



Epi Data Tables

New York City Department of Health and Mental Hygiene

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Pre-Pregnancy Obesity in New York City, 2008-2010

Data Tables

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Data Sources

OVS 2008-20010: The NYC Department of Health and Mental Hygiene's (DOHMH) Office of Vital Statistics (OVS) maintains administrative data on all births and deaths in NYC. Data from 2008-2010 used in these analyses. Maternal height was added to the NYC birth certificate in 2008, allowing for the calculation of maternal Body Mass Index (BMI) for the first time. 6,429 certificates (1.7%) with invalid or "Not Stated" values for mothers' height or pre-pregnancy weight were excluded from this analysis. IMR was not calculated for births to underweight mothers due to small numbers.

To access the related Epi Data Brief, go to www.nyc.gov/html/doh/downloads/pdf/epi/databrief16.pdf

Table 1. Infant Mortality Rate (IMR) by Pre-Pregnancy Weight and Selected Demographics, New York City, 2008-2010

Source: Bureau of Vital Statistics, New York City Department of Health and Mental Hygiene

All infant mortality rates are per 1,000 live births.

Pre-pregnancy BMI was calculated using the following formula: pre-pregnancy weight (lb) x 703 / height (in)². BMI < 18.5 is defined as underweight; 18.5 ≤ BMI < 25 is normal weight; 25 ≤ BMI < 30 is overweight; and BMI ≥ 30 is obese.

	Pre-Pregnancy Weight				
	Healthy	Overweight		Obese	
	IMR (95% Confidence Interval)	IMR (95% Confidence Interval)	Rate Ratio Overweight vs Healthy	IMR (95% Confidence Interval)	Rate Ratio Obese vs Healthy
Overall	3.7 (3.4-3.9)	5.3 (4.8-5.8)	1.4 (1.3-1.6)	6.8 (6.1-7.4)	1.8 (1.6-2.1)
Maternal Characteristics					
Mothers' Age Group					
<18	9.0 (6.3-12.5)	7.8* (4.2-13.3)	0.9† (0.5-1.6)	7.3* (2.9-15.0)	0.8† (0.4-1.8)
18-19	5.8 (4.3-7.6)	7.7 (5.2-11.0)	1.3† (0.8-2.1)	10.0 (6.5-14.7)	1.7† (1.1-2.8)
20-39	3.4 (3.1-3.7)	5.2 (4.7-5.7)	1.5 (1.3-1.7)	6.5 (5.9-7.2)	1.9 (1.7-2.2)
40+	4.4 (3.2-5.9)	3.9 (2.3-6.2)	0.9† (0.5-1.5)	8.0 (5.2-11.7)	1.8† (1.1-2.9)
Race/Ethnicity					
White, non-Hispanic	2.2 (1.9-2.6)	2.8 (2.2-3.7)	1.3† (0.9-1.7)	4.1 (3.0-5.6)	1.9† (1.3-2.6)
Black, non-Hispanic	8.3 (7.2-9.3)	8.7 (7.5-9.9)	1.0 (0.9-1.3)	9.2 (7.9-10.4)	1.1 (0.9-1.3)
Puerto Rican	4.6 (3.5-6.1)	6.1 (4.5-8.0)	1.3† (0.9-1.9)	6.4 (4.8-8.4)	1.4† (0.9-2.0)
Other Hispanic	3.6 (3.0-4.1)	4.5 (3.7-5.3)	1.3 (1.0-1.6)	5.1 (4.0-6.3)	1.4 (1.1-1.9)
Asian/Pacific Islander	2.6 (2.1-3.2)	3.4 (2.3-4.9)	1.3† (0.9-2.0)	6.4 (3.8-10.3)	2.5† (1.5-4.1)
Borough of Residence					
Bronx	5.4 (4.5-6.2)	6.3 (5.2-7.4)	1.2 (0.9-1.5)	5.9 (4.8-7.3)	1.1 (0.8-1.4)
Brooklyn	3.4 (3.0-3.9)	4.9 (4.1-5.8)	1.4 (1.2-1.8)	7.2 (6.1-8.4)	2.1 (1.7-2.6)
Manhattan	2.9 (2.3-3.4)	5.3 (4.0-7.0)	1.9† (1.3-2.6)	7.8 (5.8-10.2)	2.7† (1.9-3.8)
Queens	3.4 (2.9-4.0)	4.7 (3.8-5.7)	1.3† (1.0-1.7)	6.1 (4.8-7.7)	1.8† (1.4-2.3)
Staten Island	3.4 (2.3-4.9)	4.9 (3.0-7.5)	1.4† (0.8-2.5)	5.2 (3.0-8.3)	1.5† (0.8-2.8)
Marital Status					
Not Married	5.5 (5.0-6.0)	6.5 (5.8-7.3)	1.2 (1.0-1.4)	7.6 (6.7-8.5)	1.4 (1.2-1.6)
Married	2.6 (2.3-2.9)	4.1 (3.5-4.7)	1.6 (1.3-1.9)	5.6 (4.7-6.5)	2.2 (1.8-2.6)
Foreign Born Status					
Native	4.5 (4.1-4.9)	6.5 (5.7-7.3)	1.4 (1.2-1.7)	7.7 (6.8-8.6)	1.7 (1.5-2.0)
Foreign Born	2.9 (2.6-3.3)	4.2 (3.6-4.8)	1.4 (1.2-1.7)	5.4 (4.5-6.3)	1.8 (1.5-2.2)
Mothers' Education					
Less than High school	5.5 (4.8-6.2)	6.6 (5.6-7.7)	1.2 (1.0-1.5)	7.9 (6.6-9.2)	1.5 (1.2-1.8)
High school	4.4 (3.8-5.1)	5.5 (4.5-6.5)	1.2 (1.0-1.6)	6.8 (5.5-8.0)	1.5 (1.2-1.9)
Some college	3.9 (3.3-4.5)	5.4 (4.4-6.4)	1.4 (1.1-1.8)	6.1 (5.0-7.3)	1.6 (1.2-2.0)
College degree or more	2.1 (1.8-2.4)	3.2 (2.5-4.1)	1.6† (1.2-2.1)	5.3 (4.0-6.9)	2.6† (1.9-3.5)
Primary Financial Coverage					
Medicaid	4.3 (3.9-4.7)	5.4 (4.8-6.0)	1.3 (1.1-1.5)	6.7 (5.9-7.5)	1.6 (1.3-1.8)
Private	2.5 (2.2-2.9)	4.6 (3.8-5.4)	1.8 (1.5-2.3)	6.5 (5.3-7.7)	2.6 (2.0-3.2)
Self-Pay	13.1 (9.1-18.3)	10.0* (5.5-16.8)	0.8† (0.4-1.4)	10.8* (5.4-19.4)	0.8† (0.4-1.6)
Method of Delivery					
Vaginal	2.8 (2.6-3.1)	3.9 (3.4-4.4)	1.4 (1.2-1.6)	5.9 (5.1-6.7)	2.1 (1.7-2.5)
Vaginal after any Prior C	7.0 (4.2-10.9)	9.1* (4.9-15.6)	1.3† (0.6-2.7)	21.1 (13.1-32.2)	3.0† (1.6-5.6)
Primary C-Section	6.6 (5.8-7.4)	9.2 (7.9-10.6)	1.4 (1.2-1.7)	9.3 (7.8-10.8)	1.4 (1.1-1.7)
Repeat C-Section	2.9 (2.2-3.8)	4.8 (3.6-6.2)	1.6† (1.1-2.4)	4.3 (3.2-5.7)	1.5† (1.0-2.2)
Infant Characteristics					
Sex					
Male	4.1 (3.7-4.5)	5.3 (4.6-6.0)	1.3 (1.1-1.5)	7.4 (6.4-8.3)	1.8 (1.5-2.1)
Female	3.3 (2.9-3.6)	5.3 (4.6-6.0)	1.6 (1.4-1.9)	6.1 (5.2-7.0)	1.9 (1.6-2.2)
Birth Weight (in grams)					
Very Low (<1500)	161.5 (146.2-176.8)	188.8 (167.1-210.5)	1.2 (1.0-1.4)	185.5 (163.1-207.9)	1.1 (1.0-1.4)
Low (1500-<2500)	8.6 (7.1-10.2)	9.9 (7.6-12.8)	1.1† (0.8-1.6)	10.9 (8.0-14.4)	1.3† (0.9-1.8)
Normal (2500-<4000)	1.1 (0.9-1.2)	1.5 (1.2-1.8)	1.4 (1.1-1.8)	2.0 (1.6-2.4)	1.9 (1.5-2.4)
Macrosomic (4000+)	0.7 (0.3-1.5)	0.6* (0.2-1.5)	0.8† (0.2-2.7)	1.0* (0.4-2.2)	1.4† (0.5-4.0)

Table 1. Infant Mortality Rate (IMR) by Pre-Pregnancy Weight and Selected Demographics, New York City, 2008-2010

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Pre-pregnancy BMI was calculated using the following formula: pre-pregnancy weight (lb) x 703 / height (in)². BMI < 18.5 is defined as underweight; 18.5 ≤ BMI < 25 is normal weight; 25 ≤ BMI < 30 is overweight; and BMI ≥ 30 is obese.

	Pre-Pregnancy Weight				
	Healthy	Overweight		Obese	
	IMR (95% Confidence Interval)	IMR (95% Confidence Interval)	Rate Ratio Overweight vs Healthy	IMR (95% Confidence Interval)	Rate Ratio Obese vs Healthy
Gestation (in weeks)					
Very Premature (17-<32)	153.4 (138.8-168.0)	182.8 (162.1-203.5)	1.2 (1.0-1.4)	177.7 (156.3-199.1)	1.2 (1.0-1.4)
Premature (32-36)	6.9 (5.5-8.2)	6.9 (5.2-9.2)	1.0† (0.7-1.4)	7.5 (5.4-10.0)	1.1† (0.8-1.5)
Normal (37-47)	1.1 (1.0-1.3)	1.4 (1.2-1.7)	1.3 (1.0-1.6)	2.0 (1.6-2.3)	1.7 (1.4-2.2)
Plurality					
Singleton	3.2 (3.0-3.5)	4.5 (4.1-5.0)	1.4 (1.2-1.6)	5.9 (5.3-6.5)	1.8 (1.6-2.1)
Multiple Birth	15.0 (12.3-17.7)	24.4 (19.4-30.4)	1.6† (1.2-2.2)	26.8 (20.9-33.9)	1.8† (1.3-2.4)
First Born					
First Born	3.7 (3.3-4.1)	5.9 (5.1-6.7)	1.6 (1.3-1.9)	7.7 (6.6-8.9)	2.1 (1.7-2.5)
Not First Born	3.6 (3.3-4.0)	4.9 (4.3-5.5)	1.4 (1.2-1.6)	6.2 (5.4-7.0)	1.7 (1.4-2.0)

*Relative standard error > 25, interpret with caution.

† Ratio based rates with fewer than 100 Infant deaths, interpret with caution.

Table 2. Infant Mortality Rate by Pre-Pregnancy BMI and Community District, New York City, 2008-2010

Source: Bureau of Vital Statistics, New York City Department of Health and Mental Hygiene

All infant mortality rates are per 1,000 live births.

Pre-pregnancy BMI was calculated using the following formula: pre-pregnancy weight (lb) x 703 / height (in)². BMI < 18.5 is defined as underweight; 18.5 ≤ BMI < 25 is normal weight; 25 ≤ BMI < 30 is overweight; and BMI ≥ 30 is obese.

Neighborhood	Infant Mortality Rate (CI)		% Overweight or Obese	% Macrosomic (Birth Weight. ≥4000 g.)
Battery Park, Tribeca (01)	1.4*	(0.4-3.5)	9.7	6.6
Greenwich Village, SOHO (02)	3.1*	(1.3-6.1)	9.0	6.0
Lower East Side (03)	4.4	(2.9-6.4)	25.9	5.5
Chelsea, Clinton (04)	3.2*	(1.5-6.2)	22.1	5.9
Midtown Business District (05)	5.3*	(2.4-10.1)	12.7	4.5
Murray Hill (06)	3.1*	(1.6-5.4)	14.1	5.2
Upper West Side (07)	2.0	(1.2-3.2)	18.1	6.6
Upper East Side (08)	2.7	(1.7-4.1)	14.5	6.1
Manhattanville (09)	5.7	(3.6-8.4)	44.4	6.6
Central Harlem (10)	7.5	(5.3-10.3)	51.3	5.9
East Harlem (11)	6.6	(4.6-9.2)	52.7	6.0
Washington Heights (12)	4.7	(3.3-6.5)	42.2	7.0
Mott Haven (01)	7.1	(5.0-9.8)	55.0	5.9
Hunts Point (02)	6.4	(3.9-10.1)	56.3	5.9
Morrisania (03)	7.8	(5.4-10.9)	55.3	5.7
Concourse, Highbridge (04)	5.7	(4.2-7.5)	53.7	6.2
University /Morris Heights (05)	7.5	(5.6-9.7)	53.9	6.6
East Tremont (06)	7.4	(5.1-10.4)	54.4	6.1
Fordham (07)	5.5	(3.9-7.5)	52.1	7.0
Riverdale (08)	5.2	(3.1-8.1)	40.9	6.7
Unionport, Soundview (09)	4.9	(3.5-6.7)	55.1	6.3
Throgs Neck (10)	4.9*	(2.7-8.0)	49.6	6.7
Pelham Parkway (11)	6.3	(4.2-9.2)	49.4	6.9
Williamsbridge (12)	7.0	(5.1-9.5)	56.5	6.0
Williamsburg, Greenpoint (01)	2.5	(1.6-3.7)	31.9	7.9
Fort Green, Brooklyn Heights (02)	4.8	(3.0-7.3)	25.5	6.5
Bedford Stuyvesant (03)	8.5	(6.6-10.9)	51.6	6.0
Bushwick (04)	5.0	(3.3-7.1)	52.6	7.6
East New York (05)	8.7	(6.8-10.9)	56.2	6.2
Park Slope (06)	3.3	(1.9-5.3)	24.8	7.7
Sunset Park (07)	3.1	(2.1-4.5)	27.7	6.1
Crown Heights North (08)	5.8	(3.7-8.5)	47.9	6.1
Crown Heights South (09)	5.1	(3.3-7.5)	45.4	7.7
Bay Ridge (10)	4.0	(2.5-6.2)	32.9	6.1
Bensonhurst (11)	3.7	(2.4-5.5)	33.6	5.7
Borough Park (12)	2.7	(1.9-3.6)	29.3	6.8
Coney Island (13)	4.9	(2.9-7.8)	39.6	5.8
Flatbush, Midwood (14)	4.3	(3.0-6.0)	43.0	6.2
Sheepshead Bay (15)	3.1	(1.9-4.8)	30.9	5.6
Brownsville (16)	9.9	(7.2-13.2)	57.8	4.8
East Flatbush (17)	6.4	(4.6-8.6)	58.2	5.5

Table 2. Infant Mortality Rate by Pre-Pregnancy BMI and Community District, New York City, 2008-2010

Source: Bureau of Vital Statistics, New York City Department of Health and Mental Hygiene

All infant mortality rates are per 1,000 live births.

Pre-pregnancy BMI was calculated using the following formula: pre-pregnancy weight (lb) x 703 / height (in)². BMI < 18.5 is defined as underweight; 18.5 ≤ BMI < 25 is normal weight; 25 ≤ BMI < 30 is overweight; and BMI ≥ 30 is obese.

Neighborhood	Infant Mortality Rate (CI)		% Overweight or Obese	% Macrosomic (Birth Weight. ≥4000 g.)
Canarsie (18)	5.3	(3.8-7.2)	51.4	6.1
Astoria, Long Island City (01)	5.3	(3.6-7.4)	40.9	6.8
Sunnyside, Woodside (02)	2.8*	(1.5-4.8)	33.8	6.3
Jackson Heights (03)	3.6	(2.5-5.1)	42.9	6.5
Elmhurst, Corona (04)	3.7	(2.5-5.2)	38.7	6.0
Ridgewood, Glendale (05)	3.0	(1.8-4.6)	40.5	8.8
Rego Park, Forest Hills (06)	2.1*	(0.9-4.2)	23.2	5.6
Flushing (07)	2.8	(1.8-4.2)	23.1	6.1
Fresh Meadows, Briarwood (08)	6.1	(4.2-8.6)	35.4	5.5
Woodhaven (09)	4.1	(2.6-6.1)	45.0	5.8
Howard Beach (10)	4.8	(3.0-7.4)	44.9	5.3
Bayside (11)	2.5*	(0.8-5.7)	24.4	5.9
Jamaica, St. Albans (12)	7.3	(5.6-9.2)	54.2	5.2
Queens Village (13)	5.9	(4.0-8.3)	50.3	5.5
The Rockaways (14)	7.5	(5.1-10.6)	51.6	7.5
Port Richard (01)	5.9	(4.3-7.9)	50.8	7.2
Willowbrook, South Beach (02)	3.0*	(1.6-5.1)	41.7	8.2
Tottenville (03)	3.1*	(1.7-5.1)	39.2	8.4

*Relative standard error > 25, interpret with caution.

Map 1. Percent of Mothers with Pre-Pregnancy Overweight or Obesity, Infant Mortality Rate and Poverty by New York City Community District, 2008-2010

Source: Bureau of Vital Statistics, New York City Department of Health and Mental Hygiene

Pre-pregnancy BMI was calculated using the following formula: pre-pregnancy weight (lb) x 703 / height (in)². BMI < 18.5 is defined as underweight; 18.5 ≤ BMI < 25 is normal weight; 25 ≤ BMI < 30 is overweight; and BMI ≥ 30 is obese.

