2017		2018		2019	
Overall (n)	(3,386)		(5,377)		(6,840)		(4,376)	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
History of Diabetes (not Gestational)^a								
Yes	3.9	2.6 - 5.2	3.1	2.5 - 3.9	3.0	2.4 - 3.7	3.0	2.3 - 3.7
History of Hypertension before pregnancy^a								
Yes	6.2	4.8 - 7.5	5.0	4.2 - 6.0	5.0	4.2 - 5.8	5.2	4.3 - 6.2
Pre-Pregnancy BMI (kg/m²)								
Underweight (< 18.5)	11.9	10.0 - 13.8	12.4	11.2 - 13.8	9.6	8.6 - 10.7	10.0	8.8 - 11.3
Normal weight (18.5 - 24.9)	41.4	38.6 - 44.1	41.8	40.0 - 43.7	42.8	40.9 - 44.7	41.8	39.6 - 44.0
Overweight (25.0-29.9)	13.0	11.1 - 14.9	11.6	10.5 - 12.8	13.2	12.0 - 14.6	13.2	11.7 - 14.8
Obese (30.0+)	33.7	31.0 - 36.5	33.9	32.1 - 35.8	34.2	32.0 - 36.0	34.9	32.8 - 37.0
Smoker								
Smoked in the Past 2 Years	17.2	14.8 - 19.6	25.8	24.0 - 27.6	24.3	22.6 - 26.1	21.8	19.9 - 23.9
Preconception Health Visit^b								
Yes	19.3	17.2 - 21.4	17.4	16.1 - 18.7	19.3	18.0 - 20.8	26.2	24.1 - 28.4
No	80.7	78.6 - 82.8	82.6	81.1 - 83.9	80.6	79.1 - 81.9	73.7	71.5 - 75.8

Sources: 2016-2019 Analyses using Ohio Pregnancy Assessment Survey.

Note:

^a Based on answers a or b to the question: "During the 3 months before you got pregnant with your new baby, did you have any of the following health conditions?" (Answer a: Type 1 or Type 2 diabetes (not gestational diabetes); Answer b: b. High blood pressure or hypertension).

^b Based on answer f to the question: "During any of your health care visits in the 12 months before you got pregnant did a doctor, nurse or other health care worker do any of the following things?" (Answer f: Talk to me about how I could improve my health before a pregnancy).

Only respondents who indicated they had had any type of health care visit in the 12 months prior to pregnancy answered this question.

Historic data can be found in Appendix C.